CVA

Sustainability Report 2021

Consolidated Disclosure of non-financial information pursuant to *Legislative Decree 254/2006*

Cover: Arpy Lake, Aosta Valley.

Our energy for the future

To our stakeholders

Dear readers,
One year on, we are facing a rather different scenario from the one described in the letter of the last Sustainability Report. The past two years, marked by the advent of the pandemic, have been an unprecedented experience that has caused significant discontinuity in people's daily lives and in the social and economic life of the country. A robust post-pandemic recovery scenario, characterised moreover by a strong and shared commitment to the energy transition, was being consolidated when we were faced with a change of scenario more disconcerting and unpredictable than the previous one. This change of scenario was brought about by the price shock in the global gas market, due partly to the post-pandemic economic recovery that generated a sudden increase in demand and partly to geopolitical tensions. This framework produced an initial price spike in December 2021, which, because of the strong correlation with the electricity market, especially in Italy, where 50% of generation is from thermoelectric sources, triggered an upward spiral in prices and volatility in the electricity market as well.

The energy shock was then further aggravated by the precipitation of the same geopolitical tensions on 24 February 2022, with Russia's aggression against Ukraine. The war is having enormous social and economic consequences for the countries involved, the world and for Europe in particular. Without wishing to put aside the horrors of the war, the conflict has certainly had direct and dramatic consequences for our industry because of the central role Russia and Ukraine play in European energy supplies. All this has led to an unprecedented situation in terms of energy price levels, relative volatility, and impacts on the country's economy. Apparently, high energy prices would define a positive picture in itself for a generation company like CVA. However, this same picture is being deteriorated by the extreme level of uncertainty and volatility that the energy shock has produced in the company's operating framework: from the difficulty in planning investments, which have durations of decades, to the financial tensions that characterise price hedging activities, from the credit risk to customers, to production planning, moreover made critical by this year's prolonged drought, which has hit like never before in the company's history.

In this complex scenario, the government has reacted by correctly focusing its action on attempting to mitigate the price impact for households and businesses caused by macroeconomic and geopolitical factors, while wrongly aiming to build extra revenue through taxation of activities attributable to renewable energy production. An approach that we believe is wrong both in merit and method, with intervention assumptions that risk undermining what should be the top priority for everyone in the energy field: accelerating investment in clean energy. Investments that the framework of legal uncertainty brought about by these interventions, which are wrong in principle, threaten to strongly call into question, distancing the prospects of jointly strengthening the fight against climate change and the rebalancing of the energy mix aimed at pursuing energy autonomy from gas and abroad, with the risk, moreover, of the prospect of reducing the cost of energy for households and businesses receding as a consequence. At the time this letter is written, it is not possible to map out an evolving trajectory of the geopolitical framework in relation to the current conflict.

Like never before, we have been able to get a sense of the central importance of energy in the world and, in particular, in Europe. Energy has become an issue not only central to geopolitical debates, but also in the daily lives of families, among individuals, colleagues and friends. Suddenly, intangible elements, such as energy and energy independence, have materialised as the necessary vehicle to be able to look forward to a sufficiently secure future from an economic perspective and guaranteeing an everyday life, hitherto so taken for granted that we were unaware of it. The topics of renewable energy, decarbonisation, climate change, and even the Intergovernmental Panel on Climate Change (IPCC) reports can be found in newspapers and are topics of debate on prime-time television. For the first time, then, our address letter deals with renewable energy not as a topic reserved for a few insiders but as a matter of concern for the entire national community. Energy must be central to our priorities in order to secure our economic future. To ensure, however, a sustainable future that can curb the climate threat, it is necessary to enhance the availability of renewable energy in an extraordinary way. The first issue to be addressed is undoubtedly the heavy dependence of Italy, and many other European states, on Russian gas supplies.

The consequences of this link have already been clearly and strongly felt during 2021, a year that saw the energy sector in the middle of an unprecedented crisis and which caused a shock to the production system and a significant increase in energy bills for households and businesses. While worrying about the effects in the short-term is essential - with this in mind the government has implemented measures to counter high utility bills - it is essential not to lose sight of the fact that the biggest change will occur in the long-term. Momentous changes such as those we are witnessing require deeper, ambitious and forward-looking responses that are medium- to long-term oriented and conducive to solving structural problems of energy supply and production. In this context, the transition to renewable sources appears to be the only sustainable solution, not

only our duty from an environment point of view but also economically and socially, to overcome the crisis, ensure greater energy security for the country and reduce price volatility. However, this is a path that will take time and significant investment, and it will need to be accompanied by progressive improvements in energy storage capacity and energy efficiency.

Clean and sustainable energy production has always been a hallmark of the CVA Group's DNA: we have been committed to decarbonisation for more than 20 years, a period that has allowed us to develop distinctive experience and expertise in the field. In light of current and future scenarios, we intend to further bolster our contribution to the goals set at national and European levels, primarily by increasing green energy production. The 2022-2026 Integrated Plan forecasts, over the next four years, an increase of 456 MW in the installed capacity, investment in the construction of new solar and wind power plants, with a view to achieving a greater level of diversification and extending our projection from the local to the national sphere. Let us not forget that achieving the targets will still only be possible through maintaining and upgrading existing capacity through repowering and modernisation of the hydropower infrastructure. With this in mind, 2021 was a key year for the start of two revamping projects related to the Aosta Valley plants of Hône 2 and Chavonne, initiatives that will optimise the production capacity and use of the water resource while respecting environmental protection, and ecological run-off also improving the safety and landscape usability of the surrounding areas. The upgrading will also take place in preparation for 2029, when the main hydropower concessions expire.

In presenting itself as a key player in the decade of energy transition, CVA's development also incorporates the consolidation of other strategic areas, including energy efficiency, with the continuation in 2021 of its activity as a general contractor for companies, professionals and citizens interested in the opportunities provided by the "Superbonus." Other innovation projects also continued during the year, concerning the activation of projects related to the production and use of green hydrogen and experimentation with new models for energy production and sharing, such as energy communities. The year 2021 was also an important year for the CVA Group in financial terms, thanks to CVA's entry into the financial markets with the issuance of a listed bond. In fact, the € 50 million bond issued in November was an important first step in implementing the Strategic Plan, and a second issue of a € 500 million bond will be launched in the near future.This will enable us to diversify our sources of financing for the green transition in preparation for the challenges ahead in realising an increasingly green future.
Reflected in the Group's growth path is the strong link between CVA and the Aosta Valley, an area in which it was founded and retains its roots, and to which the Plan will inject further impetus by involving the local production chain, creating new jobs and contributing to the development of a permanent training model dedicated to the professional skills required by the new energy paradigm. En Compagnie, the name with symbolic value which has characterised the stakeholder listening and dialogue initiatives, that continued in 2021, is part of CVA's broader project aimed at strengthening its identity as a "Community company": a Compagnie at the service of the territory for the process of ecological transition developed together with the Region, and alongside its citizens for the projects of environmental education in Schools, attention to social inclusion and development of the economic fabric.

It is a firm and primary objective of the Group to take care of the local capital of the Aosta Valley, a small region in terms of the number of inhabitants, but noteworthy in terms of its scenic and food and wine heritage, its history, its traditions and the pride of its People. This close, proven and fruitful relationship between business and territory is a genuine cultural and operational model for the Group. A model that the Group intends to structure and replicate in all the territories in which CVA will operate, seeking a mature and strong relationship with them, in the knowledge that energy infrastructure has profound environmental and social values, and that these should not be overlooked. In the first edition of the Group's Non-Financial Statement you will find the steps taken in 2021 in this direction and the choices made to make CVA increasingly instrumental in the process of decarbonisation of the territories and the country, increasingly integrated with the local community.

With hope for a future of new-found peace, in which shared and truly sustainable growth can be realised, we wish you good reading.

Marco Cantamessa
Chairman
C.V.A. S.p.A.

Giuseppe Argirò
Chief Executive Officer
C.V.A. S.p.A.

Enrico De Girolamo
General Manager
C.V.A. S.p.A.

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2021 AT A GLANCE

CVA COMMUNITY COMPANY

3 macro-areas
to map out the development directions for the near future of the Group

13 specific
sustainability goals integrated with the business plan

1. WE ARE THE ENERGY OF THE FUTURE

2.8 billion of kWh
produced from renewable sources only

897 tonnes of CO_2
avoided with the production of energy from renewable sources[1]

€627.8 million
of planned investments in 2022-2026, of which 416.7 million will be invested in new plants for the production from renewable sources

2. OUR MOST PRECIOUS RESOURCE

100 %
of checks on the Minimum Vital Flow with positive results

Hydro-weather
CVA's new reservoir monitoring portal, 129 million m^3 the total useful reservoir capacity of dams: equal to half of the water consumed every day in Italy

3. RELIABLE AND RESILIENT

€80 million
invested in electromechanical and civil engineering activities, during the three-year period 2019-2021

180,000 operating hours
for maintenance in 2021

4. CLOSE TO THE COMMUNITIES

~€639 million
the economic value distributed

€54 million
in sales to local suppliers

5. FULL OF ENERGY

623 employees[2]

Diversity Index
for an inclusive policy in the company

6. ABLE TO INNOVATE

Energy community
first trial of self-generation of energy in Aosta

CyberSecurity Governance
by the end of 2022

[1] The figure reported refers to avoided emissions calculated by location-based method from gross energy production. Using the "Market Based" method, the avoided emissions would be higher, amounting to 1,306 thousand tonnes.
[2] The figure includes workers on staff leasing contracts.

CVA COMMUNITY COMPANY

Chanoux Square, Aosta.

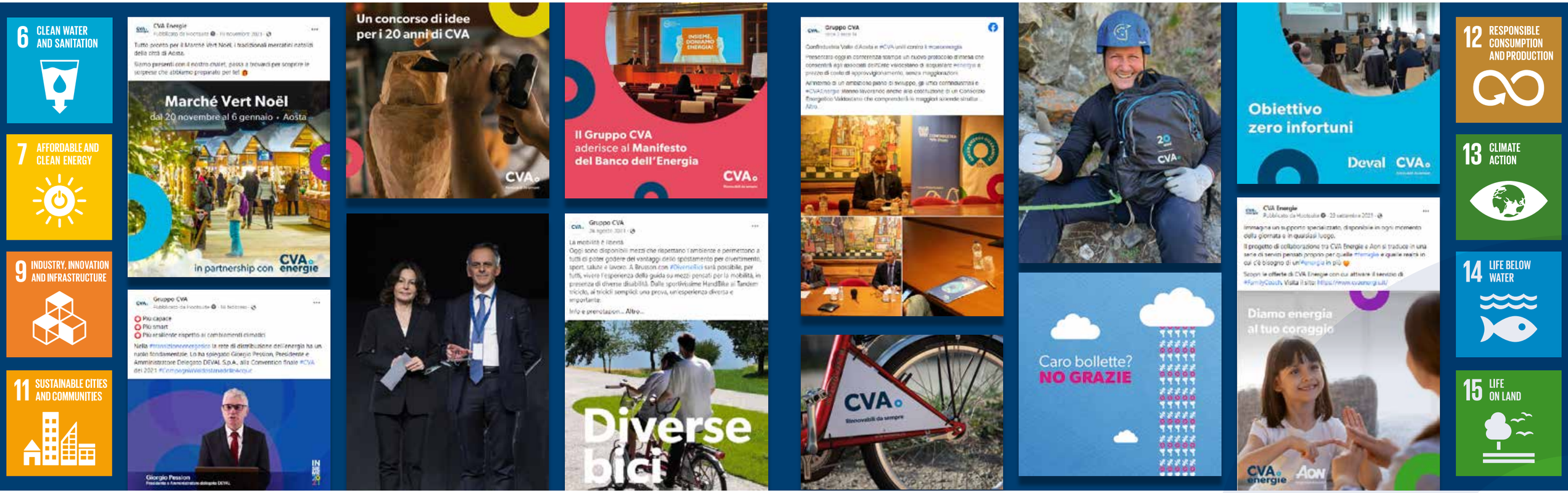
CVA COMMUNITY COMPANY

The 2022-2026 Integrated Plan

With the aim of further strengthening its sustainability journey, the CVA Group has defined an integrated strategy with which to **combine corporate growth and environmental and social sustainability**, aimed at long-term value creation.

Through the definition of specific lines of action and qualitative and quantitative objectives that can be measured over time, the 2022-2026 Integrated Plan aims to respond to some of the **global challenges** defined by the United Nations Sustainable Development Goals and **outline the** Group's **development guidelines** for the near future, which can be traced to three macro-areas: *Positive Impact, Future Proof and Empowering Communities*.

The Plan is the result of the integration of the **2021-2025 Strategic Plan**, which contains numerous initiatives that incorporate ESG criteria into the industrial strategy, and **specific sustainability goals**, developed by 3 cross-functional working groups covering all Group companies and for each of the material issues, which express CVA's commitment as a *Community Company*.



Target	Lines of action
1. Zero emissions: reducing CO_2 emissions by 50% to 2026 (compared to 2021) and analysing emissions throughout the value chain	• **+456 MW** of new installed capacity, including: acquisition of new **wind** power plants of **60 MW** and co-development agreements of new **photovoltaic** plants of about **400 MW** • **Trigeneration** projects • Definition of a **zero** emission **strategy** for Scope 1 and 2 emissions that can be certified according to the Science-Based Target initiative (SBTi) guidelines • **Construction of** Scope 3 CO_2 emissions ***baseline*** to optimise monitoring and variation over time and definition of improvement actions • Energy efficiency projects on **2,800 housing units, 1,183 TOE/year** saved,
2. Resilient Ecosystems and *Nature-Based Solutions* Projects	• Selection and participation in active **Nature-Based Solutions (NBS)** projects nationwide in urban and suburban settings • Selection and participation in **offsetting and reforestation** projects in the region and nationwide
3. Agrivoltaic **feasibility studies**	• **Development and deepening of** knowledge on the topic • **Collaboration** with research organisations and academia to conduct joint studies/define shared standards • **Performance of feasibility studies** to initiate specific projects
4. Balance and sustainability of withdrawals: 100% of waterways monitored	• **Continuation and strengthening of study and** research **activities** related to water resource protection and maintenance of river ecosystems • **Optimisation of water resource use** with respect to environmental protection and Ecological Run-off • Evaluation of possible **production increases** in light of the new release framework • **Green hydrogen** • **Energy communities** • **Storage systems**

Future Proof

STRATEGIC PRIORITIES

- **Operations and hydropower**
- ***Open Innovation***

Target	Lines of action
5. Secure and resilient assets: average € 30 million invested/year	• Study, definition and implementation of an **plan of action and investment** for maintaining the integrity and resilience of the assets of **CVA and Deval**
6. Asset 4.0: >90% of plants with automation solutions and 21 hydropower units with 4.0 monitoring	• Equipping wind and photovoltaic plants with *software* to **analyse** machine ***performance*** and **optimise operating approaches** • **Technologies 4.0** to improve maintenance strategies for hydropower plants (pilot project at Covalou plant) • Increasingly ***smart*** and digitised **networks**
7. 100% of slopes and relevant areas monitored	• **Monitoring through satellite technologies** of 100% of the territories and slopes where CVA is present with its facilities • Implementation of **additional insights and actions** on particularly relevant areas (e.g., dams)
8. Prevention of **climate risks**	• Conducting a **climate risk analysis** on CVA's assets according to the guidelines of the *Task Force on Climate-Related Financial Disclosures* (TCFD) • **Implementation of a quantitative study** - in collaboration with academia and research (IPCC simulations) - focused on the **risks of the hydropower sector** in the VdA (Aosta Valley) Region
9. *Cyber* resilient: ISO 27001, 27701 and 22301 certifications	• **ISO 27001 certification** in the area of information security and **ISO 27701 certification** in the area of *data privacy* on business processes and customer management, in relation to remote control and plant maintenance as well as related production plans • **Certification** of CVA's IT and TLCsystems with **ISO 22301** in the area of BCM (*business continuity management*) for plant remote control, billing management and trading activities (for CVA Energies)

Empowering Communities

STRATEGIC PRIORITIES

- Our Land
- Our People

Target	Lines of action
10. It Takes Listening: listening and engagement processes for the most relevant projects at least 3 meetings/year for listening and discussion with territorial SHs	• Continuation and consolidation of **local area listening activities** with the aim of **understanding perceptions with respect to** the Group's **most significant projects** • Initiation of **listening and discussion** projects **with key *stakeholders*** • **Retail** customer base development • Customer portfolio **optimisation**
11. CVA for schools: +50%/year students reached by sustainability education activities	• **Continuation** of the **LabEnergie** project **and increase in** the number of **students involved** in environmental education activities **each year** (from 2023) • Implementation of **two training modules** for lower and upper secondary schools on **Agenda 2030** and **Climate Change**
12. Corporate volunteering: 6,500 hours (1 hour/ month/person)	• Activation of a corporate **volunteer programme** and promotion of employee involvement to get close to an annual target of **6,500 hours/year** (average of 1 hour per employee per month) in support of **local area entities**
13. *Upskilling* and *reskilling*: >60% business population reached	• Activation of targeted **training and skills development** initiatives in terms of *upskilling* and *reskilling*, on an annual basis

ABOUT US

ABOUT US

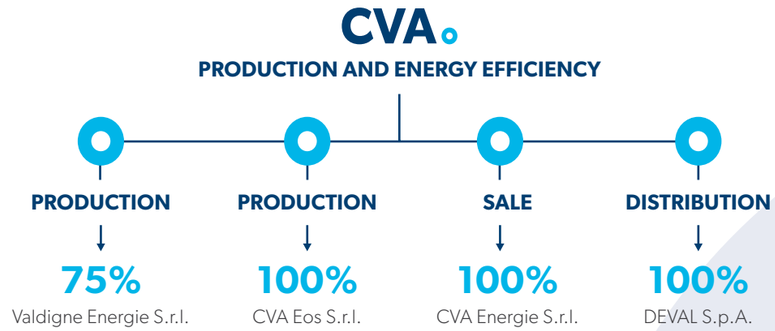
Workplace safety training at Covalou power plant.

For more than 20 years, the CVA Group has operated in the Aosta Valley as a key player in the energy market. Its strength lies in the ever-growing **production of 100% renewable energy** from **hydropower, wind and photovoltaic plants**, a distinctive trait that not only makes the Group *unique* in its sector but will also enable it to enter the decade of energy transition with a leading role. Since 2001, when the acquisition of Enel's entire hydropower infrastructure in Aosta Valley was finalised, the Group has become the **reference *provider*** of energy services in the region, and Valle d'Aosta was the first region to boast entirely local hydroelectric management and production. Nationally, CVA is confirmed as the **5th *largest*** contributor to renewable generation from hydropower sources[3], with **32 power plants in the region**, and continues to be one of the leading producers of wind and photovoltaic power.

The new **Integrated Plan** includes ambitious developments that will allow for an **increase in installed capacity of 456 MW** of new wind and photovoltaic generation in the country. The increase in fully-operational green production will **save a total of about 696 thousand tons of CO_2**[4] over the five-year period. This may be augmented by the investments in technological innovation, plant upgrades and energy efficiency projects that will further increase the CVA Group's contribution to mitigating emissions.

The Parent Company, Compagnia Valdostana delle Acque S.p.A. – Compagnie Valdôtaine des Eaux S.p.A. - has a sole shareholder, namely the regional finance company Finaosta S.p.A., wholly-owned by the Autonomous Region of Aosta Valley. The Group operates through four subsidiaries and two associates, active in four vertical areas throughout the energy chain: **production, sale, distribution** and, to a lesser extent, in **district heating**[5]. Each company in the Group operates in the electricity sector with its own mission and specific objectives, capable of generating business opportunities, while respecting shared values: **sustainability, innovation and safety**.

Below is the corporate structure of the CVA Group in which the fully consolidated companies were considered:



[3] ARERA Annual Report -2021 Available at the link: https://www.arera.it/allegati/relaz_ann/21/RA21_volume_1.pdf.

[4] A conversion factor of 315 gCO_2/kWh (Terna 2021) was used to calculate emissions using the location-based method.

[5] Companies dedicated to the district heating business are not included in the line-by-line consolidation.

CVA EOS: Group wind and sunshine

Decarbonisation of energy sources is now a European and national commitment, to which CVA intends to actively contribute. In this sense, the company "CVA EOS," in addition to rationalising the management of production from wind and sun, was established with the aim of **further enhancing and expanding green power generation**, in line with the path to decarbonisation to 2050.

The Group ended 2021 with an EBITDA of **€ 193.4 million**, up 39.2% compared to 2020 but with a significantly improved revenue ratio, up from 25.9% in 2020 to 27.2% in 2021.

Economic results (thousands of €)			
	2019	2020	2021
Turnover	805,433	536,182	710,645
Gross operating margin	152,458	138,933	193,412
Operating income	104,097	87,198	132,070
Net profit attributable to the Group	75,103	59,977	133,441

Balance sheet results (thousands of €)			
	2019	2020	2021
Net invested capital	859,262	830,257	970,882
Consolidated shareholders' equity of the Group	795,369	809,694	814,703
Consolidated shareholders' equity of the Group and minority interests	802,286	817,344	824,197
Net financial position	141,554	12,914	146,684

Debut on financial markets: first Bond issued

On November 22, 2021, CVA successfully completed its **first *senior unsecured*** bond issue listed on regulated market of the Irish Stock Exchange in the amount of **€ 50 million** with a maturity of 7 years.

The *bond* issue is an important first step in the implementation of the 2021-2025 Strategic Plan, with which the Group has set the goal of becoming an increasingly important driving force in the path to the energy transition. Secondly, this marks CVA's debut in the financial markets and highlights its soundness, not only now but also looking ahead to the challenges that lie ahead to a *greener* future.

To this purpose, by the end of 2022, CVA plans to place a new bond on the market, once again reserved for institutional investors, to meet its financial needs resulting for the implementation of the Strategic Plan, with the aim of diversifying the sources of financing for the green transition.

In addition, the issuance of its first bond also meant for CVA the adoption - starting from - January 1, 2022 - into of the regulations of the *Non-Financial Reporting* Directive (EU Directive 2014/95), implemented in Italy by Legislative Decree 254/2016. In accordance with the new reporting requirements of the Decree, the Group has prepared its first **Non-Financial Statement** and initiated a process to comply with the *disclosure* requirements defined by the **European Taxonomy**.

A prestigious award for CVA reporting

On November 25, 2021, the CVA Group received the prestigious **Oscar di Bilancio** award, sponsored by FERPI, Borsa Italiana and Bocconi University, which recognises the most virtuous companies each year in reporting and caring for stakeholder relations. The award aims to enhance the ability to fully and transparently report on economic, social and environmental impacts.

In the last edition, CVA Group was the winner in the Large Unlisted Enterprise category. The award was given because of: *"particular clarity in terms of presentation and method to support ease of reading. The deep local roots shine through in all the reporting."*

In addition, CVA's Budget 2020 was included among the 50 finalists in the ***Future Respect Index***, the index that, from a census of more than 1,500 documents, selects those considered most interesting and engaging by ConsumerLab, in collaboration with 300 prosumer consumers and a team of experts. More than 27,000 total votes were cast for the 50 budgets, encapsulating the growing willingness of citizens/consumers to actively participate in the transition and sustainable business transformation.

The 50 Italian companies represented by the Index, the so-called Sustainable Italy 2021, are worth more than 80 billion in sales and employ almost 200 thousand employees.

The European Taxonomy and CVA Group's Disclosure

European institutions have set ambitious targets to decarbonise the economies of member states. In line with the Paris COP21 and the UN 2030 Agenda, the EU Green Deal aims to make Europe the first carbon neutral continent by 2050.

In this context, **the financial sector has been designated by Europe as the driving force for guiding the sustainable transition**, and for this to happen, investors need to be able to unambiguously distinguish the sustainability profiles of companies, within a market that ensures increasing levels of transparency, including for the benefit of consumers.

On March 8, 2018, the European Commission published the **Sustainable Finance Action Plan**[6], a strategy that aims to help steer capital flows toward sustainable and responsible investments, manage financial risks related to climate change, and promote transparency in economic and financial activities.

The first of the ten initiatives under this Plan is the **European Taxonomy**[7] whose regulations came into effect on July 12, 2020. This is a regulation that introduces the **first internationally unique classification system for identifying sustainable economic activities**, i.e., those that contribute as much to the growth of low-carbon emissions sectors as to the process of decarbonisation of higher-emitting ones. The Taxonomy is structured around **six environmental objectives**- climate change mitigation, climate change adaptation, sustainable use and protection of water and marine resources, transition to a circular economy, pollution prevention and control, and protection and restoration of biodiversity and ecosystems - and, for each of these, identifies **sectors, activities, and technical screening criteria** that determine whether and how an activity contributes substantially to the achievement of one or more environmental objectives.

During 2021, in particular, delegated acts on climate change mitigation and adaptation targets were published, containing the criteria to be able to define an *eligible* and *aligned* activity under the European Taxonomy. The Commission has set two deadlines for the disclosure requirements of non-financial firms. During FY 2022, with reference to FY 2021, companies subject to the Non-Financial Statement disclosure requirements under Legislative Decree 254/2016 will have to report the share of eligible assets in terms of turnover, capital expenditure (CapEx) and operating expenditure (OpEx) and their supporting qualitative information.

An activity is then declared eligible under the Taxonomy if it is consistent with the definitions of activities presented in the delegated acts on **climate change objectives** (mitigation and adaptation).

[6] Action plan to finance sustainable growth, European Commission, 2018.
Available at the link: https://eur-lex.europa.eu/legal-content/EN/TXT/?uri=CELEX:52018DC0097.

[7] EU Regulation 2020/852 of the European Parliament and of the Council establishing a framework to encourage sustainable investment, European Commission, 2020. Available at the link: https://eur-lex.europa.eu/legal-content/IT/TXT/?uri=celex:32020R0852.

Non-Financial Statements published on or after January 1, 2022, must therefore contain information on only the first two of the six environmental objectives identified by the Taxonomy Regulations. Beginning in FY 2022, the reporting requirement will include verification of how well these eligible activities are aligned with the Taxonomy in terms of turnover, capital expenditure, and operating expenses.

Avise power plant.

According to the Regulations, an economic activity is considered **sustainable** under the European Taxonomy when:

- **it meets the technical screening criteria** identified for the activity to determine whether it contributes substantially to the achievement of at least one of the six identified environmental objectives;
- **it does no significant harm** to the other five environmental goals;
- **it complies with a set of minimum social safeguards**, understood as those procedures implemented by a company to ensure alignment with the OECD Guidelines for Multinational Enterprises and with the United Nations Guiding Principles on Business and Human Rights.

As previously mentioned, **CVA Group falls within the scope of the Regulation,** which, as of January 1, 2022, addresses all companies subject to the requirement to publish a NFS.

Taxonomy: a constantly evolving regulatory framework

The Taxonomy Regulation is being developed through the gradual adoption of Delegated Acts and, according to the European Commission's statement, the regulatory process will be completed by the end of 2023.

Specifically, the ***Climate Delegated Act***, which was adopted on June 4, 2021 and entered into effect on January 1, 2022, identifies the economic activities and technical screening criteria for the first two climate goals of **mitigation** and **adaptation**. On December 31, 2021, the proposed amendment of the *Climate Delegated Acts* to introduce **natural gas** and **nuclear** into Taxonomy by defining their technical criteria was published. The ***Disclosure Delegated Act***, which entered into effect on December 30, 2021, instead defines the **reporting procedures** to be followed by entities that fall under its scope. The **Environmental Delegated Act** is expected to be published by 2022, that will define sectors, activities, and technical criteria for the remaining **4** environmental goals, with it taking effect on January 1, 2023.

In addition, the Taxonomy provides for the possibility of extending the classification to other sustainability goals, including social goals, and to non-eco-sustainable economic activities. For the latter, on July 12, 2021, the Platform on Sustainable Finance released a Draft Report on **extending the Environmental Taxonomy to activities that do significant harm to environmental sustainability or have no significant environmental impact**. A public consultation was initiated on this Report to collect comments and reactions from the market in preparation for the final reports to be submitted to the European Commission by the first quarter of 2022. The Platform itself, on February 28, 2022, released its Final Report on the extension of the Taxonomy to direct capital toward economic activities that can make a contribution to the achievement of **social goals**, such as securing **decent work**, achieving **adequate living standards** and the **well-being of end users**, and, not least, creating an **inclusive and sustainable community**. The Platform aims to further develop the Social Taxonomy during 2022 in order to put the European Commission in a position to publish its Report by the end of the year.

The application of Taxonomy in CVA

During 2021, the CVA Group carried out a cross-Group project that was managed by the Sustainability, Marketing and External Relations Function and actively involved the Operations Department and the Administration, Finance, Control and Services Department in addition to the In-scope Companies.

In line with the guidance provided by the *Disclosure Delegated Act*, for the first year of application-from January 1, 2022 on fiscal year 2021-CVA has identified the activities carried out by the Companies in **DNF 2021 scope** that correspond with the activities listed in the *Climate Delegated Act*. **CVA identified the shares of revenue, CapEx and OpEx attributable to taxonomy-eligible and non-taxonomy-eligible activities for the first two mitigation and adaptation climate objectives**, accompanied by a set of qualitative information, defined as **Accounting Principles**, to accompany the estimated economic and financial KPIs.

As of January 1, 2023, the Taxonomy must be fully implemented, at least for the first two climate goals. This means that, for each economic activity eligible for the CVA Group, it will be necessary to verify compliance with the **technical screening criteria** identified by the European Commission for activities in Taxonomy, thus reporting not only eligibility but also **alignment**, again in terms of turnover, CapEx and OpEx.

The eligibility of the Group

The objective of the **eligibility analysis is** to verify the degree to which the Group's operation matches the descriptions provided by the European Commission for the activities listed in the *Climate Delegated Act* for the mitigation (Annex I) and adaptation (Annex II) objectives[8]. In conducting the analysis, CVA decided to take an **inclusive approach**, going beyond the correspondence between its own Ateco codes and the NACE[9] used by the Regulations, thus going into the merits of the descriptions of each activity together with the in-scope Companies.

The Taxonomy today identified **103 economic activities** organised into **13 sectors**, of which 80 activities can make a contribution to both the mitigation and adaptation objectives, 8 activities only to mitigation and 15 only to adaptation.

Downstream of the eligibility analysis related to the **Group's 6 Business Units - Other** RES (Renewable Energy Sources)[10], Corporate, Distribution, Energy Efficiency, Hydro and Sales - it emerged that CVA manages a total of **13 eligible activities** for **4 sectors**. Of these 13 activities, 11 can make a contribution to the mitigation goal and 2 a contribution to climate change adaptation.

The following table shows the Group's eligible activities with a reference to the Business Units and Group Companies responsible for their management.

[8] C (2021) 2800 final, Annex 1 and 2, European Commission, 2021.
Available at the link: https://eur-lex.europa.eu/legal-content/IT/ALL/?uri=PI_COM:C(2021)2800.

[9] Nomenclature of Economic Activities (Statistical Classification of Economic Activities in the European Community).

[10] The Other RES Function is responsible for managing the Group's wind and photovoltaic plants and overseeing the design and construction of new photovoltaic and wind power plants under the Integrated Plan.

Sector	Activity	Target	BU and Society
4. Energy	4.1 Electricity generation using solar photovoltaic technology	Mitigation	Other RES (CVA S.p.A.; CVA EOS)
	4.3 Electricity generation from wind power	Mitigation	Other RES (CVA S.p.A.; CVA EOS)
	4.5 Electricity generation from hydropower	Mitigation	Hydro (CVA S.p.A.; Valdigne Energie S.r.l.)
	4.9 Transmission and distribution of electricity.	Mitigation	Distribution (Deval S.p.A.)
	4.16 Installation and operation of electric heat pumps	Mitigation	Corporate (CVA S.p.A.)
	4.25 Production of heat/cool using waste heat	Mitigation	Energy Efficiency (CVA S.p.A.)
7. Construction and real estate activities	7.2 Renovation of existing buildings	Mitigation	Corporate (CVA S.p.A.)
	7.3 Installation, maintenance and repair of energy efficiency equipment	Mitigation	Corporate (CVA S.p.A.)
	7.4 Installation, maintenance and repair of charging stations for electric vehicles in buildings (and parking spaces attached to buildings)	Mitigation	Corporate/Hydro (CVA S.p.A.)
	7.6 Installation, maintenance and repair of renewable energy technology	Mitigation	Energy Efficiency (CVA S.p.A.)
8. Information and communication	8.1 Data processing, hosting and related activities	Mitigation	Corporate (CVA S.p.A.)
	8.2 Computer programming, consultancy and related activities	Adaptation	Corporate (CVA S.p.A.)
9. Professional, scientific and technical activities	9.1 Engineering activities and related technical consultancy dedicated to adaptation to climate change	Adaptation	Hydro (CVA S.p.A.)

The **Other RES** BU is eligible for 2 activities in the "Energy" sector, including generation by solar photovoltaic technology and from wind power. The **Distribution** BU is also eligible for the "Energy" sector but, in this case, for electricity distribution. The **Hydro** area is eligible, on the one hand, for hydropower generation and, on the other hand, for engineering and technical consulting activities dedicated to climate change adaptation. The **Energy Efficiency** BU is eligible for the installation, maintenance and repair of renewable energy technologies under the Taxonomy sector "Building and Real Estate Activities" and in the production of heat/cool using waste heat under the "Energy" sector. The **Corporate** BU is eligible for 6 activities in the "Energy", "Construction and Real Estate" and "Information and Communication" sectors, all of which are managed by the parent company.

The Sales BU, which is solely responsible for the sale of electricity and 87.3% of the Group's 2021 sales, is not eligible for the Taxonomy because the European Commission, to date, does not include energy sales in the list of activities that can make a contribution to the achievement of the first two climate goals.

Economic and financial indicators

In line with the guidance in the Regulations, **CVA calculated the percentages of turnover, CapEx and OpEx related to eligible activities for the first two climate objectives in the Taxonomy**.

Regarding the request to make this estimate while avoiding double counting, the analysis found 11 out of 13 eligible activities that can contribute to both mitigation and adaptation goals. For 9 of these 11 activities, the *Climate Delegated Act* reports identical descriptions for the two objectives while, the other 2, differ only in some specific aspects. **For these 11 activities, in the first year of reporting, CVA decided to attribute the KPIs of turnover, CapEx, and OpEx only to the mitigation target because the underlying technical criteria, which will be evaluated from 2023, are the only differentiating factor between activities depending on the target**. This choice is to be considered provisional and may lead to changes in the result from next year.

The economic and financial data related to the 2 activities that can only make a contribution to the adaptation objective--Activity 8.2 Programming, Information Technology Consulting and Related Activities and Activity 9.1 Engineering Activities and Related Technical Consulting Dedicated to Climate Change Adaptation--have instead been valued separately.

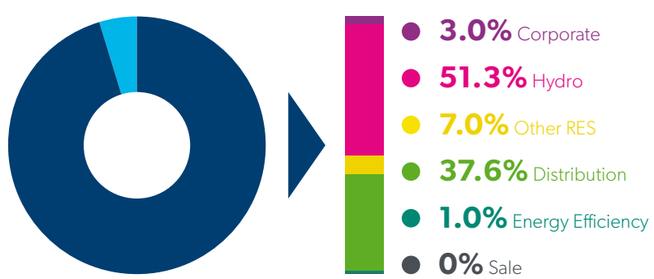
Looking at the consolidated financial results as of December 31, 2021, **the Group has eligible CapEx at 95.3%, eligible revenue at 12.4%, and eligible OpEx at 17.5%**.

Gressoney-La-Trinité power plant.

With reference to how the KPIs required by the Taxonomy are determined, CVA points out that based on a **strict interpretation of the text of the Regulations, the Group's eligible turnover would appear to be 12.4%**. It is believed that this result is totally inconsistent with the real and positive nature of the Group, which is penalised by **a calculation method that should be considered unsuitable for a correct representation of a Company that has 100% green energy production**. The reason for this result, which does not tally with the actual situation, is determined by the combination of, on the one hand, the provision for the **elimination of the Intercompany turnover** of the Group's Production Companies, including the holding company CVA S.p.A., with the wholly-owned subsidiary CVA Energie, which operates in the marketing of energy on behalf of the Group, and, on the other hand, the **inability to value the turnover obtained from the sale of energy** among the eligible activities for the Taxonomy. CVA believes it is correct, on a technical level, to include Intercompany turnover to date erroneously not included by regulatory provisions in the assumptions of manufacturing industrial groups with structures such as CVA's, similar moreover to most groups operating in this sector. **Specifically, for the determination of eligible turnover volumes, by carrying out a sources/uses analysis of the energy flows that develop the turnover, it appears that the percentage of 2021 eligible turnover for the CVA Group is 86.18%**.

Regarding **CapEx**, in 2021 CVA reported capital expenditures of € 35.361 million, of which **€ 33.699 million was eligible**. The largest contribution to this result comes from the activities of the **Hydro** BUs with **€ 17.303 million**, or **51.3%** of eligible investments, and **Distribution** with **37.6%** of eligible CapEx, or € 12.657 million.

ELIGIBLE AND INELIGIBLE CapEx BY BUSINESS UNIT



Regarding operating expenses, CVA reported a consolidated **OpEx** value of **€ 517.233 million** in 2021, of which **€ 90.466 million** (17.5%) is **eligible** The BUs that contribute most to this result are **hydropower** with **€ 57.240 million** (63.2%) and **Distribution** with **€ 16.435 million** (18.2%).

It is important to note that KPIs, as they relate to the Consolidated Financial Statements, do not take into account **Intercompany activities** carried out by Group Companies.
In light of these results, CVA believes it is important to emphasise that the percentages obtained only partially reflect the Group's environmental performance described within this Report. In fact, the disclosure responds to the interpretation of sustainability given by the Taxonomy in relation to certain environmental objectives and specific economic activities, in order to support the implementation of the European Sustainable Finance Action Plan. **The interpretation of the disclosure is therefore to be confined to the objectives of the Regulations**, which only partially correspond to the sustainability initiatives promoted by the Group. Certainly, to date, the non-eligibility of sales activity, for a Company that has always produced clean energy, is a major limitation to the disclosure required by Taxonomy.

CVA's eligibility in the absence of revenues from the sale of renewable energy

In full compliance with the regulatory framework defined by Regulation 2020/852, CVA did not include among eligible revenues those related to the sale of energy, which is now excluded from the list of activities that, according to the Taxonomy, can make a substantial contribution to the first two mitigation and adaptation goals.

For this reason, the share of eligible revenues is severely penalised: suffice it to say that the Group's eligible revenues **exclude sales referable to 95% of eligible CapEx**.

Sales companies that promote renewable energy consumption to customers can make an important contribution in the energy transition by driving demand. Excluding the sale of renewable energy from eligible activities means excluding a crucial element of the sector's value chain, which is decisive in the decarbonisation path of the energy system. We hope, therefore, that the regulator will reconsider the eligibility of the activity of selling renewable electricity, giving it the same consideration and relevance associated with the generation and distribution phases, which are presently on the list of eligible activities.

Accounting standards and disclosures

The paragraph outlines a series of items of qualitative information required by the Regulations on how the Taxonomy KPIs are constructed, namely the shares of turnover, capital expenditure (CapEx) and operating expenditure (OpEx) associated with eligible activities that the Group has defined based on the guidance in Annex 1 to Delegated Act 2178/2021.

The data contained in CVA's disclosure refer to the Group's performance for the year ended December 31, 2021, and all information refers to the Companies included in the scope of consolidation used for the Consolidated Financial Statements with reference to the same period, prepared in accordance with International Financial Reporting Standards (IFRS) issued by the International Accounting Standards Board (IASB) and endorsed by the European Union, as well as the laws and regulations in force in Italy.

To identify the economic and financial items useful for constructing the KPIs required by the Taxonomy, CVA used a dedicated accounting process, whose data are traceable and attributable to general, industrial and regulatory accounting. As of today, the Group believes it is plausible that, in the coming years, the KPI determination process used in the first year of reporting may undergo changes depending on possible regulatory developments related to the Regulations.

Specifically, the determination of turnover, CapEx and Opex was made with reference to the reporting provided in compliance with IFRS 8 - Operating Segments. Where available data required more in-depth analysis, necessary to determine the correct valuation for the purpose of allocating revenues or expenses to different economic activities, more detailed analytical accounting tools, integrated into the data collection information system, were used. In cases where the accounting and analytical structure was not sufficient to highlight details, provision was made for the use of appropriate Drivers.

Below is a summary of how the KPIs required by the Taxonomy are calculated.

- **Turnover**: share of net revenues associated with eligible economic activities out of their total value, taking into account direct revenues from activities that are part of the value of production.
- **CapEx**: share of capital expenditure related to eligible economic activities out of the Group's total CapEx (investment net of disinvestment). Investments of a financial nature were excluded from the calculation by considering instead direct investments related to business activities, such as additions related to tangible and intangible assets, which also include the values accounted for among fixed assets under IFRS 16 - Leases.
- **OpEx**: share of operating expenses associated with eligible economic activities out of total Group OpEx, including direct operating costs net of own work capitalised.

Since this is the first edition of the Group's consolidated non-financial statement, there are no changes to the calculation methods applied.

The value chain

Ensuring **the constant supply of electricity** is a prerogative of the Group, which even during the most difficult *lockdown* periods in both 2020 and 2021, worked to ensure that every citizen could enjoy a service that is essential for carrying out their daily activities and staying connected with family, friends, and colleagues. To ensure that CVA workers could continue to carry out their essential duties, the Group adopted several safety *policies*, enabling them to protect their health while ensuring continuity of service for the community.

Thanks to its **32 hydroelectric power plants, 8 wind farms, 6 large dams and about 55,000 photovoltaic modules, 4,200 km of power lines, the** CVA **Group** is able to control the entire process of production and, in Valle d'Aosta, also distribution of electricity to people's homes.

The affiliate DEVAL, manages a **distribution network** running along more than **4,200 km** of high, medium and low voltage **power lines** and passes through more than **1,700 transformer stations**. To ensure the quality of the service provided and the resilience of the distribution networks, Deval constantly upgrades and monitors its lines, through continuous and remote monitoring of all supplies, thanks to meters that can optimise consumption readings and contract variations. Starting in 2022, the entire process will also be further improved with the installation of the **new *2G smart*** meters, which can offer up to 96 readings per day per meter for an even more efficient service.

In addition to production and distribution activities, CVA is involved in the **sale of energy** to end users in the national and regional territory, through the company CVA Energie, which operates as a wholesaler in the Italian electricity market, both in the regulated market (through the Enerbaltea brand) and in the free market. In the free market, CVA Energie creates **tailored offers for** residential, condominium, small professionals and large business customers.

In line with the provisions of the Integrated Plan, CVA has initiated energy efficiency works in civil buildings by acquiring an order book that, through the **110% Superbonus**, allows it to support citizens, construction companies and professionals who want to start works aimed at improving the energy performance of buildings.

This also includes the launch of the first ***Energy Performance Contract (EPC)***, a type of agreement that, in the relationship between CVA (as the energy service company-ESCo-contracted to carry out the upgrading works) and the beneficiary, allows the **savings from improved energy performance to be used to remunerate the investments and works carried out**. With this type of contract, which is becoming increasingly popular in Europe, the client therefore has the advantage of not having to incur any initial investment costs and being able to repay the upgrading to the ESCo with all or part of the contractually negotiated savings[11].

[11] Aeneas, 2022.
Available at the link: https://www.efficienzaenergetica.enea.it/glossario-efficienza-energetica/lettera-e/energy-performance-contract-epc.html.

Green Energy Building for energy efficiency

The Decreto Rilancio[12], enacted in 2020 to promote economic recovery in response to the pandemic emergency, introduced for the first time the 110% tax super-credit, significantly boosting tax deductions for energy efficiency initiatives on Italy's housing stock, with the dual aim of revitalising the building sector and meeting the climate goals set out in the National Integrated Energy and Climate Plan (NIPEC). The bonus, extended by Budget Law 2022 to **June 30, 2023**, covers energy efficiency and earthquake-proofing works, installation of photovoltaic systems, and infrastructure for charging electric vehicles in buildings.

In this context, enhancing its **technical expertise** and role as an **industrial player** in the local energy sector, CVA launched the *Green Energy Building* brand in 2020, acting as a **facilitator of the activation of efficiency initiatives** and operating as an **contact point between businesses and citizens** interested in accessing the superbonus. The Group actually accredits industry operators with the required professionalism and capabilities, finances projects by absorbing the tax credit, supervises the design and implementation activities, and provides the necessary support for the management of the paperwork required by the administrative process.

The year 2021 saw the initiation of **several collaborations with ESCos** for energy efficiency in apartment buildings and private homes. The total number of projects is **14 open construction sites** amounting to more than **€ 7 million**. About 50 initiatives are planned for 2022 with an estimated amount of about € 60 million. CVA collaborated with ESCos and Building Administrators by participating in the many meetings and assemblies held to outline the itinerary of works to be developed.

Materiality analysis and *stakeholder engagement*

In accordance with Global Reporting Initiative (GRI) guidelines, this document has been developed around relevant issues identified through a process of **materiality analysis**, i.e. the definition of a threshold beyond which an issue is considered sufficiently important to be reported.

The process that in 2018 led to the definition of the relevant issues included an initial phase of context analysis carried out with reference to the sector and international standards, sustainability communications of the main *players* in the sector, as well as through an analysis of internal documentation, company *policies*, interviews with the various departments of the Group and based on an internal evaluation of opinions and expectations of the main *stakeholders* able to define the relevance of each of them. A total of 19 *stakeholders* were involved in defining CVA's priority issues, which can be traced back to **different categories of stakeholders**: customers, local communities and institutions, as well as trade unions and people working in tourism, safety and the environment. *Stakeholders* were selected on the basis of their relevance to the activities carried out by the company, also taking into account their knowledge of the Aosta Valley territory and its social and cultural fabric, as well as CVA's circumstances and business.

Thanks to this process, starting from an initial short-list of potentially relevant issues, the truly material issues were focused on according to the materiality and evaluation of their impact in the exercise of the Group's activities and to that perceived by its *stakeholders*. The material issues are reported in the table in the next section on risk factors and the Group's planned management methods.

Our *stakeholder*

I nostri *stakeholder*	
Environment	Environmental associations; Mountain Guides Association; Market players on the ARERA list; Industry technicians
Customers	Business customers; Residential customers; Free market; regulated market service; Collective users
Community	ADAVA Hotelier Associations; Voluntary Associations; Social Cooperatives; Youth Citadel; Volunteer Services Coordination (CSV); Community Foundation; Proloco; Sports Associations; Research Centres; Citizens' Committees; Cableways; Business Incubators; Schools; Tourism; Universities
Control and regulatory bodies	ARERA; ARPA; European Commission; industry bodies; certification bodies; VdA Region; GSE; Terna
Suppliers	Material and service suppliers; Local suppliers; National and international suppliers
Institutions and trade associations	74 Valle d'Aosta municipalities; Valle d'Aosta Chamber of Commerce; BIM (Bacino Imbrifero Montano); CEP (Consorzio Enti Pubblici); Celva (Consortium of Local Authorities of Aosta Valley); Consip; Consumer Associations
Financial institutions	Banks and other financial institutions
Media	Traditional local media; Traditional national media; Social media
Market	Italian stock exchange; Consob; Iren; SwissPower
People	Administrative employees; Technical-operational employees; Administered staff; Company management; Labour organisations

[12] Decree Law No. 34 of May 19, 2020, converted, with amendment, by Law No. 77 of July 17, 2020.

Stakeholder engagement [GRI 102-40; GRI 102-43; GRI 102-44][13]

Stakeholder Category	Issues of interest	Key dialogue and engagement initiatives
Environment	• Protection of the environment and biodiversity • Responsible water use	• Memorandum of Understanding with the Fishing Consortium • Participation in round-table working groups to monitor the effects of climate change
Industry companies and competitors	• Respect of the rules • Transparency	• Press releases • Financial statements • Website • Sustainability report
Business partners	• Compliance with contractual commitments • Relationship continuity • Local investments	• Press releases • Website • Sustainability report • Financial statements
Customers	• Customer satisfaction • Transparency and responsible marketing • Privacy and data security • Asset security • Security of supply	• Customer service and other initiatives for dialogue with consumer Associations • Social communication channels • Branches on the territory • Advertising campaigns • Sustainability report
Community	• Asset security • Support for solidarity initiatives • Relations with the local area • Local investments and support for the entrepreneurial environment • Quality employment	• Press releases • Initiatives dedicated to the territory • Guided tours of the plants • Sustainability report • Financial statements
Control and regulatory bodies	• Customer satisfaction • Security of supply	• Communications to ARERA • Website • Financial statements • Sustainability report
Suppliers	• Compliance with contractual commitments • Relationship continuity • Local investments	• Supplier area portal on the website • Sustainability report • Financial statements
Institutions and trade associations	• Compliance with the law • Privacy and data security • Economic and financial sustainability	• Press releases • Website • Sustainability report • Financial statements
Financial institutions	• Compliance with contractual commitments and continuity of relationship • Innovation in financial instruments • ESG Rating	• Disclosure transparency • Sustainability-linked loan • Issuance of listed bonds
Media	• Economic and financial sustainability • Respect of the rules • Attention to worker health and safety • Environmental protection • Asset integrity • Relations with the local area • Transparency	• Press releases • Website • Sustainability report • Financial statements
Market	• Economic and financial sustainability • Value creation • Corporate governance • Respect for the rules • Attention to worker health and safety • Environmental protection • Asset integrity • Relations with the local area • Transparency	• Press releases • Advertising campaigns • Sustainability report • Financial statements
People	• Economic and financial sustainability • Skills enhancement • Work/life balance • Equal opportunities • Occupational health and safety • Transparency • Public competitions	• Training • Intranet • Corporate Convention Insieme (*Together*) • Sustainability report • Financial statements

[13] The table shows the categories of Stakeholders most relevant to the CVA Group, represented in alphabetical order, the issues of greatest interest to each category of stakeholder and the activities carried out with them in 2018.

Ci Vuole Ascolto 3.0: *En Compagnie*, a listening *roadshow* for the territory

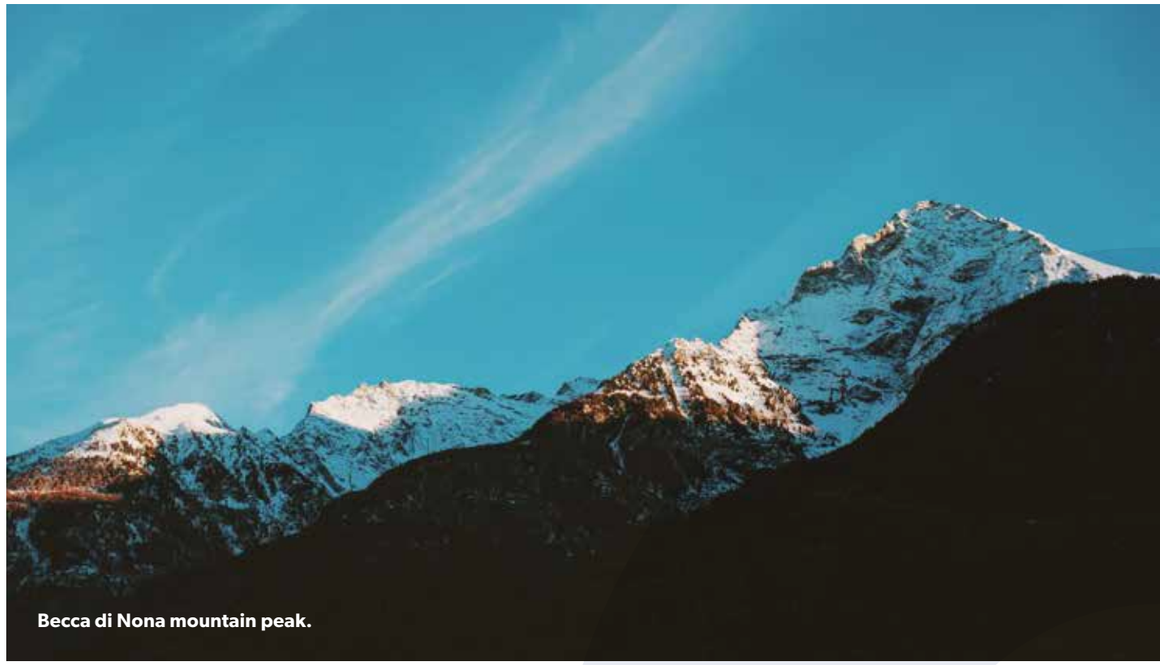
Creating value in the local area means a willingness to listen to your *stakeholders*, understand their needs and develop a shared plan of action to meet the interests of the relevant parties.

En Compagnie was created in 2021, **CVA's *roadshow*** invested in by the Regional Administration, , which included the creation of a structured itinerary to tell the story of the value generated and distributed in the Valle d'Aosta (Aosta Valley) by the Group's activities, and to listen to and engage in dialogue with the territory.

In September 2021, the concluding event of this journey, aimed at gathering the views of the territories, was held, featuring the Lower, Middle and Upper Valley municipalities. The final meeting was an opportunity to share the reflections and perspectives that emerged on the topic of energy transition in Aosta Valley with the Local Administrations, and to focus on the role of each player in this process.

The path also included conducting interviews with some *key opinion leaders* in the area, instrumental in analysing the scenarios in which the Group operates and consequently updating the materiality matrix.

Faced with the complex scenario envisioned by the decarbonisation plans, with *En Compagnie*, CVA reiterated its desire to **work in synergy with all stakeholders in the area** toward the prospect of an increasingly sustainable region from an environmental, economic and social perspective.



Becca di Nona mountain peak.

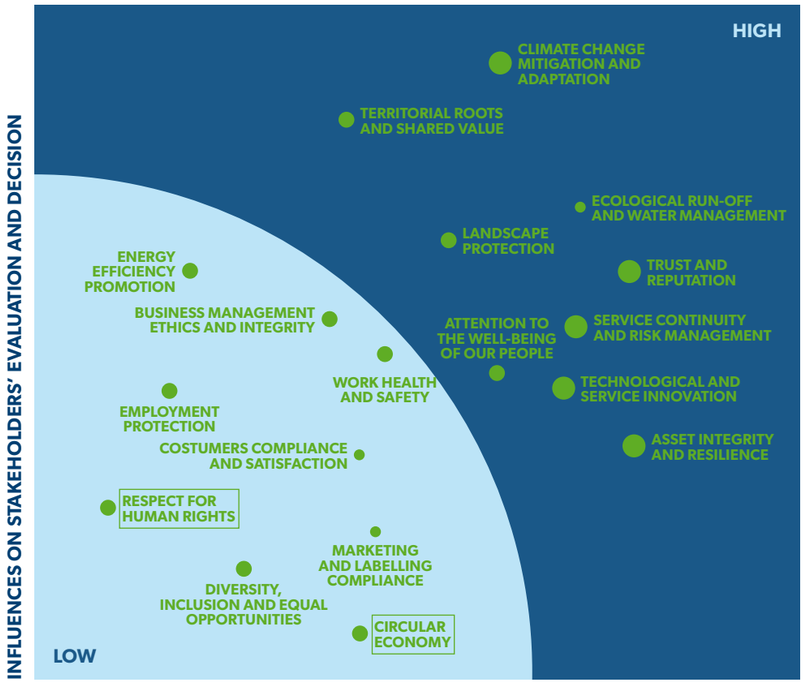
"We live in an ideal environment to make the ecological transition a reality, but no one can do it alone; the cooperation of all those who are committed to the economic, social and civil recovery of the territory is needed. En Compagnie was created as an opportunity to meet, listen to and engage in dialogue with representatives from local area institutions." (Marco Cantamessa, Chairman of the Board of Directors)

In light of the *engagement* process carried out during 2021, in relation to the observations from the key stakeholder interviews and the entry of the European Taxonomy which highlights and articulates the focus on climate change, the materiality matrix was updated with a timely incorporation of the material theme 'climate change' in 'Climate Change Mitigation and Adaptation,' and with the introduction of the themes 'Respect for Human Rights' and 'Circular Economy,' although not included in the material relevance area.

It should be noted that the issue related to respect for human rights, although provided for in Legislative Decree 254/2016, was not included among the material ones, considering the territorial, regulatory and business environment in which the Group operates. However, this issue is dealt with within the NFS because, as highlighted in the Code of Ethics and Conduct, the Group protects the respect, dignity and integrity of people, ensuring equal opportunities without any discrimination or prevarication.

Piansano wind farm.

MATERIALITY MATRIX



CVA'S SOCIAL ECONOMIC AND ENVIRONMENTAL IMPACTS

The sustainability risk assessment

In line with the requirements of Legislative Decree No. 254/2016 to explain the associated risks for each material topic, their correlation can be viewed below.

Decree 254/2016 instituting the Non-Financial Statement, picking up on the guidelines of the European Directive, identifies the minimum contents that should be reported, namely the issues related to the business model adopted, the main management risks generated or incurred by the company and the company actions taken to manage them. These themes coincide substantially with the findings of the Group's materiality analysis.

In order to ensure full regulatory compliance of the Group's NFS, the analysis of the main risks already reported in previous years was elaborated on and arranged into an organised system. Specifically, all priority issues are linked to one or more risks identified in the *Sustainability & Enterprise Risk Management* model (*more details of which will be provided later), as highlighted in the table below*.

Topics of the Legislative Decree 254/2016	Material issues	Risk Factors (generated/incurred)	Management methods (main)[14]
Aspects pertaining to personnel management	**Attention to the well-being of our people**	• Deterioration of the level of satisfaction of human resources • Uncertainty of future working conditions • Lack of motivation (*engagement*) • Complexity of remote work management	• Planning and monitoring of Business Plan targets • Code of Ethics • Integrated Quality Safety Environment Policy • Corporate *welfare* programmes • Procedures in HR (HR recruitment procedures; staff training programme and tools for self-training; coaching programme, etc.)
Combatting both active and passive corruption **Social aspects**	**Trust and reputation**	• Deterioration of reputation with local *stakeholders* • Negative media exposure as a result of instances of corruption • Decreased quality and continuity of electricity distribution service. • Partial effectiveness of customer data protection systems • Negative impact in terms of employment and lost revenue at regional scale • Worsening relationships with local stakeholders • Negative media exposure as a result of non-*compliance* events • Reduction in the level of customer satisfaction • High level of local satisfaction with awareness and education activities in the area of environmental sustainability • Appreciating and maintaining good relations with local governing bodies through active participation in the Aosta Valley *Carbon-Free* by 2040 project	• Code of Ethics • Business organisation and management model • Review and monitoring of Business Plan targets regarding asset modernisation and maintenance • SERM (*Sustainability & Enterprise Risk Management*) Process • Internal operating procedures and practices for process monitoring • Involvement and discussion with the community and local *stakeholders* based on a participatory approach • Procedures for managing relationships and sponsorships • Plant visits and PR and outreach programmes in the local area • Compliance with ARERA standards and service quality levels • Launch of the ISO 27701 certification process for *privacy* and ISO 27001 for information security
Social aspects	**Territorial roots and shared value**	Theme treated jointly with Trust and Reputation	Theme treated jointly with Trust and Reputation
Environmental aspects	**Climate change mitigation and adaptation**	• Accidental non-compliance with environmental regulations • Partial achievement of the targets set out in the Business Plan • Damage to production assets and networks as a result of extreme natural events (physical risk) • Long-term unfavourable changes in water availability (transition risks) • Greater competition for water resource use • Increased reputational value of CVA Group's *green* label • Favourable developments in the regulatory framework for energy efficiency and generation from RES	• Review and monitoring of Business Plan targets • Integration between strategic goals and sustainability • SERM (*Sustainability & Enterprise Risk Management*) Process • Industrial plan for investment in the electric distribution network (increasing resilience) • Integrated Quality Safety Environment Policy and Certification and Integrated Management System - Quality, Environment and Safety - compliant with standards UNI EN ISO 9001:2015, UNI EN ISO 14001:2015 and ISO 45001:2018 • Use of electricity produced from renewable sources (guarantees of origin) • Participation in round-table work and research groups to monitor the effects of climate change on a regional scale • Use of predictive hydro-geological and hydraulic models • Experiments on ecological run-off in cooperation with the regulatory agencies in charge
Social aspects	**Service continuity and risk management**	• Decreased quality and continuity of electricity distribution service. • Damage to third parties (people and/or property) • Partial achievement of the targets set out in the Business Plan • Cyber risk or inadequacy of the IT and/or OT (*Operational Technology*) system • Prolonged plant stoppages caused by delays/ non-fulfilment of obligations on the part of suppliers in the execution of outsourced activities • Malfunctions or interruption in the operation of facilities, networks and services	• Review and monitoring of Business Plan targets • SERM (*Sustainability & Enterprise Risk Management*) Process • Flood risk management procedures in coordination with local authorities and the civil defence authority • Extension of insurance coverage • Launch of the ISO 27701 certification process for privacy and ISO 27001 for information security • Activities in preparation for ISO 22301 *Business Continuity* certification • Compliance with ARERA resolutions, particularly with reference to the levels of continuity and quality of the electricity distribution service.
Environmental aspects	**Ecological run-off and water management**	• Accidental non-compliance with environmental regulations - Reduction of energy production from hydropower plants • Partial achievement of the targets set in the Business Plan (hydropower upgrades)	• Review and monitoring of Business Plan targets - SERM (*Sustainability & Enterprise Risk Management*) Process • Active participation in round-table working groups with the relevant authorities
Social aspects	**Technological and service innovation**	• Decreased quality and continuity of electricity distribution service. • Malfunctions or interruption in the operation of facilities, networks and services • Partial achievement of targets in the Business Plan (*open innovation*, distribution network) • Inadequacy and vulnerability of IT/OT systems • Synergy with the local area for the implementation of innovative business models (e.g., energy communities)	• Planning and monitoring of Business Plan targets, with special reference to innovation • SERM (*Sustainability & Enterprise Risk Management*) Process • Organisational structures dedicated to Open Innovation • Identifying business opportunities related to innovative technologies • Launch of the ISO 27701 certification process for privacy and ISO 27001 for information security
Environmental aspects	**Asset integrity and resilience**	• Partial achievement of Business Plan targets on modernisation and upgrading of distribution and production assets • Damage to production assets and networks as a result of extreme natural events (physical risk) • Decreased quality and continuity of electricity distribution service. • Inadequacy and vulnerability of IT/OT systems	• Planning and monitoring of Business Plan targets (modernisation of assets and increase in human resources in the engineering function) • SERM (*Sustainability & Enterprise Risk Management*) Process • Launch of the ISO 27701 certification process for privacy and ISO 27001 for information security • Activities in preparation for ISO 22301 *Business Continuity* certification • Strengthening physical security, access control and video surveillance systems
Environmental aspects	**Landscape protection**	• Landscape damage as a result of plant failures • Partial achievement of targets set in the Business Plan (distribution network, lack of new plant approvals and upgrades) • Reduction of energy production from hydroelectric power plants	• Planning and monitoring of Business Plan targets • SERM (*Sustainability & Enterprise Risk Management*) Process • Collaboration in the design phase between engineering and QSA
Respect for human rights	-	n.a.	As highlighted in the Code of Ethics and Conduct, the Group protects the respect, dignity and integrity of people, ensuring equal opportunities without any discrimination or prevarication

[14] With the exception of the areas related to the environment and, in part, to aspects related to personnel management (for which the Integrated QHSE Policy has been adopted) and to the fight against active and passive corruption (for which there are numerous elements in the Code of Ethics), the Group has not found it necessary, to date, to apply additional formalised policies related to the other areas from Decree 254/2016, also in light of the smooth functioning of the policies implemented as is standard practice and the high degree of control at central level.

Responsible *governance*

CVA manages its governance using various tools, establishing the rules and principles of fairness and responsibility that must guide the conduct of employees and partners, based on the Group's values.

In compliance with Legislative Decree no. 231/2001, the administrative bodies of the companies of the CVA Group have resolved on the approval of their "**Organisation, Management and Control Model**". The purpose of this model is the preparation of a structured and organic system of procedures and of control activities, aimed at preventing the commission of the different types of crime envisaged in Legislative Decree no. 231/2001. Likewise, the same Companies appointed a Supervisory Body with a three-year mandate.

The Bodies - with independent powers of initiative and control - monitor the functioning and observance of the Model, regularly reporting their work in the periodic Reports submitted to the attention of the administrative bodies, within which it was also highlighted what emerged from the significant information flows received from the various corporate structures concerned. From the same point of view, the Supervisory Bodies have been responsible for monitoring the regulatory updates, as well as the structural changes that have affected the companies of the CVA Group, so as to constantly assess the adequacy and compliance of the corporate organisational models - and if necessary - remind the governing bodies of the appropriate updates to said models.

In 2021, as in previous years, there were no reports received through the *whistleblowing* channels activated by the Group.

Board of Directors

Cantamessa Marco	Chairman of the Board of Directors
Argirò Giuseppe	Chief Executive Officer
Personnettaz Monique	Director
Grand Blanc Marzia	Director
Marra Fabio	Director

Board of Statutory Auditors

Termine Carmelo Marco	Chairman of the Board of Statutory Auditors
Paesani Federica	Standing Auditor
Bosonin Guido	Standing Auditor

Independent Auditors

EY S.p.A.

Supervisory Body Legislative Decree 231/2001

Scipioni Vincenzo	Chairman of the Supervisory Board
Distasi Nicola	Member of the Supervisory Body
Massa Federico	Member of the Supervisory Body

Regulation on transparent administration

The Group's choices and activities are based on the principles of **lawfulness, correctness and transparency**. The accessibility of the data and information relating to the activities of the CVA Group companies is also guaranteed by the compliance with the anti-corruption regulations and with those relating to advertising and transparency, to which the Company is subject.

In light of the relevant obligations in terms of prevention of corruption, advertising and transparency - imposed by both national and regional legislation - the CVA Group has prepared measures for the prevention of corruption, in addition to those adopted pursuant to Legislative Decree. 231/2001 and subsequent supplementary amendments.

The Three-Year Plan for the Prevention of Corruption and Transparency is updated annually, in observance of the methods and terms required by current legislation.

Code of ethics and conduct

The CVA Group's Code of Ethics and Conduct encapsulates the ethical commitments and responsibilities that the company assumes in the conduct of its activities. This document, drawn up by the Parent Company, ratified and implemented by all the companies belonging to the Group, sets out the ethical principles and rules of conduct that the Group's employees are required to adhere to and adopt in order to prevent unlawful or irresponsible conduct on the part of those working in the name and on behalf of the company.

In May 2021, CVA's Board of Directors approved the entry into force of the **seventh revision of the** CVA Group's **Code of Ethics and Conduct**; this revision aimed to denounce conflict of interest in all its forms, provide a behavioural regulation related to corporate social mediaactivities, as well as strengthen the call for compliance with anti-corruption, *privacy*, and occupational health and safety regulations.

Due to the persistence of the health emergency, the *compliance* structure's support of Group companies continued, providing support in the course of activities to update corporate protocols for the transposition of various regulatory initiatives, always paying adequate attention to the profiles relating to the protection of the confidentiality of personal data.

Legality measured in stars

Every two years, the Italian Antitrust Authority (AGCM) assigns Italian companies with the **Legality Rating**, an award that assesses corporate compliance with the principles of legality, transparency and social responsibility. For the 2021-2023 two-year period, CVA and CVA Energie received the **highest possible score**.

Data privacy management

Technological innovation and digitisation make the security and protection of personal data of employees, customers, associates and partners increasingly important. This is a very sensitive issue for all CVA Group companies, which focus the **utmost care and commitment** in ensuring the integrity and confidentiality of the personal data processed.

In this regard, during 2021, all of the Group's administrative staff participated in numerous training and awareness-raising activities and courses on the **EU Regulation 2016/679 (GDPR)**. In addition, the Group has initiated a major project to bring its systems into line with the principles of ISO/IEC 27001 and 27701 standards pertaining to information security and the privacy information management system, an activity that will be completed during 2022.

The integrated management of sustainability

In order to monitor the progress of the new Integrated Plan, on February 22, 2022, CVA approved the creation of a new **Innovation and Sustainability Strategy Area**, reporting directly to the General Management, whose main objectives will be, among others, to organise and structure a project management activity that allows for effective planning and constant monitoring of its implementation; effectively informing internal and external *stakeholders* of the company's objectives and the progress of the Plan defined to achieve them. Within the new Area, a Sustainability Office in charge of reporting activities was also created, which from 2022 must comply with the requirements of Legislative Decree 254/2016, and which exercises the coordination action necessary for the integration of sustainability goals into the Strategic Plan, which became the Integrated Plan in March 2022. The Sustainability Office also promotes and manages projects dedicated to the needs of the local area, particularly educational projects for schools and social inclusion projects geared towards promoting a Community Company.

Cervino mountain seen from Blue Lake.

Enterprise risk management

The CVA Group's system of internal risk control is structured into **several lines of management and** is a cross-Group process that brings together the contributions of multiple organisational roles and levels, each within the scope of their competencies.

The **Governing Bodies (Board of Directors- BoD and Top Management)** are ultimately responsible for risk management in achieving corporate objectives. Specifically, they perform a management and supervisory function, engage in dialogue with stakeholders, ensure that appropriate processes and structures are in place, and assess the adequacy of the enterprise internal risk control system.

The first line of management (Department Managers) are called upon to manage the risks associated with the processes and operational activities for which they are responsible, defining and implementing the necessary controls, in compliance with internal procedures.

The **second line of management** monitors specific areas (e.g. QSA, Compliance) or higher level areas (Risk Management) for which they propose the evaluation, measurement and control systems, in order to ensure effective monitoring, comprehensive and correct risk management and compliance with laws, regulations and internal procedures.

The Supervisory **Body (SB)** operates on all levels of control for the prevention of possible instances of corruption.

As part of the internal risk management system, the **Risk *Management Department*** is responsible for ***Sustainability & Enterprise Risk Management (SERM)***, the process of detecting, measuring, and managing risks and opportunities that integrates the assessment of environmental, social, and governance (ESG) effects. The recent evolution of ERM into SERM has made it possible to consistently consider sustainability issues and observe risk/opportunity events in an "extended" scope (i.e. ESG.). The SERM process make it possible to define the Group's residual risk profile which, together with mitigation strategies, is brought to the attention of the Board of Directors of the Parent Company and of the individual subsidiaries. In addition to this, the Risk Management Department oversees the monitoring of commodity risk and the performance of specific activities required by the processes of compliance with European regulations in the field of commodity trading (Market Abuse Regulation, Remit, Emir and MiFID II).

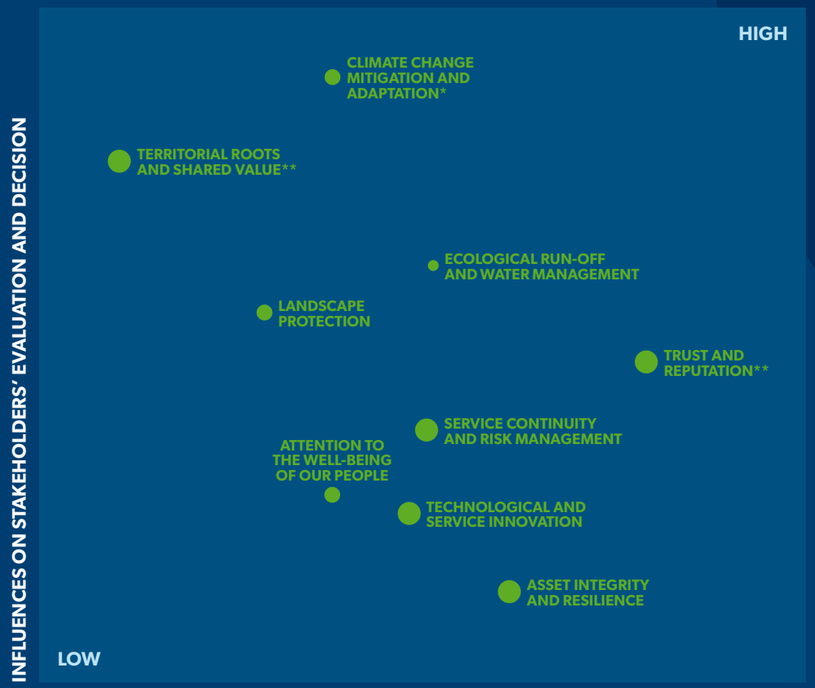
The risk assessment for 2021 started with the involvement of the heads of all company departments, developed through interviews aimed at identifying the events that may impact on business performance and goals. This analysis enabled the **Group's risk mapping to be updated by identifying new scenarios**, updating previously identified risks, and removing scenarios that were no longer current. The review included updating the context, assessing the effectiveness of existing safeguards, planning mitigation actions, and quantifying probabilities and impacts. From this first level of analysis, the Risk Management Department applies a uniform measurement metric to enable consistent representation of risks to Top Management.

In 2021, most SERM risk scenarios were focused on a "Medium-Low" *severity* level. The most relevant risk scenarios include, for example, the expiration of hydropower concessions in 2029, the renewal of the concession for electricity distribution in 2030, the delay or partial achievement of strategic objectives for the development of new plants or *repowering* and the objectives of the business plan, the effects of changes in water availability on the operation of production facilities, exceptional natural events capable of causing damage to works, facilities, and man-made environments, disruptions to the distribution network that may affect continuity and quality of service, direct and indirect damage as a result of unforeseeable failures of generating units, and finally, regulatory developments that could change business models. The results of the *assessment* also show that **the relevant material issues are fully included in the enterprise risk management process**. The following figure highlights the points of contact between the various themes and risk categories covered by the SERM Risk Model adopted by the Group. The consolidation of the new SERM framework adopted by the Group has fostered the development of **greater awareness** with respect to the economic, environmental and social aspects of risks, a vision that is also preparatory to the identification of **new opportunities** for the Group.

Mountain peaks around Aosta.

SERM and sustainability scenario 2021

Material sustainability issues



CVA'S SOCIAL ECONOMIC AND ENVIRONMENTAL IMPACTS

* Ex-post updated nomenclature, in accordance with materiality matrix update.
** Territorial roots and shared value" and "trust and reputation" are unified for risk assessment purposes.

- Sustainability issue analysed in SERM 2021 risk assessment
- Sustainability issue not analysed in SERM 2021 risk assessment

- Material issue analysed in 1 risk SERM 2021 category
- Material issue analysed from 2 to 4 risk SERM 2021 categories
- Material issue analysed in more than 4 risk SERM 2021 categories

SERM categories 2021

EXTERNAL RISK

NATURAL EVENTS RISKS
Adverse wheather fenomena and Climate Changes Risks

FINANCIAL RISKS
Commodity price changes; exchange rate variations risks

REGULATED AND COMPETITIVE ENVIRONMENT
Evolution of Regulatory framework linked with political, ecomomic and fiscal context; competitive environments risks

INTERNAL RISK

HR/ORGANISATIONAL
HSE risks, competences and human resources protection risks

OPERATION
Asset management and continuity risks

ICT
IT and OT infrastructure risks and cyber security

LEGAL & COMPLIANCE
Internal and External, compliance and litigations risks

STRATEGIC RISK

GUIDELINES
Compliance with strategic goals and stakeholders relationship

Hydropower concessions: the wait goes on

The current regulatory framework for hydropower concessions is uneven across Europe. The situation in Italy is still uncertain, and the persistent absence of specific regional regulatory guidelines within the concessions regime is fuelling the political debate on the issue of regionalisation of concessions. Today, the new **Competition Bill** calls for the introduction of tenders for concessions on hydropower, opening up the market to foreign operators as well, and moving Italy even further away from uniform European regulation.

The DDL (legislative decree) stipulates that procedures for awarding concessions for large water derivations for producing hydropower should be conducted according to competitive, fair and transparent parameters. The allocation process must be initiated by the regions by December 31, 2022, after which, in the event of delays, the government will step in by virtue of its substitution powers.

In Europe, hydropower is the largest renewable energy sector, while in Italy it is the leading renewable energy source for electricity generation (40.7%)[15]. Its value is also recognised within the PNIEC (National Integrated Energy and Climate Plan) as a key resource for achieving **decarbonisation goals**, which targets a contribution of 51.6 TWh by 2040 (49.4 TWh on gross final consumption in 2020)[16]. In Italy, about 70% (out of 400) of **large derivation concessions are located in northern Italy**, and CVA, together with Enel, A2A, Alperia, Dolomiti Energia and Edison, accounts for 70% of the market share[17].

Although the regulation of tender auctions should be implemented 5 years before the expiration date of concessions (and thus expected for most cases in 2024), to date no progress has been achieved on the issue. Above all, **the future of important regional economies is at stake, along with the need to free up investments of energy companies** for *revamping* and extraordinary maintenance of plants, many of which were built in the early 1900s.

For CVA, almost all of the concessions will expire in 2029, so the key year for auction participation is 2024[18]. The process of approving the implementing rule, aimed at regulating the procedures for the assignment of expired regional concessions, initiated by the Region of Aosta Valley in 2019, suffered a setback following the fall of the Regional Council and the consequent dissolution of the Joint Commission tasked with defining the rule in question. The new regional government, which took office in September 2020, began its work in the middle of the second wave of the pandemic and, not unlike other Regions, is involved in the joint management of pressing health needs and equally significant economic needs, not least the concessions game. Against this uncertain backdrop, Aosta Valley continues to hold the **Italian record for coverage of its energy consumption by renewable sources**, amounting to 91% in 2019, already well above the 52.1% target set for 2020 by the *burden sharing*[19]. This is largely due to the entirely local hydropower generation provided by CVA.

[15] Terna, Annual Statistical Report 2020. Available at the link: https://www.terna.it/it/sistema-elettrico/statistiche/pubblicazioni-statistiche.

[16] National integrated energy and climate plan, Ministry of Economic Development; Ministry of the Environment and Land and Sea Protection, 2019 Available at the link: https://www.mise.gov.it/images/stories/documenti/PNIEC_finale_17012020.pdf.

[17] ARERA, Annual Report 2021.

[18] The concession of Deval, issued free of charge pursuant to art. 1 paragraph 1 and art. 9 of Legislative Decree. 79/99 by the Ministry of Productive Activities in 2005, will expire on 31 December 2030. The concession concerns distribution activities in 69 municipalities in the Aosta Valley.

[19] GSE (2021): Renewable Sources in Italy and the Regions.

Industria Felix, an award to Italy that restarts and competes

Confirming the Group's solidity, CVA was also awarded the Industria Felix - L'Italia che compete 2021 (the Italy that competes) prize in 2021. The award is based on the results of the annual research conducted by Industria Felix Magazine in collaboration with the Cerved Research Office, which, by analysing the performance of companies in Piedmont, Liguria and Aosta Valley, identified the 62 best performing and most competitive companies. Winning companies are identified through a financial statement algorithm (Cerved Group Score Impact) based on the best management performance and financial reliability. The award gives CVA the high budgetary honour as best enterprise in the energy and utility sectors and best large enterprise with registered office in the Aosta Valley region for management performance and Cerved financial reliability[20].

[20] More details can be found at https://www.industriafelix.it/.

1.
WE ARE THE ENERGY OF THE FUTURE

1.
WE ARE THE ENERGY OF THE FUTURE

KEY FACTS AND FIGURES

2.8 billion of kWh
produced from renewable sources only

4 photovoltaic
plants Aosta Valley and Piedmont

5th
in of hydropower producers in Italy

+456 MW
of new installed capacity by 2026

897 thousands tonnes
of CO_2 avoided with the production of energy from renewable sources[21]

€627.8 million
of planned investments in 2022-2026, 416.7 for new renewable plants

32 hydroelectric
power plants in the Aosta Valley

1.55 GW
of total installed capacity to 2026

8 wind farms
in Aosta Valley, Tuscany, Lazio, Campania and Apulia

Why it is important

Climate change at a point of no return: **2021 was the hottest year ever**.

One of today's most important challenges to preserving the health of the Planet is achieving **climate neutrality**. The European Union has set an ambitious goal of achieving a zero-carbon status by 2050 and has defined a *roadmap* of measures with medium-term targets for 2030. The **Fit for 55** package, approved by the EU in July 2021 sets a target of a 55% reduction in greenhouse gas emissions from 1990 levels by 2030, an increase in the share of renewables in the energy mix to 40%, and an energy efficiency target of 36%.

The goals are ambitious on paper, but the reality is more worrying. The presence of CO_2 in the air has increased drastically since the pre-industrial era: last year its concentration exceeded the levels recorded in 1800 by 50%. In fact, in March 2021, the level of CO_2 in the atmosphere was 417 ppm (parts per million) compared with 278 recorded between 1750 and 1800[22]. According to recent assessments by the *Intergovernmental Panel on Climate Change*, current state policies are insufficient to meet the commitments made in the Paris Agreement, recently confirmed by COP26 in Glasgow, to keep global warming below 1.5C°. On the contrary, at present it is estimated that the temperature will rise **by 2.7C° by the end of the century**[23].

Looking at our present, 2021 has been officially declared one of the seven hottest years ever and has brought with it disastrous consequences. In Italy alone there have been **187** extreme **weather events**, one every two days, causing casualties and serious damage in the territories[24].

Adaptation and mitigation to climate change require concrete and ongoing commitment not only from all countries but also from individual companies in their daily activities. Achieving a low-carbon economic system actually requires internationally coordinated solutions and cooperation between institutions, businesses and civil society. The ***Glasgow Climate Pact***, the agreement resulting from COP26 in Glasgow, signed by 197 countries, is the first international agreement that explicitly calls for reducing coal use to meet the goals of the Paris Agreement.

The path to decarbonisation

Energy price and rising emissions: the challenge for the energy sector in the post-pandemic era

Restrictions adopted to deal with the Covid-19 pandemic had a major impact on the energy sector and final consumption. In fact, 2020 saw a marked **reduction in electricity consumption** compared to 2019, about 6% less, registering one of the lowest values since 2000 (284 TWh).

[21] The figure reported refers to avoided emissions calculated by location-based method from gross energy production. Using the "Market-Based" method, the avoided emissions would be higher, amounting to 1,306 thousand tonnes.

[22] Met Office (2021): Mauna Loa carbon dioxide forecast for 2021. Available at link: https://www.metoffice.gov.uk.

[23] IPCC (2021): Climate Change 2021: The Physical Science Basis. Available at the link: https://www.ipcc.ch/report/ar6/wg1/downloads/report/IPCC_AR6_WGI_SPM.pdf.

[24] National Climate Cities Observatory, Legambiente (2021): Climate emergency. The 2021 Budget of the CittàClima Observatory.

While 2020 was a low-impact year, 2021 resumed, with consumption levels similar to pre-pandemic levels. The **demand for energy** worldwide has **increased by 6%**, thus offsetting the reduction experienced in 2020. Power generation from coal increased by 9%, while gas generation increased by 2% and nuclear power generation increased by 3.5%. Significant increases in demand and production, after nearly two years of a halt, have reported a nearly 7% increase in CO_2 emissions from the power sector[25]. According to the International Energy Agency (IEA), this is the highest increase since the 2010 restart that followed the financial crisis, mainly due to the rapid economic recovery but also influenced by a particularly cold winter and an especially hot summer[26].

281.24
euro/MWh
the peak of the monthly average value of the Single National Energy Price recorded in December 2021.

The increased demand for gas and the **supply difficulties** have led to an **increase in the price of raw materials**, causing a series of market tensions that have gradually spread to oil and coal. Indeed, 2021 was a record year for gas and energy prices. In Italy, as of December 2021, the Single National Energy Price reached an unprecedented average monthly value of **281.24** euros/MWh, about +500% over the previous year, with an hourly peak of 533.19 euros/MWh[27]. The energy crisis has resulted in a significant increase in household energy bills, which have risen by 55% as of January 2022.

According to the IEA, the pandemic was one of the biggest **shocks to the global energy system** in over seventy years[28]. The consequences will be keenly felt by industry players, who, considering changes in electricity demand and a possible expansion of delayed bill payments and customer insolvency, could face a **liquidity crisis**, negatively affecting their ability to invest. Businesses, especially smaller ones, will also feel the consequences of the crisis: those that have not entered into long-term contracts, both in Italy and the rest of the world, may risk temporary blockages to save on supplies.

In the near future, therefore, an extremely challenging situation lies ahead for the industry. While proceeding in the wake of the Green Deal, **operators, businesses and users will have to adapt to a new normalcy**. It will be the energy transition that will drive the recovery: an estimated 100 billion in planned primary energy infrastructure investment by 2030 could result in 0.8% GDP growth and create about 135 thousand jobs[29]. Operators will therefore play an essential role in supporting the recovery and the green economy, not least through their ability to raise awareness among their stakeholders and end users.

[25] IEA (2022): Electricity Market Report. Available at the link: https://www.iea.org/reports/electricity-market-report-january-2022.
[26] Reuters (2022): Emissions set to rise with global power demand - IEA.
[27] GME (2022): MPE-MGP summary data - summary.
[28] IEA (2021): Global Energy Review. Available at the link: https://www.iea.org/reports/global-energy-review-2021.
[29] PWC (2021): A new energy transition.

The route to renewables in Europe

In the face of the unprecedented crisis being experienced by the energy market, the transition to renewable sources, accompanied by improvements in storage capacity and energy efficiency, is confirmed as **the only environmentally and economically sustainable solution**. In Europe's case, increasing domestic clean energy production would help reduce the Continent's exposure to price volatility, increasing its energy independence.

However, 2020 and 2021 were years marked by important achievements for the industry. In 2020, in Europe, "clean" sources met about **22% of total final energy consumption**[30] and in 2021, electricity generation from renewables covered 37% of European production, where wind and solar power reached a new record, meeting 19% of European electricity demand[31]. As a result of achieving these milestones, including surpassing the 2020 target of 20% final consumption from renewables[32], the EU reinforced its commitments with the Fit for 55 package, increasing the previous target for renewables in gross final consumption by 8%.

The obstacle course to clean energy production

Despite the ambitious targets set at European and Italian levels for increasing energy production from renewable sources (which would require installing about 70 GW of renewables over the next 10 years), industry players today face a national environment characterised by several obstacles. Foremost among these are the particularly stringent regulatory constraints - the result of a progressive layering of different environmental laws and *permitting*, which is characterised by extremely long and complex permitting procedures (the bureaucratic process for building a wind or photovoltaic farm takes an average of 7 years[33]). In addition to the operational design obstacles that are a hallmark of these facilities, therefore, there is a great deal of uncertainty regarding the relevant regulations.

7 years
the average length of time that the bureaucratic process for a new wind or photovoltaic farm can take.

A further key point, which limits the contribution that could be made by the enormous potential of renewable energy, concerns the cultural and social barriers that still affect perceptions of the sector, which are almost always linked to limited information and knowledge of the opportunities it offers.

[30] EEA (2021): Trends and projections in Europe 2021.
Available at the link: https://www.eea.europa.eu/publications/trends-and-projections-in-europe-2021.
[31] Ember (2022): European Electricity Review.
Available at link: https://ember-climate.org/insights/research/european-electricity-review-2022/.
[32] European Commission (2021): Renewable Energy Directive 2009/28.
Available at the link: https://eur-lex.europa.eu/legal-content/IT/TXT/PDF/?uri=CELEX:32009L0028&from=EN.
[33] Future Electricity (2021): The design of the permitting system to decarbonise and boost investment.
Available at the link: https://www.elettricitafutura.it/Pubblicazioni/Studi-e-Approfondimenti/Il-disegno-del-sistema-autorizzativo-per-decarbonizzare-e-rilanciare-gli-investimenti_3536.html.

Italy: where we are

After a sharp decrease in 2020 due to the economic downturn that resulted in a 5.8% reduction compared to 2019, electricity consumption in Italy returned to pre-Covid values in 2021. The growth has been spread evenly over the entire country: +5.2% in the North, +6.4% in the Centre and +5.9% in the South and Islands.

Compared to 2020, however, the use of renewables has not progressed. While **consumption increased by 5.6%**, the share of national electricity demand met by renewables remained steady at **36.4%** (it was 37% in 2020), and wind and photovoltaics together covered only 14.1%. **Thermoelectric generation** grew by 3.8% while **hydroelectric generation** declined (-5.4%)[34].

24 years

Italy's estimated delay in meeting the 2050 renewables targets.

However, Italy, like Europe, has strengthened its long-term commitments with the **National Integrated Energy and Climate Plan** (NIPEC). The Plan aims to ensure renewables account for **30%** of final consumption by 2030, including 55% in the electricity sector, 33.9% in the thermal sector, and 22% in transportation. The target, however, will have to be scaled down in relation to the new EU targets. In fact, although Italy has always been ahead of schedule in meeting its 2020 targets, it may not be able to meet its 2030 targets. Projecting the Renewable Energy Sources (RES) trend of the past 5 years into the period up to 2030, Italy may be **about 24 years behind**[35].

A boost for Italy comes from the **National Recovery and Resilience Plan (PNRR)**, which provides **€ 23.78 billion** for renewable energy, hydrogen, grid and sustainable mobility initiatives, of which € 5.9 billion is explicitly planned to increase the share of energy produced from renewable sources. The PNRR includes 4 areas of focus: agri-voltaic development, promotion of renewables for energy communities and self-consumption, promotion of innovative plants, and development of biomethane.

However, Italy's 2030 target of using 55% of renewables in final electricity consumption still remains well below the 75% target of other countries, such as Austria, Denmark, Germany, Portugal, Spain, Sweden and the Netherlands. Moreover, the wind and solar target is only 34% of consumption, far lower, for example, than Denmark (94%), the Netherlands (72%), Spain (72%), Portugal (54%), Germany (54%) and Greece (47%)[36].

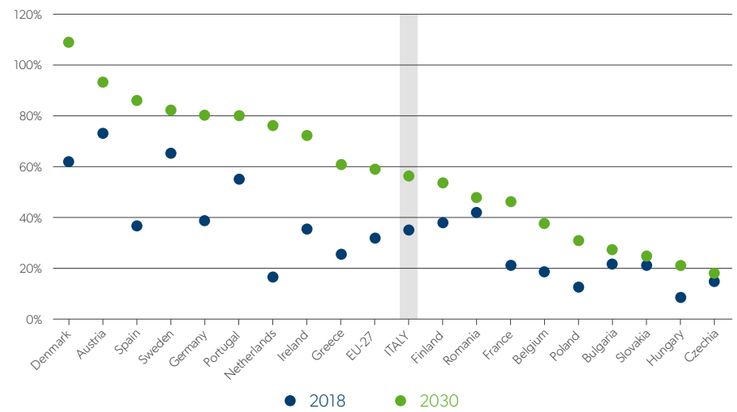
[34] Terna (2021): Monthly electric system report.
Available at the link: https://download.terna.it/terna/Rapporto_Mensile_Dicembre_8d9dcc7f7b00a12.pdf.

[35] The European House-Ambrosetti (2021): European Governance of the Energy Transition.
Available at the link: https://www.ambrosetti.eu/en/news/european-governance-of-the-energy-transition/.

[36] Ember (2021): Gas-reliant Italy is lagging behind in Europe's race to renewables.

ITALY WILL HAVE A BELOW-AVERAGE SHARE OF RENEWABLE ELECTRICITY BY 2030

Renewable energy sources (RES) share of electricity consumption [%]



Source: Ember Analysis on National Energy & Climate Plans (NECPs), 2021.

The 19 countries displayed account for >97% of EU-27 electricity consumption The 2030 figure is above 100% for Denmark as it plans to produce more renewable electricity than it consumes and will be a net exporter.

Monte Rosa Massif seen from Gabiet Lake.

91.1%

The share of renewables of gross final consumption in Aosta Valley in 2020, the first region in Italy, including 98% from the hydroelectric sector.

Source: GSE, Renewable Sources in Italy and in the regions, 2021.

The year 2021 also marked a slight reduction in domestic demand for electricity met by Italian production, which stands at **86.5%**, with the remaining 13.5% coming from energy traded with foreign countries[37].

On **December 15, 2021, Legislative Decree No. 199/2021** to implement Directive (EU) 018/2001 of the European Parliament and of the Council on the promotion of the use of energy from renewable sources officially came into force. The new regulation aims to accelerate the country's sustainable growth process so that it is in line with the European goals of decarbonising the energy system by 2030 and complete decarbonisation by 2050. Through the establishment of tools, mechanisms and incentives, the decree sets a **minimum target of 30%** as the overall share of energy from renewable sources out of gross final consumption, taking into account the goal of reducing greenhouse gas emissions by at least 55% from 1990 levels by 2030.

The Semplificazioni *bis* Decree

In addition, in July 2021, an additional Legislative Decree was passed to meet European goals, the so-called **Semplificazioni *bis* Decree**. The measure consists of two parts: the first dedicated to the *Governance of* the PNRR, while the second provides for the introduction of measures aimed at boosting investment, again in relation to the sectors covered by the PNRR, by speeding up the process of carrying out works, streamlining the award procedures and strengthening the administrative capacity of the PA (public administration).

With regard to the energy sector, a number of actions are planned to simplify the authorisation processes prior to the construction and commissioning of plants for the production of energy from renewable sources.

Among other measures, the Decree provides for the activation of **state incentives for agri-voltaic plants** and the participation of the Ministry of Cultural Heritage and Activities in the single procedure for projects for plants powered by renewable sources located in or adjacent to areas subject to landscape protection.

[37] Terna (2022): In 2021, marked recovery of electricity consumption +5.6% over 2020, back to 2019 values.

A new opportunity for the energy transition: the hydrogen carrier

The use of hydrogen is increasingly present in countries' strategies. While in 2019 only France, Japan, and South Korea had hydrogen strategies in place, today 17 countries have adopted a national plan and more than 20 have announced their path toward adopting a new strategy.

Hydrogen will thus be a key element of the roadmap to carbon neutrality: by 2050 it will be able to serve as a carrier for **10% of the world's total final energy consumption**[38].

The **European Union's Hydrogen Strategy** has established a roadmap consisting of two main milestones: from 2020 to 2024, the strategic goal is to install at least 6 GW of electrolysers to produce up to 1 million tonnes of renewable hydrogen; from 2025 to 2030, the much more ambitious goal is to install at least 40 GW of electrolysers to produce 10 million tonnes of clean hydrogen across the European Union. By 2050, hydrogen is expected to account for **14%** of the EU energy mix, (today it is about 2%[39]), but also for a cumulative volume of investment by the Commission over the next 30 years of between **€ 180 and € 470 billion**[40] and direct or indirect employment generated by the entire industry of **more than 1 million professionals**[41].

Hydrogen will also play an important role in the gradual introduction of renewable sources to replace fossil fuels: the transformation of surplus renewable energy into hydrogen will allow a balancing of the electricity system by ensuring a flexible service and regulating the introduction of green energy into the network which is, because of its nature, difficult to control. Hydrogen will also be used for storage, improving the security of supply[42].

The importance of hydrogen is also growing in Italy. Building on the previous National Hydrogen Strategy, under the **National Recovery and Resilience Plan**, major goals for the next decade are identified:

- develop *flagship* projects for the use of hydrogen in hard-to-abate industrial sectors, starting with steelmaking;
- promote the creation of *hydrogen valleys* by leveraging areas with brownfield sites;
- enable-through charging stations-the use of hydrogen in heavy transport and selected non-electrifiable rail routes;
- supporting research and development and completing all necessary reforms and regulations to enable the use, transportation and distribution of hydrogen.

Green hydrogen, produced through the electrolysis of water using an electrolyser powered by renewable energy, can play a key role in decarbonising those sectors where electrification is an even greater challenge, such as the steel, chemical, marine, aviation and heavy transport industries.

Up to €470 billion

community investments planned in hydrogen by 2050.

[38] IEA (2021): Global Hydrogen Review 2021.
Available at link: https://iea.blob.core.windows.net/assets/5bd46d7b-906a-4429-abda-e9c507a62341/GlobalHydrogenReview2021.pdf.

[39] European Parliament (2021): Hydrogen as an energy carrier for a climate-neutral economy.

[40] IRENA (2020): Global Renewables Outlook.
Available at link: https://www.irena.org/publications/2020/Apr/Global-Renewables-Outlook-2020.

[41] Fuel Cell and Hydrogen Joint Undertaking (2019): Hydrogen roadmap Europe: a sustainable pathway for the European energy transition.

[42] A hydrogen strategy for a climate neutral Europe; COM (2020) 30.
Available at the link: https://eur-lex.europa.eu/legal-content/IT/TXT/PDF/?uri=CELEX:52020DC0301&from=EN.

CVA's contribution to the energy transition

In line with the national hydrogen goals and strategy, **CVA** too, **thanks to its well-established experience and expertise as a pure green producer, intends to make its contribution** to the development of initiatives in the field of green hydrogen production and use.

Following up on the **collaboration agreement established in the autumn of 2020 with Snam**, one of the world's leading energy infrastructure companies, during 2021 the Group pursued this commitment, part of a broader plan aimed at building a *green* Aosta Valley, in which the area's natural resources are integrated in the opportunities offered by new technologies. Under the partnership, CVA assumes a key role in the supply of renewable energy, provision of energy services, and interacting with institutional *stakeholders*, while Snam's expertise will be employed in the development of infrastructure for hydrogen production, transport, storage and refuelling.

During 2021, the composition of the **cross-company team** composed of members of both companies was defined, which will jointly carry out feasibility studies, design and engineering studies, including the technological infrastructure enabling the use of hydrogen and related operation and maintenance services. In this regard, an initial significant area of experimentation has been identified as the **decarbonisation of local transport**: in fact,thanks to the incentives put in place by the PNRR, a plan to activate a fleet of hydrogen-powered buses is now being studied.

Looking to future prospects, the partnership of CVA and Snam is part of a broader project shared with the region aimed at creating a genuine ***Hydrogen Valley***, with the goal of developing a supply chain deeply rooted in the local area and consolidating the link between producers and consumers, so as to foster the creation of a local utility. Together with the region, it will also be possible to identify new models for the development of economic activities and the energy and *greenre*search and innovation sector, as well as to build specific training courses for the required new professionals.

Alessandria Sud photovoltaic plant.

Capacity market in support of decarbonisation

The *Capacity Market* is a tool to support the energy transition that makes provision for the replacement of coal-fired generation capacity by 2025 with the introduction of increasingly more renewable energy capacity.

The *Capacity Market* is also an essential means of **ensuring grid security**, thanks to the ability to cover peak loads in every area of the national transmission grid and thus avoid *blackouts*. This mechanism for regulating market capacity makes provision for remuneration by Terna of plants and resources made available to holders of fossil and renewable generation assets through a system of auctions. The *Capacity market* is essential for ensuring the adequacy of the system to cover the coal *phase-out* plans in the PNIEC, which could result in a decrease of up to 7 GW of available capacity in the coming years[43].

In 2019, CVA Energie was awarded 112 MW of Existing Flexible Capacity, 215 MW of Existing Capacity from Non-Programmable Renewable Sources and 150 MW of Foreign Capacity for the 2022 delivery year, reaching a total of 477 MW of Available Capacity in Probability (CDP). Also for **2023**, CVA Energie was awarded **112 MW of Existing Flexible Capacity**, over 221 MW of Existing Capacity from Renewable Non-Programmable Sources and 150 MW of Foreign Capacity, with a total CDP of 483 MW, while for **2024** it was awarded **111 MW** of Existing **Flexible Capacity**, 202 MW of Existing Capacity from Renewable Non-Programmable Sources and 150 MW of Foreign Capacity.

By means of Resolution 498/2021/R/eel, ARERA reopened the auction procedure for the delivery year 2024.

On December 28, the **first session of the secondary market** under the Capacity Market Regulations was held, with reference to the January 2022 delivery month, aimed at allowing operators to be able to renegotiate commitments closer to the delivery period. The total traded capacity was 197 MW, of which 160 pertained to foreign capacity. The weighted average trading price was € 32,848/MW/year. The parent auction to 2024 held in February 2022 awarded CVA 111 MW of flexible capacity; 202 MW of capacity from Non-Programmable Renewable Sources; 150 MW Foreign NORTH with an agreed price at 33,000 €/MW.

CVA's contribution to balancing the European grid

Through the operation of the 4 authorised hydroelectric power plants of Valpelline, Gressoney, Perrères, and Maën-Cignana, in addition to participating in the national dispatching services market, CVA actively contributes to the real-time balancing of the Italian and European grids, as part of the European grid balancing platform aimed at the exchange of energy between European Transmission System Operators (TSOs).

[43] System adequacy, decarbonisation and capacity market; Hearing before the 10th Committee on Industry, commerce, tourism - Senate of the Republic, TERNA 2021.

CVA Group's commitment to reducing emissions

The Group's focus on environmental sustainability begins with the management of its business activities, carried out by monitoring consumption and making it more efficient, aimed at reducing emissions and the overall impact generated.

Specifically, the analysis of energy consumption that is reviewed annually includes:

- The electricity serving the offices is partly drawn from the grid (for CVA's offices, unlike Deval's, such energy withdrawn is certified as coming from renewable sources), and partly self-generated through a photovoltaic system,
- Electricity serving auxiliary services (AS)[44] necessary for the proper operation of the facilities,
- The contribution related to office district heating (Deval),
- Heating fuel consumption (of office or industrial buildings),
- Fuel consumption for generators (GE),
- The consumption of automotive fuel (company fleet).

As shown in the figures in the following table for 2021, the Group's energy consumption is mostly derived from renewable sources, accounting for 89.5% of the total.

Total energy consumption		
Unit of measurement	**MWh**	**GJ**
From non-renewable source[45]	4,857	17,484
From renewable sources	41,316	148,739
Total consumption	**46,173**	**166,223**

The direct and indirect CO_2 emissions associated with major CVA consumption can be attributed to two categories:

- direct emissions (*Scope 1*): greenhouse gas emissions from direct fuel consumption by the company (heating fuels, automotive fuels) and from any refrigerant gas leakage;
- indirect emissions (*Scope 2*): greenhouse gas emissions from the consumption of electricity purchased by the company (electricity and, to a lesser extent, district heating) net of the portion produced from renewable energy sources.

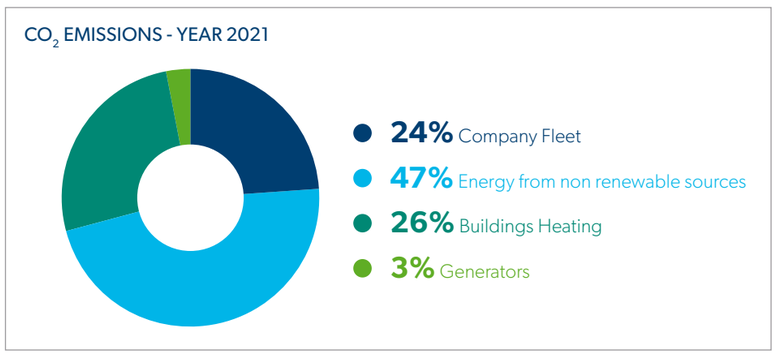
Greenhouse gas emissions from electricity consumption (*Scope 2*) are then calculated following the Location-Based and Market-Based methods: the former involves the use of an average emission factor relative to the specific national energy mix for electricity production, the latter assigns a nil CO_2 emission factor for energy consumption from renewable sources and covered by certificates of origin.

[44] Energy for ancillary services includes both the portion withdrawn from the grid (fully certified from renewable sources) and the portion resulting from the difference between gross energy produced by generating units and energy fed into the grid.

[45] Energy withdrawn by Deval from the national grid and district heating were included in the calculation of energy from non-renewable sources.

In 2021, considering direct emissions generated (*Scope 1*) and indirect emissions (*Scope 2*), the Group emitted 1,594 tonnes of CO_2 under the Market-Based method, a figure that rises to 4,506 tonnes using the Location-Based method. Instead, through the production of energy from renewable sources, it was able to avoid the emission of 1,306 thousand tons of CO_2 using the Market-Based method (a figure that drops to 897 thousand tonnes using the Location-Based method).

2021		
Unit of measurement: ton CO_{2eq}	***Scope 1 + Scope 2* (Market Based)**	***Scope 1 + Scope 2* (Location Based)**
CO_2 evitata	1,306,169	897,231
CO_2 generata	1,594	4,506



The CVA Group considers it essential to **maintain the quality of its processes, environmental protection, worker health and safety**, as well as the **best management of its assets**, particularly its hydroelectric power plants, wind and photovoltaic fields.

For this reason, starting in 2006 it initiated certification processes under ISO 9001, ISO 14001 and ISO 45001 (formerly BS OHSAS 18001), which since 2013 have evolved to generate an **Integrated Management System** (IMS). The SGI aims to ensure the identification of the significant aspects of all systems (thus in relation to the areas of quality, environment and health and safety), identifying the operating methods necessary to ensure the maximum effectiveness and efficiency of processes, activities and resources. There are currently two different SGIs: the first developed by CVA SpA and also applied by Valdigne and CVA Energie, the second by Deval. On the other hand, as far as EOS is concerned, at the moment the company has not yet implemented a management system, drawing, in any case, on the rules defined by the Management System of CVA SpA.

With this in mind, the Integrated Policy document, in addition to reaffirming the principles of a *leading* company in the production of energy from renewable sources and the promotion of energy efficiency through a professional group of human resources to whom health and safety is guaranteed in the workplace and with full respect for the environment, makes it possible to better explain the direction adopted by top management in evaluating practices and technologies that also take into account the life cycle of the products and services offered in order to concretely put into practice the **principles of the circular economy** by improving corporate sustainability.

GREEN ENERGY[46]

100% CLEAN ENERGY

897 thousand
tonnes of CO_2 avoided with the production of energy from renewable sources.

Water

- **32** hydroelectric power plants
- **934.5** MW of power
- **2.5** mbillion of kWh produced
- → the consumption of almost 1 million households

2.848 billion
of kWh produced from renewable sources only.

Wind

- **8** wind farms
- **157.5** MW of power
- **315.1** million di kWh prodotti
- → the consumption of about 115,000 households

+1,104 MW
total installed power.

Sun

- **4** photovoltaic plants
- **12.5** MW of power
- **16.7** million of kWh produced
- → the consumption of about 5,900 households

- **6** dams
- **32** hydroelectric power plants
- **8** wind farms
- **4** photovoltaic plants

[46] The figure reported refers to total gross production associated with hydro, solar and wind power.

Water

1,330 GW
global installed capacity

↓

17%
of global electricity production

254 GW
installed capacity in the EU

↓

14.2%
of electricity production in the EU

22.6 GW
installed capacity in Italy

↓

16%
of electricity production in Italy

Cignana dam.

Hydropower is the oldest renewable source used by humans. Today, it meets about 17% of the world's energy needs.

Hydropower, in addition to being the most mature of the renewable technologies, also leads the way in terms of quantity: globally, it has an installed capacity and production far greater than any other renewable source. It is also the only renewable source that can be regulated as needed through water storage, such as dams and reservoirs.

In 2020, **the installed capacity of hydropower in the world grew by 1.6%**. In the same year, renewables covered 29% of the world's electricity demand, and of this nearly **17%** was covered by hydropower[47].

In Europe, installed power grew by **3 GW** in 2020, registering a **4%** increase over the previous year in energy generated[48].

In Italy, hydropower production declined by **5.4%** compared to 2020, but still remains the leading source of production among renewables with **40%** of the total. In 2020, there were 4,509 plants scattered over the territory, which produced 51,433 GWh[49].

CVA Group owns and directly manages one of the most important Italian hydroelectric parks, consisting of 6 large dams, 61 intakes (of which 33 classified as regional dams), more than 210 km of channels, about 50 km of penstocks and 32 power plants with 74 hydroelectric units. The plant park, with a total power of 934.5 MW, produces about 2,500,000 MWh of clean energy every year[50]: the company ranks fifth[51] among national producers in the sector and places the Aosta Valley among the leading regions in Italy in the generation of energy from renewable sources.

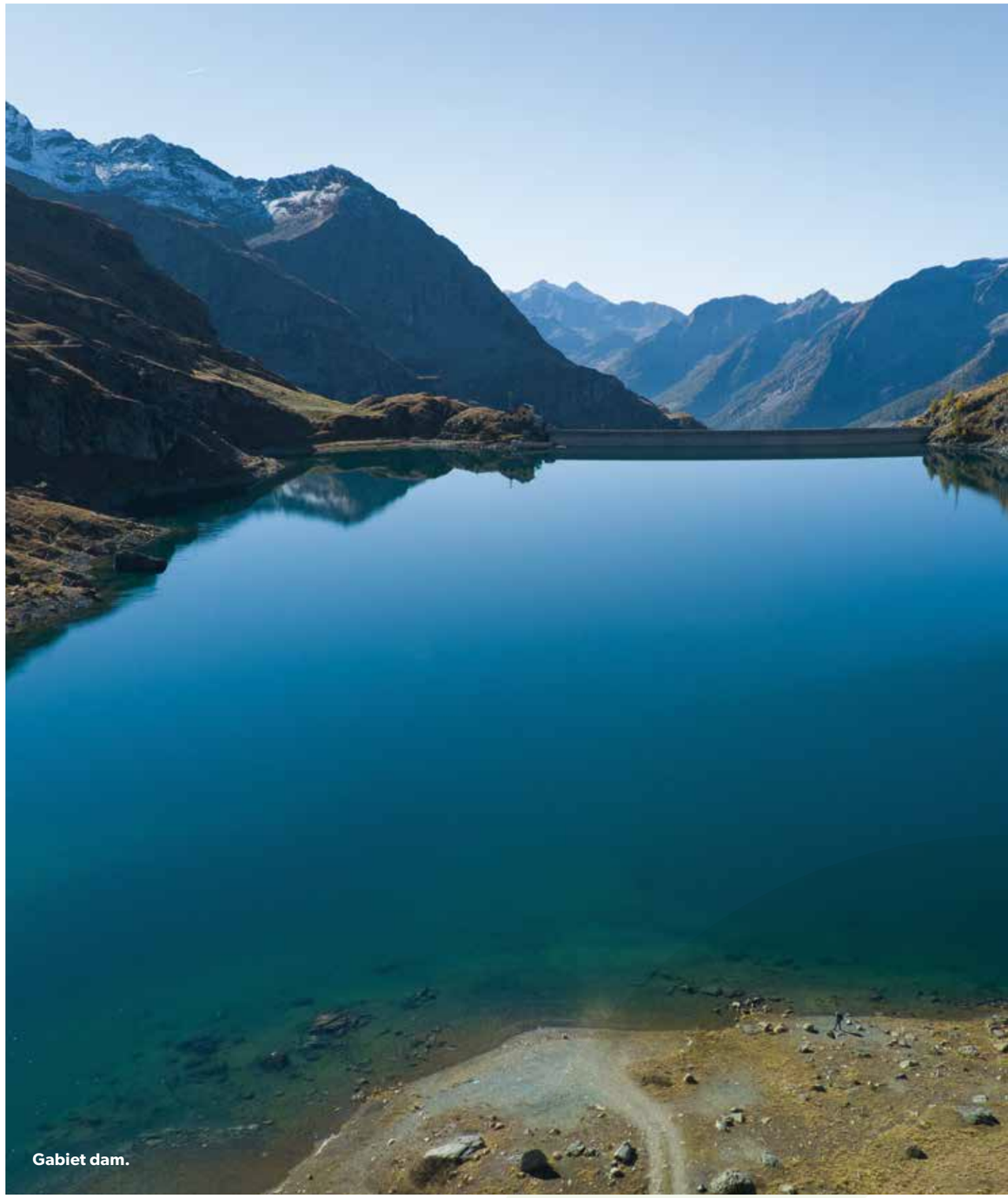
[47] Centre for Climate and Energy Solutions (2021): Renewable Energy. Available at the link: https://www.c2es.org/content/renewable-energy/.
[48] International Hydropower Association (2021): Europe. Available at the link: https://www.hydropower.org/region-profiles/europe.
[49] Terna (2021): Generation facilities.
[50] The figure refers to gross output.
[51] ARERA Annual Report 2021 Available at link: https://www.arera.it/allegati/relaz_ann/21/RA21_volume_1.pdf.

Renew to grow: revamping hydropower

Increasing renewable energy production is a key focus of CVA's new Integrated Plan 2022-2026, which includes upgrading several hydropower infrastructures among its priority actions. 2021 was a pivotal year for the start of two key projects in this regard: the r**evamping of the Hône 2 and Chavonne plants**, which have now reached 100 years of age. The initiatives include **plant upgrades** in order to enable an **increase in the renewable energy** produced and the production potential of the basins underlying the works. Since these are sites already occupied by the current works, the renovation will also promote an **environmental improvement of the water body** by increasing ecological run-off in the winter period against an increase in derived flows in the summer periods. For Hône 2, the Environmental Impact Assessment procedure has been initiated at the Autonomous Region of Valle d'Aosta. For the Chavonne plant, on the other hand, the design and environmental impact study of the operation has been assigned, and the national EIA process is expected to begin in 2022.

At the Chavonne and Grand Eyvia facilities, new ladders with integrated lifelines were installed for **safe access** to hydraulic works, such as loading tanks and canals. At the Signayes plant, the same type of ladder and lifeline was installed to ensure more safe access to the overhead crane in the machine room.

Thanks to these interventions, the Group will be able not only to make its production capacity more efficient and enhance water reuse due to seasonal water availability, but also to strengthen its focus on the environment. A project of this scale also contributes to the achievement of both European and national goals.



Gabiet dam.

Wind

743 GW
global installed capacity

↓

7%
of global electricity production

220 GW
installed capacity in the EU

↓

16%
of electricity production in the EU

11 GW
installed capacity in Italy

↓

6.1%
of electricity production in Italy

Piansano wind farm.

Wind power could be the trump card for the energy transition of the future. According to some estimates, by 2030 global wind power capacity could reach **1,756 GW**, up from the current 743 recorded at the end of 2020[52].

Today wind capacity covers **more than 7% of the world's electricity demand**[53]. Several dynamics are driving the sector: on the one hand, the slowdown in the development of European markets and the growth driven mainly by China, and on the other, technological innovation. Over the past five years, *onshore* wind power technology (through ground-based installations) has evolved dramatically: in order to maximise generating capacity, even at sites with lower wind speeds, wind turbines have become larger and larger, with taller hubs and larger rotor diameters. But it is ***offshore*** wind power that is a great ally for the energy transition: the placement of turbines offshore makes it possible to take advantage of the greater intensity and consistency of winds found off the coast.

Europe continues to be the global leader in wind power, with 70% of global installed capacity[54]. In 2020, installed capacity reached 220 GW, including 194 GW onshore and 25 GW offshore, and accounted for about **16%** of electricity consumed in 2020[55]. However, there is a growing presence of China, which was the fastest growing *offshore* wind capacity nation in 2020, with 3GW of installations. By 2050, Asia is expected to host 60% of global installations, compared to 22% for Europe.

Italy's process of increasing wind power capacity, however, is proceeding slowly. In 2021 the installed capacity is **11 GW**, only 3 GW more than almost 10 years ago[56]. Today we are the 5th largest country in Europe in terms of installed capacity, but we are still some way off the 2030 targets for which wind power capacity will have to almost double.

CVA, through its subsidiaries, produced about 315,100 MWh of wind power[57], which meets the average energy needs of about 115,000 households. Wind power generation is developed through **8 wind farms** located in Aosta Valley (3 wind turbines), in Lazio (21 wind turbines), in Apulia (30 wind turbines), in Tuscany (4 wind turbines) and in Campania (11 wind turbines).

52 Wood Mackenzie (2021): Global wind power market outlook update: Q4 2021.

53 World Wind Energy Association (2021): Worldwide Wind Capacity Reaches 744 Gigawatts - An Unprecedented 93 Gigawatts Added in 2020.

54 ISPI (2021): Energy transition: the future of wind power is offshore.
Available at the link: https://www.ispionline.it/it/pubblicazione/transizione-energetica-il-futuro-delleolico-e-mare-aperto-31865.

55 Ibidem.

56 Terna (2021): Renewable sources. Available at the link: https://www.terna.it/it/sistema-elettrico/dispacciamento/fonti-rinnovabili.

57 The figure refers to gross output.

Sun

773 GW
global installed capacity

↓

3.1%
of global electricity production

165 GW
installed capacity in the EU

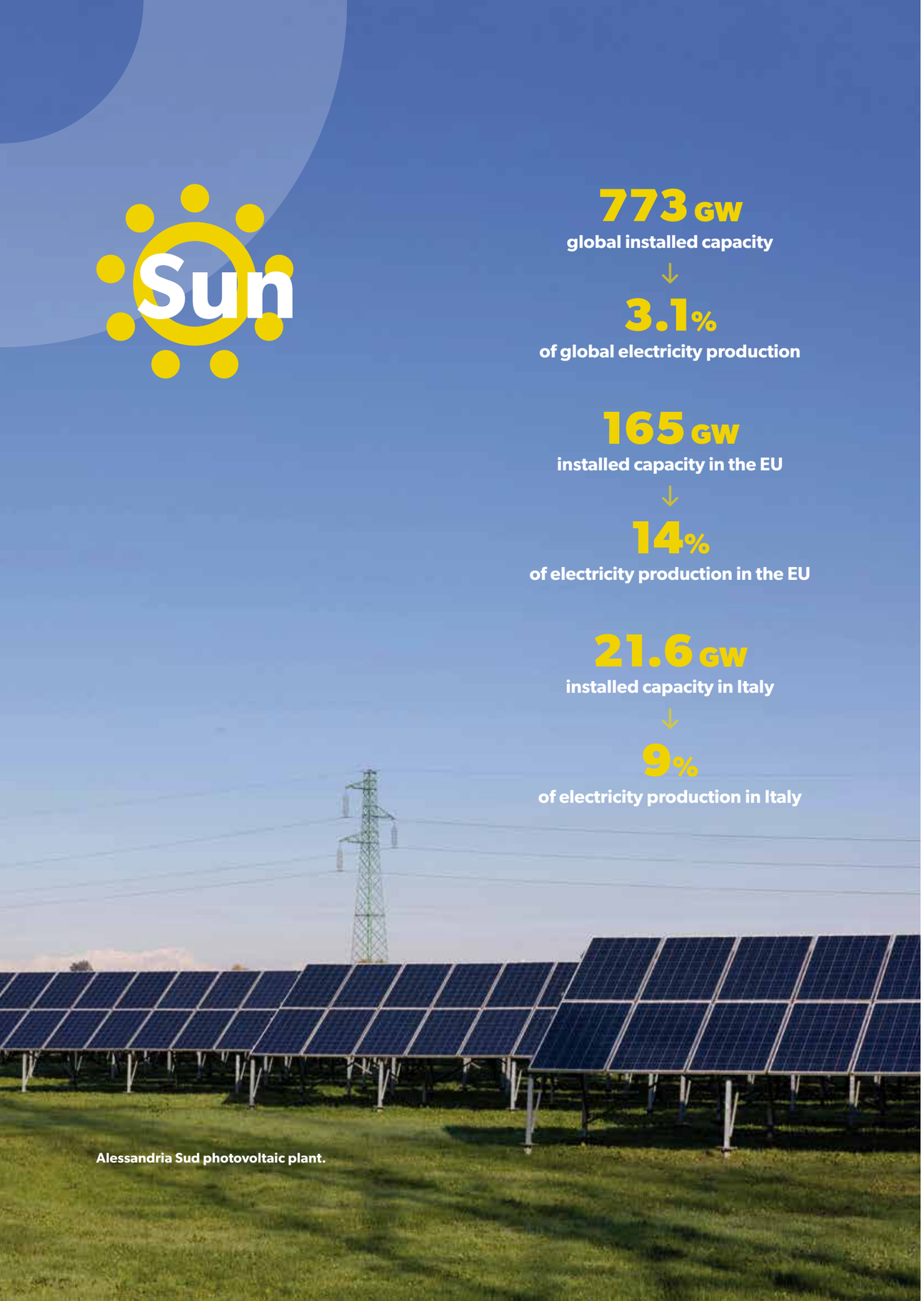
↓

14%
of electricity production in the EU

21.6 GW
installed capacity in Italy

↓

9%
of electricity production in Italy



Alessandria Sud photovoltaic plant.

Compared to 2019, installed capacity from PV grew by **138 GW** (+18%) and together with wind accounted for 50% of installed capacity from renewables in the last year[58]. Today, installed power stands at **773 GW**, with China and the United States leading the way.

Also in this case, technological advancement is a key element in ensuring high levels of efficiency. The experimentation of higher performing materials could be strategic in counteracting the negative consequences of rising temperatures on the efficiency of photovoltaic cells, recently demonstrated by a research paper from the Massachusetts Institute of Technology[59].

In Europe, renewable energy from solar power saw a double-digit increase in 2021: **+34%** installed capacity, amounting to **25.9 GW**[60] and by 2030 capacity is expected to quadruple to 672 GW. Among renewables, solar energy is the fastest growing, providing **14%** of European electricity in 2020 (it was 5% in 2019)[61].

Today, photovoltaics continues to be the most popular source of energy among EU citizens, as well as the most versatile, and considering the continuous price reductions it is an increasingly affordable technology option to achieve the decarbonisation of the energy sector. In fact, 2021 was a record year for Europeans in PV installations: with 25.9 GW installed in one year, it broke the record set in 2011, when 21.4 GW were installed. In 2020, the achieved capacity is **165 GW**, and by 2025 a capacity of 328 GW is expected. The strong growth in installations recorded in 2020 puts Europe on track to achieve the 45% renewable energy target by 2030[62].

In the European ranking, **Italy is placed second after Germany in terms of installed capacity**.[63] In 2021, there were **968,831** photovoltaic plants installed on the national territory, for a total power of 22 GW[64], of which small-scale plants (power less than or equal to 20 kW) make up more than 90% and concentrate 21% of the total national power. In the past year and a half, installed capacity has increased by 1.3 GW, and in 2021 the output of PV systems in Italy reached 25 thousand GWh. The numbers, however, still seem insufficient to meet the 2030 targets of at least another 30GW installed by 2030. Regionally, Apulia leads the way in installed capacity, at 2,918 MW, while last in the ranking is Aosta Valley, with a capacity of 26 MW.

[58] Statesman (2021): Cumulative installed solar PV capacity worldwide from 2000 to 2020.
Available at the link: https://www.statista.com/statistics/280220/global-cumulative-installed-solar-pv-capacity/#:~:text=Global%20cumulative%20installed%20solar%20PV%20capacity%202000%2D2020&text=Global%20cumulative%20solar%20photovoltaic%20capacity,installed%20in%20that%20same%20year.

[59] The research published in 2019, led by two MIT researchers, studies future climate scenarios developed by the IPCC to assume their impact on global PV installations. The estimate is an efficiency reduction coefficient of -0.45% for each degree of temperature increase.

[60] Solar Power Europe (2021): EU Market Outlook for Solar Power 2021-2025.

[61] European Commission (2022): Renewable Energy Statistics.
Available at the link: https://ec.europa.eu/eurostat/statistics-explained/index.php?title=Renewable_energy_statistics.

[62] SolarPowerEurope (2021): EU Market Outlook for Solar Power 2021-2025.

[63] Ibidem.

[64] Gestione delle Anagrafiche Uniche Degli Impianti di produzione (2021).

The CVA Group actively contributes to solar energy production: in 2021, it produced over 16,000 MWh[65] through 4 photovoltaic plants consisting of more than **54,000 modules in** total **located in Aosta Valley and Piedmont**. The plants in Alessandria Sud (15 hectares of land for 31,780 photovoltaic modules), of Valenza Fornace (14 hectares of land for 21,840 photovoltaic modules) and of La Tour (777 photovoltaic modules) produce energy to meet the average needs of about 5,900 households. The fourth plant is located on the roof of the Company Headquarters and is composed by 216 solar panels, to provide a total power of 0.046 MW.

Partnerships for the renewable roadmap: increasing green generation

The 2022-2026 Integrated Plan is part of the important decade of the energy transition. To make an increasingly significant contribution to the decarbonisation process, the Group's strategy identifies among its priority actions the increase of energy production from renewable sources, allocating investments worth **€ 416.7 million** for this purpose.

In this regard, during 2021, CVA EOS continued the development of its ***pipeline*** of photovoltaic and wind projects on the Italian territory, thereby contributing to the goal of expanding and integrating the consolidated experience in the hydroelectric field with the expertise in the construction of renewable solar and wind power plants.

The Strategic Plan makes provision for the installation of more than 400 MW in the following regions: Piedmont, Lombardy, Veneto, Emilia-Romagna, Latium, Basilicata, Sicily, and Sardinia; operations in 2021 mainly concerned the continuation of project authorisation processes. In addition, with the establishment of a special in-house technical unit, CVA also began the verification and technical supervision of projects during 2021. Where implemented, **these plants will result in average annual savings of 268,000 tons of CO_2**; when fully operational over the five-year period, such savings will be nearly 700,000 tons of CO_2.

The strengthening in the production of electricity from wind and solar sources will lead to a consolidation of CVA's role among the main Italian producers of energy from renewable sources and a consolidation of the Group's financial position.

[65] The figure refers to gross output.

Zero km Power Purchase Agreement (PPA)

Achieving the goal of 55% of gross domestic electricity consumption from renewable sources implies investments of more than € 30 billion taking into account only new capacity, not including refurbishment of existing plants and development of grid infrastructure and storage. The instrument of PPAs, a medium- and long-term fixed-price power contract, stands as an excellent alternative to the incentive system but struggles to establish a foothold as a mode of power contracting in the Italian market. However, the PNIEC anticipates a contribution from "green" PPAs of an additional 0.5 TWh per year of renewable generation between now and 2030.

In addition to the **five-year PPA** entered into with Cogne Acciai Speciali, which establishes an hourly band supply of 2 MW of renewable energy for a total of 17.5 GWh per year, in 2021 CVA entered into negotiations with several counterparties with the priority aim of providing stable and long-term remuneration for its renewable power plant projects under development. In fact, where finalised, PPAs could be the best tool to ensure both economic sustainability and minimum expected profitability of projects being developed by CVA, even as a substitute for incentive mechanisms, consequently making CVA less exposed to risks related to fluctuations in electricity market prices.

Alessandria Sud photovoltaic plant.

Studying climate change

1.7°C

the increase in temperature in the Aosta Valley between 1974 and 1995.

As a mountainous area, the Aosta Valley is particularly susceptible to the effects of climate change, and in fact a warming of about **1.7°C** occurred in the period 1974-1995, greater than in other non-Alpine areas.[66] The Region's **Climate Change Adaptation Strategy** for the period **2021-2023** aims to develop actions to promote land adaptation and mitigation to climate change. Indeed, the main objectives are to **minimise the risks of climate change** and reduce the vulnerability of the territory; **protect the health and safety** of the population; conserve biodiversity and natural resources; increase the **adaptive capacity** of society, the economy and the environment; strengthen the territory's ability to seize the opportunities arising from climate change; and **define a long-term vision** of the regional territory resilient to climate change.

[66] Autonomous Region of Aosta Valley (2021): Climate Change Adaptation Strategy.

Verney Lake.

Aosta Valley, carbon-free by 2040

The European Union and Italy are strongly committed to achieving the goals of the ecological transition, and so is the Autonomous Region of Aosta Valley, an area characterised by significant hydropower production and a rich forestry heritage, suitable by its very nature for the development and experimentation of innovative policies aimed at an increasing use of renewable energy sources.

The **Roadmap** for a *Carbon Free and Fossil Fuel Free* Aosta Valley to 2040, approved by **Resolution 151 of February 22, 2021**, is part of a process started in 2018 and sets out the guidelines for the identification of the Regional Strategy for Decarbonisation. In fact, the document was created with the aim of defining **the actions needed, the related costs, and the impacts on regional society to achieve the dual and ambitious goal by 2040**, thus ahead of the European target set for 2050.

The Guidelines, starting from European policies and goals, analyse the Civil sector, Transport, Industry, Agriculture, Livestock and Waste Management and propose possible actions for **efficiency improvement, energy conversion and electrification of consumption with electricity** from renewable sources.

The goal is to achieve a low greenhouse gas-emitting Aosta Valley through "*policies to curb and reduce fossil fuel consumption, energy conservation and efficiency, promotion of technological innovation, reduction in consumption and waste in all sectors, and enhancement of energy production from renewable sources, consistent with the protection of health, the environment and the landscape.*" The Roadmap is therefore the cornerstone of the regional planning still in the making such as the **Regional Environmental Energy Plan** (PEAR) 2030, which is currently being prepared.

In this scenario, through the **CVA 2022 project**, the CVA Group actively collaborates with the Region to monitor cutting-edge technologies, in particular to study and support the electrification of carriers that today are still the prerogative of fossil fuels, such as heating systems and mobility, always with special attention to the environment. CVA's contribution to the decarbonisation of the Aosta Valley thus spans different areas: from the development of **production from RES**, to the **research of new** renewable **sources** (such as green hydrogen), to the development of **electric mobility** and **energy communities**, to its position as ***general contractor*** for energy efficiency in buildings (Ecobonus).

A ***carbon-free*** company or product removes as much CO_2 as it emits into the atmosphere to achieve the climate neutrality goal.

Source: Carbon Sink, 2021.

For economic recovery, countries must aim to be ***Fossil fuel free***, through a rapid transition to clean energy for all and a just transition away from fossil fuels.

(ISSD, 2021).

2. OUR MOST PRECIOUS RESOURCE

6 CLEAN WATER AND SANITATION

14 LIFE BELOW WATER

Place Moulin dam.

2. OUR MOST PRECIOUS RESOURCE

KEY FACTS AND FIGURES

6 dams
in Aosta Valley

100%
of checks on the Minimum Vital Flow with positive results

32 hydroelectric
power plants

Hydro-weather
CVA's new portal for water basin monitoring

129 million m³
the total useful reservoir capacity of dams: equal to half of the water consumed every day in Italy

Basin cleaning
an experiment from a circular perspective

Why it is important

Depletion of water resources is a major risk factor for human health and safety. Today, **2.3 billion** people experience water stress and 733 million live in highly critical areas[67]. In addition, still more than **2 billion** people do not have access to safe drinking water, and about half of the world's population does not have safe sanitation[68].

Climate change and water resource protection are two challenges that go hand in hand. In Europe, an increase in temperatures of more than +3°C over pre-industrial levels would increase the number of people affected by water scarcity to 295 million (about 40% of Europe's population)[69].

In this scenario, **glaciers** are a valuable resource that is inevitably at risk. In fact, glaciers are one of the most important sources of water supply for irrigation, hydropower and drinking purposes, and unfortunately, they are the main victim of climate change. Between 2000 and 2019, **267 billion tonnes** of ice were lost annually[70].

Working with water, therefore, entails a huge responsibility, as it represents a key resource for securing the future. For this reason, CVA is constantly committed to its protection, minimising the impact of its hydroelectric plants and guarding with great care **vast water assets** through its dams.

Increasing water consumption, climate change and the development of urbanisation are causing a gradual deterioration of the natural hydrological cycle.

The effects of climate change on the water cycle

Regarding hydropower, the **climate change adaptation strategy** of the Autonomous Region of Aosta Valley, published in November 2021, indicates the following:

"Climate change affects hydrological systems and consequently hydropower potential. The evolution of the regional hydrological system will impact hydropower production differently according to the type of plants: reduced impacts are expected for plants with seasonally modulated reservoirs, which account for 35-40% of the installed capacity in the region. In contrast, flowing water systems or those with very small daily-modulated reservoirs are more vulnerable. Their hydropower potential will increase in winter and decrease in summer, but it remains difficult to assess whether the increase in winter flow will be able to compensate for the summer reduction. Approximately 15% of regional hydropower generation from this category of plants will benefit from the indirect seasonal flow modulation effect provided by large upstream reservoirs and thus be less vulnerable. In addition, extreme weather events (e.g., intense precipitation) and the evolutionary dynamics of the cryosphere (glacial melting and permafrost degradation) may affect the safety and operation of hydropower infrastructure."

[67] UN Water (2021): Summary Progress 2021.
Available at link: https://www.unwater.org/app/uploads/2021/12/SDG-6-Summary-Progress-Update-2021_Version-July-2021a.pdf.

[68] UNICEF, WHO (2021): The Measurement and Monitoring of Water Supply, Sanitation and Hygiene (WASH).
Available at the link: https://apps.who.int/iris/bitstream/handle/10665/341067/9789240023284-eng.pdf.

[69] European Commission (2019): A European Green Deal - What if we do not act.

[70] Nature (2021): Accelerated global glacier mass loss in the early twenty-first century.

One of the Group's main renewable energy production activities stems from the use of the water resource, which is highly subject to the consequences of climate change, a phenomenon that closely affects the Aosta Valley region.

-25%

the snow accumulated annually compared to 2002.

Source: Aosta Valley Glaciers Steering Committee, 2021.

At Cignana Dam, the summers of the three-year period 2015-2017 were the hottest in 20 years, with a significant increase in the number of days with maximum temperatures above 20°C and significantly milder winters[71]. This results in the reduction of accumulated water in the form of snow[72].

The consequences of atmospheric warming also spill over onto glaciers, reducing their volumes and impairing current hydrological systems, causing the **transition from a glacio-nival to a pluvio-nival regime**. While the former is characterised by a very high run-off in summer, related to ice melting, and by a low run-off from late autumn through spring, the latter exhibits a trend of increasing winter flows and an increasingly early end to the abundant summer flows. Thus, rain-type precipitation increases in winter and decreases in summer, while the snow melting comes much earlier.

32

glaciers lost in the last 20 years.

Source: Aosta Valley Glaciers Steering Committee, 2021.

A future with glacier-free mountains seems increasingly likely, especially in Alpine regions: more than 200 glaciers have been lost since 1800[73]. This impact can be interpreted through the measurement of annual changes in the mass balance, which takes into consideration the difference between the mass accumulated through winter and spring snowfall and the mass lost through snow and ice melting (ablation) in the summer season.

Ensuring the contribution of hydropower production on regional territory in the future as well through management and technical changes, while always guaranteeing the improvement of the environment and the sustainable use of the water resource, has long been the typical goal of the CVA Group's industrial strategic plans.

The management of the Group's water withdrawals and discharges

CVA, as part of this strategic vision, is carrying out an experiment that will **transition from the concept of Minimum Vital Run-off** to Ecological Run-off and will ensure a release of water from the intake works that optimises environmental, landscape, economic and energy effects and takes into account the changing hydrological curve that is becoming increasingly modified due to ongoing climate change.

The Group monitors its withdrawals annually from the readings of hydroelectric production meters installed at hydroelectric power plants. The figure is then converted to water withdrawal value using individual plant conversion coefficients. These are the result of analyses related to: head, flow rate, gravity coefficient, machines and unique plant characteristics and, in practice, represent how many kWh 1 m^3 of water can generate from that particular plant. In 2021, the volumes withdrawn amounted to **9.3 million m^3**, 100% of which came from surface water and none from groundwater. Water consumption is zero, as the water - exiting the turbines - is entirely returned to the watercourse, so withdrawals are equivalent to discharges.

CVA has also embarked on a journey to **assess the level of efficiency of plants** in the use of the available water resource and to identify initiatives that can make them **more resilient** to the changing hydrological curve due to climate change. To this end, the Group has proposed two plant upgrades in the region in order to adapt them to the new expected water availability through environmentally better performing infrastructure design. Plant upgrading, in particular, results in increasing the maximum flow rate in such a way that it is adaptable both on a local scale (e.g., for streams) and on a general scale (in terms of renewable energy produced). This process allows water to be withdrawn when most available, and released in greater quantities through ecological run-off during times of scarcity for environmental, civil and agricultural purposes.

Goillet dam.

[71] Measurements taken by CVA at Cignana Dam; 2019 data reprocessing.

[72] Measurements taken by Centro Funzionale VdA (Functional Centre of Aosta Valley) and ARPA VdA at Saint Christophe (AO) in the years 1974-2017; data processing 2019.

[73] La Carovana dei Ghiacciai (2020): A journey through the Alps to chronicle the effects of climate change on glaciers and promote the protection of high-altitude mountains..

Finally, it is necessary to take into account that the reduction in the water availability of streams in the summer months will coincide with the increase in peak demand for water for other purposes (drinking, irrigation, etc.) generating possible conflicts of use. To respond to this need, CVA has been collaborating for several years with other users of the resource (e.g., irrigation consortia, snowmaking, municipalities, other producers, etc.) allowing, where conditions permit, the derivation of water from its facilities with a view to optimising both the infrastructure in the area and the allocation of quantities, also promoting, during the preliminary stage, the rationalisation of the quantities granted according to actual use. CVA is also participating in two round-table working groups, organised by the Regional Water Authority, on two hydrographic basins where the effect of water scarcity has already been leading to critical situations for several years.

La Tuile river.

The initiatives in collaboration with the territory

CVA has been collaborating for more than 15 years **with the Cabina di Regia dei Ghiacciai Valdostani (Aosta Valley Glaciers Steering Committee)**, a body created in 2004 with the aim of coordinating all the organisations involved in the activities related to the cryosphere of the regional territory through research projects, management, preservation and promotion of the territory. One of the latest collaborations identified a set of indicators related to the consequences of climate change on glaciers. Compared to 1999, glaciers have decreased from 216 to 184 in 2020, and the total area has shrunk by as much as 34 km^2, equivalent to 22% of the regional glacial area[74].

CVA has contributed and continues to contribute, either by participating directly or as a stakeholder, to projects such as: RESERVAQUA, for the implementation of a network of services dedicated to the study, protection, enhancement and sustainable management of water resources on a local and regional scale; ADAPT Mont Blanc, a project geared towards the development of tools for territorial planning and management for adaptation to climate change, and MISTRAL, for the creation of a national portal dedicated to the collection and dissemination of open meteorological data.

Joint management of hydro-geological risk

The positioning of CVA plants along waterways greatly exposes them to risks related to hydro-geological instability phenomena and in particular to flooding events. The danger deriving from such phenomena concerns the operators of the plants and the populations living near them: for the Group, it is fundamental to monitor the level of risk and to be able to predict the effects in the event of a calamitous event. For these reasons, CVA has always been committed to monitoring and studying hydrology as well as the relationship between climate change and water quantity and quality in the Alpine region. CVA has continued, over the years, to renew its partnerships with the **Functional Centre of the Autonomous Region of Aosta Valley, Arpa and CIMA Foundation** (International Centre for Environmental Monitoring), actively contributing to the development and maintenance of a **flood forecasting model**, the evaluation of the equivalent water content of the snowpack, the evaluation of the contributions to the dams and the enhancement of knowledge related to the hydrological cycle and the impacts of climate change.

These collaborations and meteo-hydrological studies have made it possible to actually provide the company with a web-based "**hydro-meteorological portal**", that brings together and displays in real time all the meteorological data, the regional automatic stations, the levels at the intakes and reservoirs of CVA, the estimate of SWE (*Snow Water Equivalent*) conditions on hydro-graphic basins of strategic interest for the Group and, last but not least, the forecasts of flow rates per event on the entire regional territory. The system is of particular strategic interest for the purpose of supporting short and medium-term planning activities in relation to both the forecasting of flow rates in case of a weather event to the intake sections of the CVA plants, for the purpose of ensuring their safety, and in relation to the estimate of the volumes stored in the "cryosphere" sector, which become available every year during the melting season. The risk assessments have also made it possible to draw up a **priority plan of safety measures** for some sites that are currently closed in the event of intense events and reports of criticality. These risk mitigation actions will be able to guarantee the continuity of management even in cases of violent events.

[74] Aosta Valley Glaciers Steering Committee (2021): Below Zero 2020, Evolution of the Cryosphere in the Aosta Valley.

Ecological Run-off

Hydropower plants allow for the generation of renewable energy **without consuming natural resources**. In fact, water is always withdrawn in compliance with the so-called Minimum Vital Flow (MVW), thus ensuring the maintenance of natural biological and physical processes of the river ecosystem, to be finally fully returned to the environment after being swirled.

The Regional Water Protection Plan (PTA 2006), the document which contains the necessary measures for protecting the Aosta Valley water system, has been subject to an **updating process** by the Region: the document, published in draft form in May 2019, in fact incorporates the new concept of Ecological Run-off, the result of the regulatory evolution dictated by the guidelines issued by the Ministry of Environment, Land and Sea Protection (MATTM) in February 2017. In developing a water management policy, the PTA emphasises the importance of climate goals and their oversight to ensure efficient management of such a valuable and risk-prone resource.

The new **Ecological Run-off Directive**, in addition to establishing the new parameter against which to determine the amount of water to be released, defines water release planning as the balancing point between three different elements: achieving a good status for bodies of water, demands for water uses, and decreasing resource availability due to the effects of climate change.

In compliance with Departmental Decree STA 30/2017 "*Guidelines for updating the methods for determining the minimum vital run-off*" and in order to determine the Ecological Run-off for its power plants, CVA participates in a **multi-stakeholder technical working group**, set up by the Public Waters Office of the Aosta Valley region in collaboration with the Superintendence of Landscape Heritage, the Environmental Assessments and Authorisations Structure, the COA Energia Finaosta, Arpa VdA and the Fisheries Consortium. For the technical assessments, the working group is assisted by the Department of Environmental, Territorial and Infrastructure Engineering of the Polytechnic University of Turin and CIMA of Savona (International Centre in Environmental Monitoring) and works on the application of a "holistic" approach, as required by the regulations, which in the definition of the Ecological Run-off, takes into account, through a *multi-criteria* analysis, the satisfaction of the various stakeholders regarding the impacts on the production of energy from renewable sources in relation to Aosta Valley's energy planning, the impact on the ichthyofauna as a function of the hydro-morphology, the visual impact and the economic impacts.

In particular, the Ecological Run-off Experimentation will use long flow series reconstructed by the Savona CIMA, hydro-morphological assessments of habitat suitability developed by the Polytechnic University of Turin, landscape assessments proposed by the Superintendence of Landscape and Architectural Heritage Structure, by means of an analysis of the recordings of some 30 cameras that capture, on a daily basis, the stretches of riverbed underlying the hydroelectric plants, as well as energy and economic impact assessments of releases determined by the RAVA Industry Department, COA Finaosta and CVA. The new Ecological Run-off application is scheduled to be implemented by the end of 2024 in accordance with the requirements of the new Po River Hydro-graphic District Management Plan approved in December 2021.

Operate in respect of the environment

The year 2021 was a decisive year for progress in the Group's strategic goal of increasing renewable energy production. In particular, studies and assessments related to the revamping of the **Hône 2 and Chavonne** hydroelectric power plants continued, in constant sharing and dialogue with key local stakeholders. In addition to the increase in capacity and production, the initiatives may also help to **increase releases in the winter period**, a time when there is less water available in rivers and streams, leading to both an indirect benefit for the environment, through *green* energy production, and a direct benefit.

Automatic control of intake works: new automation systems

For CVA, ensuring compliance of its plants with release planning goals is a priority. Over the years, the Group has implemented a process of bringing all facilities up to the regulations regarding the Minimum Vital Flow, an effort that is now proceeding under the banner of automation. The new systems for release and control of Run-off are a key part of the *smart* systems upgrade activities of the main intake works. In particular, the **automatic capacity of the required releases** makes it possible to operate in full compliance with the regional provisions concerning the Ecological Run-off, with the utmost attention to the environment.

After the various initiative already carried out in 2020, another major intake on the Dora Baltea River in Nus was re-automated in 2021, and final commissioning was successfully completed in the period of highest hydraulic input. As already done at the Quincinetto 2, Sarre and Saint-Clair weirs, the DMV management mode was modified during the work by making it fully automatic and self-adjusting according to the level at the barrier. In addition, in 2021, the intake works of Goilles (Lillaz plant) and La Nouva (Chavonne plant) were also automated. Again, the required releases were made automatic.

CVA technician at work.

The value of hydropower for the territory

Hydropower is the only renewable energy source to be programmable: the capacity for energy storage, combined with the use of pumping system, allow the storage of energy reserves ready to be used in response to the needs of the electical network.

Hydropower generation is now one of the leading activities for our country's economy and environment. The use of this type of energy is in line with the most stringent European recommendations in terms of climate change, containment of greenhouse gases and average temperature rise. Hydropower is the **leading source of renewable energy in Italy** and produces about 40% of all renewable energy in the territory.

Hydropower plants are key allies for the country's **territorial and environmental development**. In fact, the main benefits are grid balancing, power system security and land protection.

Hydropower is the only renewable source that can be stored at present. This **balances supply and demand** and ensures the proper functioning of the electrical service. This possibility is also enhanced and highlighted within the PNIEC, which refers to hydroelectric storage with pumping systems among the solutions identified to further the 2030 renewables growth targets.

Secondly, the presence of hydroelectric power plants contributes to the **security of the electricity system** in the event of network disturbances or *blackouts*. In fact, voltage regulation, i.e. the ability to take steps not only in terms of generation, but also in terms of energy absorption, and the possibility to quickly start production without external power supply and in the absence of voltage on the network ("*black start*") make hydroelectric power plants extremely flexible.

However, in order to meet the growing energy demands and fully utilise the potential of hydropower, renovation of the current facilities, some of which are more than 70 years old, is necessary. These plants are highly efficient: current technologies allow almost all of the water's energy to be transformed into electricity (between 70% and 80%). Today, however, plant performance is notably affected by 2 factors: obsolescence and the lower potential due to climate change. Investing even on the first factor alone, i.e., on the renovation of the hydroelectric power plants present in Italy through maintenance work and small replacements, could gain at least 5.8 GW of power and 4.4 TWh of annual energy already in a few years, with emissions savings of at least 2 million tons of CO_2 and the creation of 2 thousand additional jobs (direct and indirect) for the execution of the work[75].

Finally, hydroelectric power plants play a crucial role in environmental protection, contributing to the r**eduction of hydro-geological risk**. The presence of reservoirs, in fact, allows the volume of excess water, in the event especially abundant rainfall, to be stored and then gradually drained off, reducing the disruptive force of water (lamination capacity). The presence of a dam on a watercourse is therefore in itself a positive factor for the protection of downstream areas.

[75] Enel (2022): How much hydropower is produced in Italy and where.
Available at the link: https://www.enelgreenpower.com/it/learning-hub/energie-rinnovabili/energia-idroelettrica/italia.

CVA dams

From ancient times, dams have been a tool used by humans to hold back all or part of a watercourse's natural or artificially adduced run-off. One of the primary functions of dams has been to allow land to be cultivated, something that was not previously possible, through the development of irrigation systems. Today, in addition to being an essential means by which to regulate water supply and reduce the risk of flooding, dams are also a tool for creating electricity from renewable sources.

There are more than 45 thousand large dams in the world, generating nearly one-fifth of all electricity generated worldwide. There are 532 large dams in Italy, 60% of which are for hydroelectric generation use. The approximately 4 thousand hydroelectric power plants in the territory provide a net efficient power of 22.7 GW.[76]

CVA dams guard over vast water assets and their maintenance is part of the strategy of optimisation of environmental resources, sanctioned by Legislative Decrees 152/99 and 152/2006. Their total useful reservoir capacity exceeds 128,600,000 m^3, or about half of the average daily water consumption of the entire Country. In a context in which the water resource is ever more at risk or increasingly lacking, these artificial reservoirs become genuine lungs of water, able to ensure the continuity of the resource. On the ground, they play a key role through flood lamination, storing the volume of water produced by heavy rainfall to reduce the disruptive force of water and allow it to drain away gradually, as well as ensuring better distribution of energy throughout the year.

over 128 million m^3
the total useful reservoir capacity of CVA's dams, about half of Italy's average daily consumption.

CVA is also a member of the working group of the Italian National Committee for Large Dams (ITCOLD) dedicated to the study and analysis of problems related to penstocks, hydraulic works associated with dams that realise the elevation connection between upstream reservoir and hydraulic machinery of the hydroelectric power plant.

[76] Terna (2021): Generation facilities.

Landscape protection

Regulatory constraints for plant construction and operation

Hydropower generation is **regulated** by a **rather complex regulatory framework**. The procedures, which may differ in detail from Region to Region, concern the environmental compatibility of the works and obtaining a series of authorisations connected with the production activity, with the prior requirement of a concessionary act for the derivation of public surface waters. In many cases, there is also a need to pass an EIA (environmental impact assessment) procedure, a preventive tool with the purpose of identifying the significant direct and indirect effects generated by the project on factors such as public welfare and health, biodiversity, landscape and cultural heritage. Currently, the regulations for the construction and operation of hydroelectric power plants can be found within Legislative Decree. 387/2003[77],which introduced the **simplified procedure of Single Authorisation** for RES plants. With the new **Semplificazioni bis Decree**, adopted by Law No. 108 of July 29, 2021, changes have been introduced in the energy sector to facilitate the achievement of decarbonisation goals set out in the PNIEC. Specific to hydropower plants, the new Article 31-quater adds the category of "hydroelectric storage plants through pure pumping" to the definition of "plants powered by programmable renewable sources," and a further amendment to Article 12, Paragraph 3 stipulates that the Single Authorisation shall be issued by the Ministry of Ecological Transition at the end of the single procedure.

The role of the Municipalities and of the Superintendence of Cultural Heritage

In order to protect the significant value of the landscape heritage that houses the Group's plants, CVA adopts technological and shared solutions, always in harmony with the environment. The inclusion of plants and infrastructures for the distribution of energy, from the design phases to commissioning, take into account the needs of the community and the unique features of the territory. Every intervention on the plants of the CVA Group is preceded by the transmission to the competent Municipalities of SCIA (Segnalazione Certificata di Inizio Attività - Certified Notice of Commencement of Works) or Building Permit Request to obtain the authorisation to build. Often the activities are carried out in areas and on works bounded by the **Superintendence for Cultural Heritage and Activities**, therefore the above-mentioned permits are accompanied by special favourable opinions issued by the regional structures. Finally, some plants fall within the area of competence of the Parks and of specific protected areas (such as the Gran Paradiso National Park) for which the relative authorisation is obtained.

[77] Legislative Decree no. 387/2003 is the reference standard for the construction, operation and modification of plants for the production of electricity from renewable sources and the fundamental infrastructures for its distribution.

Plants in harmony with the environment

The context in which the Group's works are incorporated is characterised by the presence of local flora and fauna, whose existence depends on the presence of river and lake ecosystems. Especially in cases where plant sites are situated in protected areas, such as Parks, Special Protection Areas (SPAs), Sites of Community Importance (SCIs), wetlands, the management of plants involves compliance with **specific procedures**, including European nature legislation[78].

Protection of fish and biodiversity

The diversion of water for hydroelectric purposes implies a reduction of the amount of water in the riverbed and, consequently, also a reduction of habitats available. The size, ecological role and economic interest that characterise fish fauna make the protection of this resource a priority for the area.

CVA pays the Regional Consortium for the Protection, Increase and Exercise of Fishing in Aosta Valley a share in proportion to the concession fee paid to the Autonomous Region of Aosta Valley to compensate for the increased charges falling on fisheries management. In addition to its financial contribution, CVA also actively cooperates with regional technical offices working in the field of fisheries promotion and fish protection by sharing the schedules of its plant shutdowns along waterways affected by diversions to enable better planning of seeding operations, and offers its support for research initiatives and projects.

Specifically, a memorandum of understanding was signed in 2020 between CVA, the Department of Natural Resources and the Forestry Corps and the Regional Consortium for the Protection, Increase and Exercise of Fishing in the Aosta Valley for the purpose of **creating a fishing reserve** in a section of the Dora Baltea stream that makes it possible to ensure the coexistence of hydroelectric derivations with fishing activities for the purpose of environmental, tourism and economic development of the system. In 2021, on the other hand, the "***LIFE GrayMarble*** project", with partners RAVA Hydraulic Works and Regional Consortium in which CVA participates as an observer, has been launched, and involves the restoration of habitat suitability and reintroduction of marble trout (Salmo marmoratus) and Adriatic populations of grayling (Thymallus thymallus) in significant stretches of the Dora Baltea River, resulting in a halt to the release of brown trout (Salmo trutta) for fishing purposes.

[78] Like any other water-based activity, hydropower generation must comply with the provisions of EU environmental legislation for the protection and restoration of European rivers and lakes. The Birds and Habitats directives, in particular, represent the cornerstone of EU policy for the protection of nature and biodiversity, allowing all EU Member states to work together within a common legislative framework, overcoming political or administrative borders.

Reservoir cleaning and waste material management

The presence of an artificial dam alters the natural balance of the watercourses, creating an area characterised by low water speeds and, consequently, by a high sedimentation capacity of the solid material transported by the current. In addition, the ability of reservoirs to store and modulate water for hydropower, irrigation, recreational and flood-rolling purposes is lost over time due to siltation brought about by sedimentation of the solid material carried by the waters flowing into the reservoir.

In order to **ensure the maintenance of the useful capacity of the reservoirs**, to guarantee the safety of the discharges and to safeguard the quality of the water in the reservoir and of the receptor body of water, specific **multi-annual Management Plans** have been drawn up that detail and regulate the emptying and cleaning operations and the related environmental monitoring to be applied, both for the large dams and for the weekly modulation reservoirs.

CVA cyclically schedules the weekly modulation reservoir mechanical **mud cleaning operations** taking into account historical material input. In 2021, mechanical mud clearing operations removed 984.36 cubic meters of waste (had been 20,000 in 2020)[79]. As far as large dams are concerned, following the comparison between the original plans and the bathymetry[80] carried out in recent years, it was found out that the landfill volume is less than 10%, a value well below the critical threshold, also favoured by the environmental configuration of the places where the reservoirs were created at high altitude.

A delicate part of this process is the **management of the material** that results from the mad cleaning activity. In fact, the latter falls into the category of special non-hazardous waste, which, as such, must be delivered and treated in a specific facility that ensures its circularity. The reclamation activities, which must be authorised in advance and include the formation of road embankments and sub-bases, the creation of embankments, and the use to reprofile portions of the morphometry of the affected riverbed area. In any case, recovery is subject to the execution of the transfer test on the waste.

CVA is in charge of the entire management cycle that presides over these operations of good reservoir keeping, overseeing periodic activities of sampling and characterisation of the sedimented material, determination of the total out-of-service period of the plant depending on the amount of material and the difficulties of extraction and removal from the reservoir, in addition to general organisation of the work.

[79] The difference in quantities from one year to the next depends on a strong variability in the conditions that determine the sedimentation of debris and therefore are affected by significant unpredictability.

[80] Bathymetry is a branch of oceanography that deals with measurements, by soundings, of depths relative to sea reservoirs and even lakes. Bathymetric charts analyse marine or lake depths, where points of equal depth are brought together by contour lines.

From waste to resource: a circular economy project

During 2021, CVA decided to participate in an innovative research project focused on the **recovery of materials**, including **drainage sludge**, with the goal of creating new uses for them. The initiative was launched by the Marazzato Group, a company specialising in the provision of ecological services, in collaboration with the Polytechnic University of Turin, with the aim of promoting activities in the area and spawning further research and innovation initiatives in the circular economy.

Specifically, the project involves the **creation of a mix** of materials, including precisely the material resulting from mud cleaning operations taken from some of the Group's Aosta Valley dams. The resulting compound could have **interesting applications in the construction industry**, where it can be used to make **bricks, insulating panels, screeds and self-locking blocks**.

There are many benefits of using these materials, including: reducing environmental impacts, lowering the costs associated with transporting and disposing of the materials, and allowing the sludge to be withdrawn without having to stop power generation and without emptying the reservoir.

Faubourg power plant.

3.
RELIABLE AND RESILIENT

9 INDUSTRY, INNOVATION AND INFRASTRUCTURE

3.
RELIABLE AND RESILIENT

KEY FACTS AND FIGURES

€ 80 milion
invested in electromechanical and civil engineering activities, during the three-year period 2019-2021

100%
of the dams is manned by guardians on site 24/7

More than 500
inspections and controls of civil, hydraulic and electromechanical works

100%
of wind turbines remotely monitored 24/7, with prompt on-site intervention 365 days a year in case of downtime

180.000
operating hours for investment and maintenance in 2021

100%
of photovoltaic systems monitored remotely during daylight hours 365 days a year

100%
of hydroelectric power plants remotely monitored 24/7 with emergency response in case of failure

Why it is important

To ensure the efficiency of power generation facilities, it is essential to develop a scheduled maintenance process to monitor them. In fact, the timeliness of maintenance work is a key factor in ensuring proper operation of facilities, ensuring continuity of service, and preventing post-damage interventions that would be costly for the company.

Constantly monitoring the plants by making use of technologically advanced solutions also makes it possible to ensure maximum output and working safety, reducing diagnosis times and service stoppages and increasing efficiency in the long-run.

Water, wind, and solar power plants are very complex and delicate facilities that are often located in sensitive or difficult-to-access areas. In such cases, ensuring their reliability and productivity must be one of the company's priorities.

One of the goals of Industry 4.0 is **predictive maintenance**: solutions that anticipate abnormal situations and plant failures through constant monitoring and collection of asset operating data. This type of control enables **higher standards of safety** and operational efficiency to protect employees, local communities and end consumers. This is now possible with the support of artificial intelligence and *Big Data* analytics, which enable the development of increasingly accurate predictive monitoring models.

$7 billion
the value of the global predictive maintenance market in 2021.

The global predictive maintenance market is experiencing steady growth: in 2016 the market value was about $1.5 billion while in 2021 it touched $7 billion, with an estimated $28 billion in 2026 [81].

Commitment to safety

Asset maintenance and modernisation

Minimising operating risks and ensuring the integrity of facilities are among the Group's priorities, and it continuously invests in the maintenance and modernisation of its assets. In the three-year period 2019-2021, we invested more than **€ 80 million** in maintenance and renovation of production and distribution plants[82].

Investments in maintenance and renovation of production and distribution plants			
Values in thousands of €	**2019**	**2020**	**2021**
Gruppo CVA	18,300	29,472	32,628

[81] Iot Analytics (2021): Global Predictive maintenance report.

[82] The value includes investments made in hydroelectric, wind and photovoltaic plants (net of amounts allocated to the acquisition of new plants) and in distribution plants.

The **safety and efficiency of our facilities** are ensured through **regular inspections** that allow us to identify weak points or any malfunctions, as well as to **plan and activate preventive interventions**. The maintenance and control activities concern all the elements of the plant present along the energy chain, from the intake works, through the derivation works, up to the electromechanical machinery and the distribution network. This type of activity is carried out both by our in-house facilities and with the support of third-party entities.

The safety of hydroelectric power plants

Within both the PNIEC and the NRP, **hydropower** is considered a resource of **strategic value** for achieving the goals of decarbonisation by 2050 and increasing renewables by 2030 (target of 30% of gross final consumption). Overall, by 2030 the contribution of renewable sources will reach **16 Mtoe, or 187 TWh**.[83] The Plan calls for wind power and photovoltaics to cover 55% of gross final electricity consumption, up from 34.1% in 2017. Much of the success in achieving the set goals therefore depends on the construction of **new plants in the case of wind and photovoltaics** and on increasing generating capacity and in **themodernisation and repowering** of existing plants in the case of hydropower. The repowering in fact, with the same infrastructure, makes it possible to optimise the installed power providing higher performance in terms of output and production efficiency.

BIM: a strategic ally for asset monitoring

Building Information Modelling technology, through **3D modelling**, enables remote "entry" into facilities, facilitating timely and constant monitoring of assets. After an initial pilot project launched in 2020, CVA also continued with several experiments in this area during 2021, with the implementation of **laser-scan survey activities** of some working environments. In particular, the surveys and 3D modelling in BIM technology of the Avise power station, Covalou power station, bottom outlet and pipeline head valve chamber of the Gabiet dam were carried out.

The activity provides a qualitative and quantitative three-dimensional view of sites that are often difficult to reach with clear positive repercussions in terms of sustainable mobility, optimisation of work time and safety impacts, effectively reducing the likelihood of accidents. For electrical stations, it is also a valuable tool for accurate assessment of electrical conductor distances in order to comply with the company's Provisions for the Prevention of Electrical Risk (DPRE), drafted in compliance with IEC 11-27.

All large dams owned by the Group are works built between 1920 and 1960 and, also for this reason, **maintenance and investments** are two crucial hubs of CVA's activities: major efforts to modernise the hydroelectric power plants, aimed at safeguarding and innovating plants with the use of highly distinctive *know-how*.

[83] The European House – Ambrosetti (2021): European Governance of the Energy Transition. Available at the link: https://acadmin.ambrosetti.eu/dompdf/crea_wmark.php?doc=L2F0dGFjaG1lbnRzL3BkZi8xMTYtZXVyb3BlYW4tZ292ZXJuYW5jZS1vZi10aGUtZW5lcmd5LXRyYW5zaXRpb24tMjAyMTA5MDMxMC5wZGY%3D&id=14177&muid=corporate.

The reliability and resilience of the plants bring productivity and, more importantly, environmental benefits, as they allow larger volumes of energy to be produced from the same amount of water.

In 2021, CVA renovated of the pipeline bridge of the **Champagne 1** hydroelectric power plant, **which** recently became 100 years old. The plant consists of two penstocks that originate at the reservoir and run for about 2,250 meters, resting on an arched bridge that allows it to cross the gorge where the Dora di Rhêmes River flows. Construction of the bridge in the 1920s represented a technological breakthrough. The structure is actually made of reinforced concrete - which was patented in the second half of the 1800s - and has a particularly slender span, with a structural and architectural line that was pioneering for the time. The building, which is protected by the Superintendence of Cultural Heritage, was the focus of a restoration project in 2020, which enabled its structural restoration, static adjustment, and improved seismic behaviour.

Champagne 1 power plant.

In addition, as a result of the work, f**ibre optics and automatic instruments aimed at constant monitoring of the bridge's stability** were placed on the entire structure. This technology is of an experimental nature for CVA: if it meets expectations, it may also be used on other Group plants.

A **technical investigation of CVA's entire suite of pipelines**, consisting of 43 penstocks, 5 outfall pipes, 3 siphons, a bulb turbine trunk and a pipe bridge, has been ongoing since 2016. The inspection plan consisted of ultrasonic thickness checks on metal pipes and nailed joints, as well as a visual inspection of the external and/or internal condition of the pipelines. The investigation made it possible to conduct a full inspection in December 2021 of all pipelines built prior to 2009 and an accurate visual and/or thickness inspection of newer pipelines as well. In parallel, work is proceeding with an activity to determine, partly through external assignments and partly by using CVA's internal staff, the minimum thicknesses of piping calculations that can be considered safe for the work involved.

Faubourg power plant generator.

The comparison of the results of the field reconnaissance on our pipelines and the allowable safety thicknesses obtained by calculation will result in an **overall assessment** of the state of the works under consideration, accomplished objectively and comprehensively because of the definition of an unambiguous procedure of analysis. The results of the assessment will also make it possible to define a plan for multi-year inspections of the pipelines according to their actual state of conservation and any need for local or widespread restoration work. However, said plan of controls, which is in the process of being finalised, is already confirmed for pipelines serving large derivations, for which the first repetition of the controls performed in 2017 was carried out during 2021.

In this context, the **differential flow meters** are a highly important component, because they make it possible to intercept and automatically monitor the flow of water coming from upstream. Almost all CVA plants are equipped with these active protection measures, which enable them to avoid significant unintentional spills due to possible leaks or pipe breakages, also protecting the surrounding areas. Thanks to the presence of a remote control and supervision network, data collected from the meters are acquired and stored, enabling the processing and analysis of statistical trends useful in predictive and planning terms.

Maintenance of our facilities does not stop

2021 saw the continuation of some existing maintenance projects and the commissioning of new maintenance and repowering initiatives.

The projects implemented include the **overhaul of the Signayes hydroelectric power plant**, which has the distinction of being able to intervene in almost all plant sections[84] through technological renovation and retrofitting, developed over 3 years. In June 2021, the renovation of Generator Unit No. 2 was completed: in addition to the extraordinary overhaul of the generator, which enabled the complete replacement of the active parts of the electrical machine, the construction, installation and commissioning of the new turbine shaft and rotor lantern was finalised during 2021. This replacement was also extended, following further non-destructive testing, to the unit 1 rotor shaft, which was replaced with a newly supplied component. Unit 2 of the Signayes power plant can now be considered **fully renovated** to ensure reliability and durability over time. in addition, in 2021, the High Voltage station and the plant municipalities were also re-automated, and the re-automation of unit no.2 was completed, thus obtaining the first power plant **with all the automation systems designed in-house by CVA**.

Signayes

CVA's first power plant complete with all automation systems designed *in house*.

[84] The initiatives concern the components of the plant, while they do not modify either the intake works or the channel, i.e. the only parts visible to the outside by the public.

The management of construction sites during the pandemic - the case of Signayes

The Covid-19 pandemic has, for the second year in a row, significantly affected the management of the planned construction site for the Signayes hydroelectric power plant revamping project. During the most acute phase of the emergency, on-site activities continued at all times by adopting effective prevention and protection measures, also in view of the fact that this involves work on **facilities aimed at providing essential services** to the population. In fact, with the support of the Safety Coordinator during Execution (CSE), some updates were made to the Safety and Coordination Plan (PSC) in order to ensure the highest degree of safety.

The countermeasures taken, in accordance with national guidelines and WHO guidance and consistent with the Covid-19 CVA protocol, defined the prescriptions to be implemented in the site organisation and thus allowed work to continue while minimising delays. The identification of such arrangements had to take into account the unique characteristics of the Signayes Power Plant, whose machine room is located **120 meters below ground level** and is normally accessed by an elevator.

Access to the plant was permitted after checking body temperature and only to workers equipped with specific PPE properly worn before entry. Access has been regulated by staggering the entry and exit times of workers on site, and elevator use has been reduced to a maximum of 2 people at a time. The use of locker rooms was regulated in order to comply with the necessary social distancing, the toilets were each allocated exclusively to the workers of the different firms involved or to CVA personnel, and all work areas were marked out so that the minimum distances would continue to be respected even while work was being carried out.

The CSE, together with CVA staff, carried out important **verification work** to ensure compliance with all requirements.

The **Group 2 overhaul of the Aymavilles hydroelectric power plant** was then completed, followed by the start of the **Unit 1 overhaul** in November 2021, scheduled to end in April 2022. The work will result in a new Francis impeller on Unit 1, a regenerated impeller installed on Unit 2 (already in operation), a regenerated impeller available to spare, and all hydraulic channels downstream of the distributor protected with newly designed and supplied stainless steel liners. On Unit 2, the overhaul performed restored the correct functionality of the distributor and its servomotor as well as the machine valve, a functionality also achieved through the replacement of all static and dynamic seals and all mutually sliding parts.

As reported in the previous Sustainability Report, in May 2020, there was a sudden and major increase in vibrations of the Hône I hydropower unit resulting from the breakage of the drive kinematic motion of a Kaplan wheel blade. The repair of this fault, which was carried out on the initiative of CVA technicians, by taking full advantage of its *know-how*, allowed the generation unit to be efficiently operated in the soft 2020 period. In parallel, all engineering offices have been called to rapidly secure the supplies and services needed to carry out extraordinary maintenance of the machine to bring it back to its maximum efficiency. Overhaul activities also continued in 2021: in particular, the previous rotor shaft was replaced with a new one that will improve the quality of the unit's shaft line, perfectly in line with the **renovation and repowering philosophy of** the Hône 1 hydroelectric power plant. This also includes the recent installation of a new production transformer, a machine with an extremely high degree of innovation, as it features 31 technological innovations compared to CVA's current suite of machines. Among these, the most relevant consist of:

- Longer-lasting and *maintenance-free* AT and oil insulation
- Safer machine (silicone loops, fall arrest ladder, overhead lifeline, totem pole, etc.)
- Real cost/benefit optimisation by weighted capitalisation of no-load, load, and pump losses
- Bimodal water-to-air cooling with stationary unit and without cooling water
- Walkable oil collection conveyors and control of 17 temperatures with pre-alarms/alarms/blocks.

The year 2021 also marked the start of an overhaul of turbine-alternator unit 1 at the **Montjovet** hydroelectric power plant, which will continue during 2022. With regard to the generator, complete disassembly of the machine was carried out to enable the complete overhaul including replacement of active parts on the stator (magnetic pack and winding) and rotor (re-insulation of polar windings). As for the turbine, on the other hand, a functional overhaul of all the mechanical slides of the distributor is planned, replacement of the impeller, restoration of the hydraulic channels, and modification of the sealing system of the thrust pad balancing circuit by inserting a static seal between the pads and pistons.

In 2021, on the other hand, work on the rehabilitation of the **Lillaz** plant's intake work, which dates back to 1920, was completed. The work, designed entirely by CVA's engineers, involved completing half of the weir in 2020, while 2021 saw the construction of the actual barrier as well as the entire **power supply and automation** part of the intake. The work was also equipped with a special **automated device for the release of the DMV (minimum vital flow)**.

Water Mist: an eco-friendly solution to protect production transformers

In order to obtain the Fire Prevention Certificate related to production transformers, the Group has continued to replace previous fire protection systems based on inert CO_2 gas or water deluge with **new, totally environmentally friendly solutions**: high-pressure water mist systems (*Water Mist*) capable of reducing water consumption and blocking the oxygen displacement capacity from the heat source.

Based on the unique characteristics of each Group plant, the most suitable technology can be identified. Analysis of all the features required of such fire-fighting systems enabled the development of a standard system, adaptable to local needs. This engineering has enabled the definition of a kit of spare parts valid for all installations and allows **CVA personnel, properly trained for the purpose**, to be able to work indifferently on all installations.

By the end of 2021, in accordance with the Fire Department's guidance, there will be **8 Power Plants** equipped with ***Water Mist*** fire-fighting systems, 3 more than in 2020. With the latest installations, all the planned activities have been carried out, and therefore the goal has been achieved within the time limits set by law.

Asset control and preventive diagnostics

During 2021, **more than 90 checks were performed on group protection devices and 22 checks were conducted on line protection devices**, transformers, and Breaker Failure devices.

38

the thermographic analyses carried out on the main electrical components of hydroelectric power plants.

Following on from the previous year, the census of the protection systems also continued to be carried out, in order to plan the correct intervention strategies. A total of **38 thermographic analyses were carried out on the main electrical components** of hydroelectric power plants and more than 40 inspections of high voltage capacitive potential dividers were carried out as well. During 2021, **39 surveys** of the vibrational phenomena of all hydropower units were carried out, and *on-line* analysis of the available data was launched. During the three-year period of 2019-2021, careful installation of new vibration media monitoring and protection control units made it possible to control all monitoring/protection units in the CVA suite of hydroelectric machines. In addition, all new control units have been properly remote-controlled and attention thresholds have been re-aligned on the new systems.

The **preventive diagnostics** campaign on generators continued, with 10 specialised internal machine inspections, *17 electrical diagnostic measurements, 3 off-line* partial discharge surveys and 4 performed *on-line*.

Equipping machines with on-line instrumentation has also moved forward: **3 generators have been equipped with fixed sensors** aimed at measuring and controlling the magnetic flux and 5 with instrumentation for partial discharge surveys. The monitoring of the condition and reliability of the oil production transformers is ensured by the multi-year plan of periodic analysis of the insulating oil: **55 laboratory analyses** were carried out in 2021, which enabled the early identification and prevention of as many failures.

Finally, activities continued for statutory audits related to the efficient maintenance of production ground-based facilities. A total of **16 field works** were carried out with subsequent preparation of the relevant reports, **26 coordination checks on** protection devices and **14 reliability checks** of residual current circuit breakers were carried out in order to contain the risk of electrocution from indirect contacts for operating personnel.

A total of about **180,000 man-hours** were accounted for during 2021 by Operating personnel working on Work Orders (workers of the Operating Departments), for investment, maintenance and routine operation activities.

CVA technicians at work.

Wind energy: repair interventions

All of the Group's equipment, such as safety apparatus (ladders and elevators), civil works related to wind power plants (roads, buildings), and wind turbines, undergo continuous maintenance activities, both routine and extraordinary, which continued unabated even during the pandemic period. Each initiative was coordinated with each O&M and in collaboration with the relevant HSE districts, in full compliance with the guidelines issued for emergency health care.

For the management of wind power plants, the Group relies on the expertise and training of the companies that build and install the wind turbines, through different *Operation & Maintenance* contracts, coordinated by the Group's Engineering Department. This process makes it possible to guarantee **remote monitoring and emergency intervention** 365 days a year, in addition to scheduled maintenance every six months and extraordinary maintenance when necessary.

CVA's technical specialists directly perform inspections at all facilities. Considering that the main electromechanical components of a wind turbine (transformer, electric generator, speed multiplier) are generally installed at the nacelle, **CVA EOS technicians are trained to operate at height and perform inspection activities**. Predictive control campaigns are conducted annually through electrical measurements at the generators and boroscopies at the speed multiplier in order to assess their state of preservation and to be able to detect signs of wear and obsolescence in advance.

The maintenance and repair works on wind power plants involve **complex operations**, determined by the very **configuration and scale of the plant components**. In fact, replacing a component requires **setting up a construction site**. The same procedure should be applied in case of replacement or ground repair of a blade, as occurred in the past year in both Piansano and Laterza.

Piansano wind farm.

The **Piansano wind farm** is the largest of the CVA Group in terms of installed power, 42 MW. It now houses 21 Vestas V90 wind turbines, each 2 MW, which have a tower height at the hub (the point where the blades are attached) of 80 metres and a rotor diameter of 90 metres. The repair of a blade in cases like this involves the **activation of complex instrumentation and construction sites**, which require geo-technical and geological stability checks, the use of cranes and sometimes even adjustments of the roads leading to the plants to allow access to construction equipment.

During 2021, there were several highly extreme and intense meteorological events, which required **sudden operational intervention to secure the plants and ensure continuity of service**. Wind turbines, in particular, are a favourite lightning rod because of their height (100 -150 metres) and the locations where they are installed.

In 2021, lightning damage to blades was reported at all CVA Group plants. The Piansano plant, in particular, has been the hardest hit in the past 10 years. For this reason, too, as a preventive measure, the Group initiated a pilot project during the year aimed at **installing "copper *caps*"** on the tips of the blades for regulated market against lightning strikes.

In 2021, 187 extreme weather events occurred in Italy due to climate change, 1 every 2 days[85].

Discovering the Group's facilities

CVA actively cooperates with municipalities, schools and universities in the areas where it is present. Whenever possible, in compliance with regulations to curb the advancement of the Covid-19 pandemic, the Group offers the opportunity to find out about the functionality and special features of each facility through the organisation of special **guided tours**.

In 2021, again in compliance with anti-Covid containment measures, it was possible to organise several **educational activities**, including a lesson on the operation of wind power plants, dedicated to the students of the Saint Denis elementary school, and a visit to the Piansano plant with the middle school of Viterbo. The day, part of a cross-cultural exchange between the school and peer European institutions (from Spain, Portugal, Germany, the Czech Republic, Poland, Slovenia, and Croatia), was aimed at helping Italian and international students in devising projects and writing reports for passing the final lower secondary school exam.

In addition to physical tours, which have been partially reduced due to the pandemic, CVA has made a section available on its website dedicated to **Virtual Tours**. Through a series of comprehensive videos, users can enjoy a virtual and interactive experience of the different facilities, while also experiencing the sounds of their surroundings.

[85] National City Climate Observatory (2021): The climate has already changed.
Available at the link: https://cittaclima.it/wp-content/uploads/2021/11/CC21_Rapporto-DEF.pdf.

A secure network for a constant supply of energy

26 Petersen coils[86]

will be installed by 2023 to increase the stability of the distribution network.

+35 km

of underground power lines in 2021.

Security of supply

The power plants of Valpelline, Avise, Perrères, Maën, Covalou, Pont-Saint-Martin, Gressoney, Sendren and Zuino are included in the **National electricity system repowering and restarting plan** prepared by Terna and binding for operators. In the event of a *blackout* of the national network, these plants are required, autonomously or under the coordination of Terna as the case may be, to take steps to restore the electricity system. The **Perrères** and **Gressoney** plants are classified as **essential plants for the security of the national system**, as they have the capacity to supply isolated portions of the network, in this case the Cervinia and Gressoney areas, autonomously maintaining the correct voltage and frequency values within these portions of the network.

Indicator	2019	2020	2021
Total net production of hydroelectric plants (GWh)	2,727	3,045	2,490
Producibility = Net annual production / historical producibility [%]	90.8%	102.0%	82.6%
Load factor = Net annual production / (total hours per year * installed capacity) [%]	33.3%	37.2%	30.4%
Availability index [%]	94.02%	92.27%	91.96%
Unavailability index - unscheduled [%]	2.87%	4.32	4.66%
Unavailability index - scheduled [%]	3.11%	3.41	3.38%

The table shows the availability values recorded on CVA Group's wind and photovoltaic plants over the past year.

Plant	Contractual availability
Monteverde (AV, wind power)	99.08%
Tarifa (LE, wind power)	98.10%
Piansano (VT, wind power)	99.40%
Lamacarvotta (TA, wind power)	98.75%
Lamia di Clemente (TA, wind)	99.52%
Ponte Albanito (FG, wind power)	97.60%
Pontedera (PI, wind power)	98.61%
Saint-Denis (AO, wind power)	99.78%
Alessandria (AL, photovoltaic)	99.70 %
Valenza Fornace (AL, photovoltaic)	99.85%

[86] For more details, see the paragraph § Petersen coils.

To ensure that the energy transition progresses, it is critical not only to protect security of supply but also to invest in a distribution network that is increasingly **resilient**, **flexible** and **digital**. The grid infrastructure will therefore need to be able to accommodate the input of energy from distributed generation plants powered by non-programmable renewable sources and support the progressive electrification of consumption. To cope with these developments, the CVA Group, through its subsidiary Deval, is planning functional activities to increase power transmission capacity, meet growing energy demand/production, and technologically upgrade facilities.

The strategies pursued are based on the lines of action coordinated with the European, national and regional plans to combat climate change that define a *roadmap* for the energy transition that will result in greater use of electricity. In connection with these considerations, the aims being pursued are:

- increasing electricity transmission capacity;
- ability to cope with the growing demand/production of electricity (electric mobility, riser refurbishment, distributed generation);
- automation and digitisation of the grid (*smart grids*);
- improving the resilience of networks;
- environmental improvement (line burial, greater energy efficiency);
- plant overhaul;
- reducing operating costs;
- continuation with the plan to install Petersen coils in primary cabins.

CVA technicians at work.

The quality of electrical distribution service

The Regulatory Authority for Energy, Networks and the Environment (ARERA) has established two main indicators for measuring the ability of the Distributor to guarantee electricity supply to users (the so-called **continuity of service**): the **duration** and the **number of** power cuts.

The two quantities make it possible to evaluate, for the duration, the level and quality of investments in network infrastructure (automation, remote control, creation of alternative lines for re-powering) and, for the number, the effectiveness of maintenance works that make the entire infrastructure robust and invulnerable. Despite the fact that, due to the difficulties related to the pandemic, the results obtained in 2021 show a slight deterioration compared to 2020, for both indicators, Deval, the distribution company of the CVA Group, recorded performances above the target levels set annually by the Authority, confirming the high standard of quality of the electricity service provided.

The reasons for an electricity interruption can be different and - when not depending on force majeure or external causes (i.e. induced by third parties) - it can be traced back to the normal operation of the electricity network, where the parameters of *complexity* and *extension* constitute characterising elements.

Service continuity	2019	2020	2021
Average minutes lost per LV user	21.27	20.03	21.39
Average number of interruptions per LV user	1.46	1.04	1.30

The resilience of the electrical distribution network

Resilience refers to the ability to respond to extreme events in a positive way. Weather events can cause major damage to the power grid, which is why it is critical to build a strong and resilient grid in order to ensure continuity of service. The first step in building a resilient network is to identify and measure risk factors for their mitigation and to continuously promote interventions to improve resilience. The Aosta Valley is especially susceptible to some instances of risk, such as **falling trees** or the formation of **ice sleeves**, which can cause the conductor to "tear off" and fall to the ground, or problems with **access to sites for repair in emergency settings**. Indeed, in such cases it is possible that Deval, in the need to restore power supply, may have to access with men and vehicles to sites that are precluded from normal access due to highly hazardous site.

Resilience Plan: the collaboration with the Polytechnic University of Milan

With reference to falling trees and the formation of ice sleeves, ARERA requires Distributors to prepare a Resilience Plan containing calculations of related risks, to be updated annually.

The application of the calculation algorithms set out in the Resilience Plan has allowed Deval to map the risk of the electrical network by associating a risk index to each secondary station.

Protect lines during snowfall

During the winter months, extreme weather conditions such as icy snow or strong gusts of wind can cause severe mechanical stress to area lines.

Deval, in collaboration with CVA's Open Innovation, provided for the installation of a series of **anchoring devices capable of adjusting the length of the span**, the distance between the two poles of the electrical conduit, in order to mitigate the risks associated with this eventuality.

About twenty of the devices will be installed on an experimental basis on some stretches of line in the municipalities of Champorcher and La Thuile. The equipment is designed to stretch and absorb the tension built up on the pole, causing controlled deformation of the pole and preventing it from breaking.

Petersen Coils

The Petersen coil is a tool that makes it possible to reduce the intensity of certain types of faults on the medium voltage network, thus improving safety levels. The great advantage of this equipment lies in the possibility of **eliminating an electrical fault automatically**, with a very short interruption in service continuity. Deval, in order to boost the robustness and resilience of the network and decrease the stress on the plants, has planned the installation of 26 coils distributed over 12 plants over the three-year period 2020-2023.

In order to increasingly **reduce the number and duration of outages**, in a process of **continuous improvement of the quality of the service** provided, the Group plans future investments, especially in the digitisation of the network and the development of specific protection mechanisms, in order to increase the level of network automation.

The burying of area distribution lines

While overhead lines are constantly exposed to natural phenomena, underground cables are only rarely affected by outages and failures. This allows for even greater safety for buried networks, not only in terms of **less exposure to risks**, but also in terms of the environmental sphere, as it allows for a **lightening of the "visual" load on the landscape**.

In 2021, the project of burying overhead networks in different areas of the regional territory continued. In particular, in **Valsavarenche**, an area often at risk of avalanches, the overhead line was completely replaced with underground cables while, again in cooperation with the local government, a second power line, also underground, was built. The work was carried out in two lots, completed in the year, while a third will be carried out next summer.

The project, geared towards a goal of "zero blackout," also included the creation of a technical and economic feasibility study related to the hydraulic works of Berruard and Buthier creeks, this is the first in-depth step necessary for the completion of the design expected in 2022. The project, for which an investment of € 8 million has been approved, has been reported within the forecasts of the PNRR as a **strategic action to contribute to the achievement of national goals for the ecological transition**, through the increase of electricity transmission capacity.

The works include the protection of surrounding settlements from debris flows through the construction of two plazas with the function of storing the material transported by the watercourse, one along the conoid of the Berruard stream and the other downstream of the confluence with the Buthier stream of Ollomont, to reach a containment capacity of about 45 thousand m^3. The work was carried out in two lots and completed at the end of 2021, while the third will be done by the summer of 2022.

Work has also continued in **Aosta**, where the presence of a secondary line makes it possible to guarantee continuity of service, avoiding any kind of interruption for citizens.

CVA technician at work.

Emergency management

Weather and geological events can become the cause of business interruption. To protect itself from this eventuality, the CVA Group collaborates with various civil entities to **activate joint actions**, including the regional Civil Defence, the primary contact point for emergency management considering the Alpine setting where most of the Group's physical assets are concentrated. The guidelines to be adopted in cases of coordination of action are defined by the **Memorandum of Understanding between DEVAL and Regional Civil Defence**, with a special focus on the issue of access to sites, such as in the case of blocked roads due to avalanches or other extreme natural events. Cooperation is not limited to the actual moment of the emergency but, for example, includes the development of **training courses and joint exercises**.

Deval has also prepared an **Emergency Plan of the electrical network** structured into four levels of severity: alert, alarm, emergency and crisis, which involve different actions and guidelines on how to act based on the cases. Depending on the needs, provision is made for the appointment of a Head of Emergency Management and the activation of a control unit with specific support tasks. Especially for locations rendered critical by the presence of wooded areas and subject to landslides, avalanches and floods, the sharing of both human and operational resources allows synergistic use, able to reduce the risks and inconvenience to the population and the personnel involved in rescue and recovery operations.

Emergency management is not limited to weather-related emergencies. In fact, during the pandemic and *the lockdown*, Deval was able to ensure **continuity of service**. Noting the extensions of the state of emergency, many of the measures already taken at the beginning of the pandemic have been maintained. In particular, in the context of operations, in addition to the rules stipulated in the appropriate company protocol with the relevant guidelines to be adopted, operating personnel continue to be sent directly to the facilities in the morning in order to avoid gatherings in the Department Headquarters (changing rooms in particular).

The beginning of the year also saw the completion of the **renovation of the remote control system platform**, through a modernisation of the system with a new, more up-to-date version and the purchase of new technological equipment that will be able to facilitate the work of the operators, such as the installation of the new 2G meters planned to start in 2022.

Together in emergencies to ensure the continuity of our services throughout the Aosta Valley.

Between technology and nature

Automation of dam monitoring

Dams are complex engineering works that require continuous monitoring and control during operation. A basic requirement of the supervision system is the **consistency between the rapidity and frequency of observations and the speed of evolution of the phenomena to be detected**, such as soil characteristics over time, water level trends, or erosion episodes. Moving to automated monitoring makes it possible to track the occurrence of extremely rapid phenomena while simultaneously taking multiple processes into account, and to shorten the time between the execution of measurements and the completion of data processing and analysis.

250

automatic measures configured in 2021 after implementation of new control software.

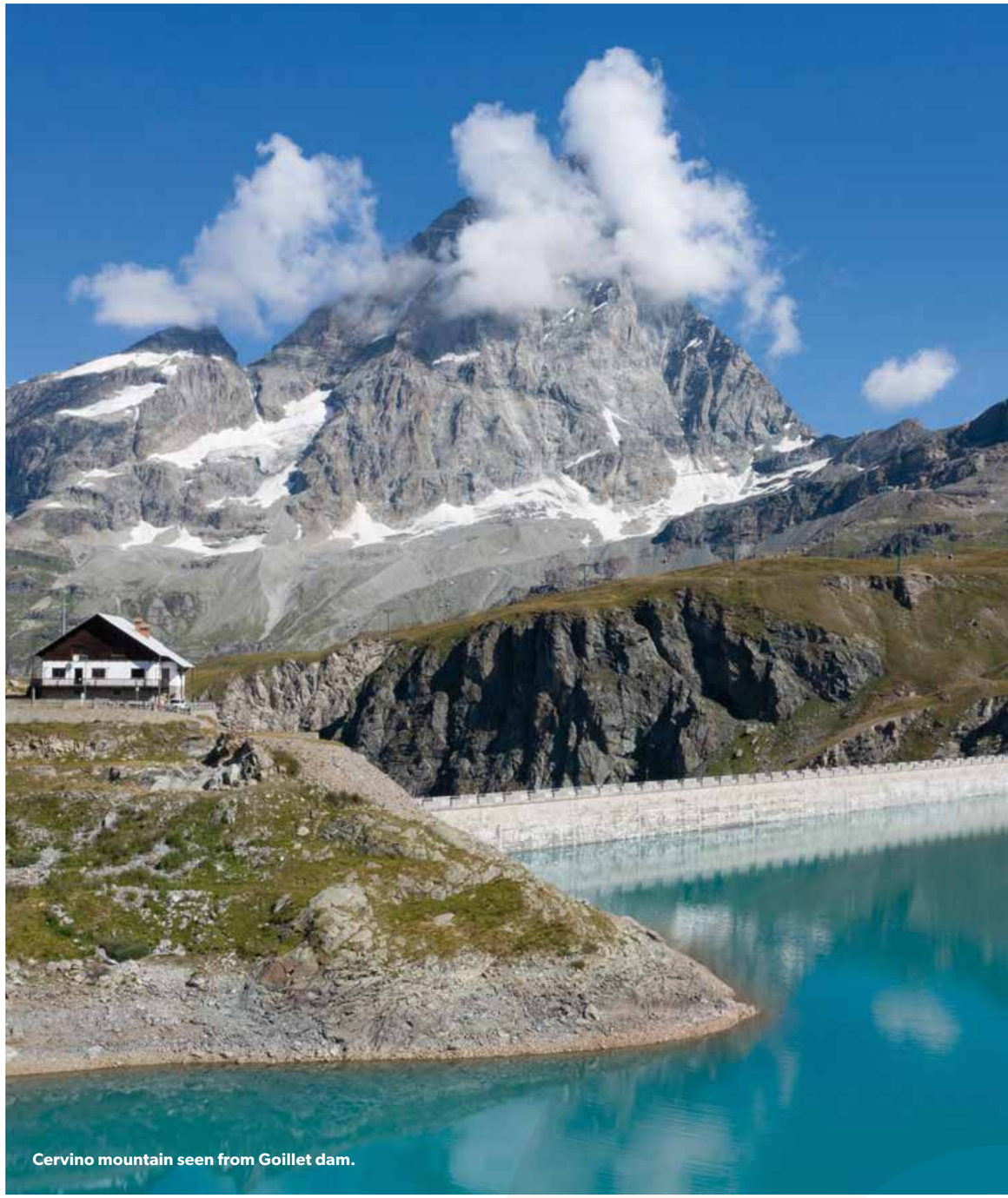
The new software for manual data acquisition allows transmission and automatic control in real time. With the aim of verifying the effectiveness of the measurement and reducing errors, the measurement taken in situ by the guardians is directly uploaded via *smartphone*, which immediately reports any situations where the set thresholds have been exceeded. The data, subsequently transmitted through the company's network, are controlled in real time with the help of a specific software program that enables the presence of anomalous behaviour of the structure to be evaluated. Exceeding the thresholds results in a warning being issued to the relevant technical personnel.

Following the installation at the Goillet Dam pilot site in 2020 to optimise products based on CVA's specific needs, this system was also implemented at the Beauregard Dam during 2021. This, given its interaction with a complex geological context and in light of major remediation activities in previous years, is characterised by an extensive monitoring system to control its behaviour. The implementation of the control software thus required configuring **120 manual and 250 automatic measurements**. Extension of the system to the group's remaining large dams is planned during 2022.

Remote control never sleeps

The remote control of the CVA Group's hydroelectric assets is ensured by a dedicated unit belonging to the Operations Department: the Aosta Remote Control Post, the supervision and monitoring station of the plants and the network nodes to which they are connected. The remote management of the assets allows real time monitoring, with the possibility to intervene promptly in case of emergency: in such circumstances the operating personnel is activated, even on call, sometimes at the request of external bodies in charge of public safety and security, such as Fire Department, Civil Protection, Police.

- 365 days a year
- 7 days a week
- 24 hours a day
- the Remote Control Post of Aosta is always active.



Cervino mountain seen from Goillet dam.

Earthquake-proof guardhouses

Prime Minister's Order No. 3274 of March 20, 2003, and subsequent amendments[87], introduced the requirement for all large dams to undergo seismic testing, with priority given to works falling in seismic zones 1 and 2. Initially, the requirement included an audit on all dams, but in 2015 the requirement was reduced to a list of priority cases placed in critical areas.

Thus, since 2017, **the seismic vulnerability verification of the guardhouses serving** Beauregard, Cignana, Gabiet, Goillet, and Place Moulin **dams** has been initiated. Site and laboratory tests were conducted for the characterisation of the materials of the buildings, and then verification and modelling activities related to the guard-houses of Cignana, Beauregard and Gabiet were conducted.

Based on the results of the inspections, **the design and permitting process for upgrading the** above-mentioned **buildings** was started during 2019. For the buildings at the Gabiet Dam, the planned consolidation and retrofitting works were carried out between 2020 and 2021 and the testing was completed.

For the guardhouse in Cignana, the design and authorisation process for upgrading work has been completed, and operations will begin in 2022, to be followed by upgrading work on the remaining guardhouses. In some cases, for example on the Beauregard Dam, energy efficiency work on the structure will also be considered at the same time as the seismic efficiency work.

Among other initiatives related to the guardhouses launched in 2021, in the case of the Place Moulin dam, the securing also covered the forecourt and the path up to the face of the dam. The intervention, carried out following the 2018 avalanche event, included the installation of snow stop umbrellas on the slope upstream of the guardhouse.

Joint and sustainable management of the water resource

On holidays and weekends in July and August, reservoirs located in tourist areas or near regional roads (Ussin, Brusson, Bielciuken and Guillemore) are operated at or near maximum reservoir level. In this way it is possible to contribute to the enhancement of the area during the peak tourist influx period, while safeguarding the best possible optimisation of production.

In addition to its commitment to landscape protection, CVA, in implementing its work, **cooperates with other parties** to avoid, if possible, situations of interference between the work of Group companies and the work of third parties. The operation of the production facilities, during the April-October periods of each year, is always conducted by **taking into consideration the needs of the Irrigation Consortia in the Region**. Over the years, several irrigation catchment works owned by the consortia have fallen into disuse, usually due to severe obsolescence or extreme disasters (such as, for example, the flood of 2000). CVA has always been committed to ensuring, where technically possible, the satisfaction of irrigation rights by operating water releases from its hydraulic works, consistent with the operation and maintenance needs of its hydroelectric facilities.

The willingness to cooperate is also transferred with reference to activities in the riverbed of firms working for third parties. In such cases, the Group undertakes to schedule its activities so as not to cause interference. Where this result is not achievable, agreed procedures are implemented to carry out the work in compliance with safety regulations for the workers involved.

Nus power plant.

[87] Prime Ministerial Decree of October 21, 2003 Implementing provisions of Art. 2, paragraphs 2, 3 and 4, of Prime Minister's Order No. 3274 of March 20, 2003; and Decree-Law No. 79 of March 29, 2004 on Urgent Provisions on the Safety of Large Dams (and Institutional Buildings).

4. CLOSE TO THE COMMUNITIES

8 DECENT WORK AND ECONOMIC GROWTH

11 SUSTAINABLE CITIES AND COMMUNITIES

CVA eBiketour Evolution 2 in La Salle.

4. CLOSE TO THE COMMUNITIES

KEY FACTS AND FIGURES

~€639 million
the economic value distributed

~85,000
customers served in 2021

€36.3 million
in payments to the Public Administration for derivation fees

97%
of instalments granted to domestic customers aimed at the Aosta Valley community

€54 million
in sales to local suppliers

Why it is important

The term *shared value* refers to a situation in which the economic value created by a company is shared not only by shareholders, but by all of its *stakeholders*. Specifically, it is the ability to create economic value for the enterprise through the production of societal and environmental benefits. This is now a fundamental principle for corporate sustainability, especially in light of the **expectations people place on businesses**. According to the Edelman Trust Barometer estimates, businesses are the **only organisations that exceed the trust threshold** (set at 60 points out of 100) with a score of 61, while the overall index of trust in governments, NGOs, or the media remains below the threshold in 2022, with only NGOs gaining two points over 2021 (59/100)[88].

61/100
the overall index of business confidence in 2022.

No less important, strengthening one's ability to share the value created consolidates the enterprise's own ability to survive and respond to change. Cohesive firms, in the face of the pandemic crisis, have suffered less turnover reduction than non-cohesive firms, make more sustainable investments, and are better prepared for the new Transition 4.0[89].

With more than **40** renewable energy **plants** in the country, including 32 in the Aosta Valley region, and more than **4,200 km** of power grid **distribution lines**, the CVA Group has always been committed to offering support to the community and acting as a point of reference for the area in which it has its roots. The value generated comes through creating jobs, feeding the supply chain through the use of local suppliers to purchase goods and services, and providing reliable and efficient service to its customers. Finally, environmental and social protection go hand in hand with economic value redistributed to the region through the payment of taxes, dividends and contributions, the provision of sponsorships and donations, and the implementation of projects in synergy with the social and educational needs of the region.

Creating shared value

In 2021, the value generated by the Group amounted to approximately **€ 716 million**. Of this value, € 639 million was distributed, accounting for 89% of the total.

The distribution of the generated economic value table makes it possible to analyse the distribution of the value in the form of costs, highlighting the flow of resources addressed to the stakeholders that have contributed, in various ways, to its production.

[88] Edelman (2022), Trust Barometer.
Available at the link: https://www.edelman.com/sites/g/files/aatuss191/files/2022-01/2022%20Edelman%20Trust%20Barometer%20FINAL_Jan25.pdf.

[89] The Symbola Notebooks (2021): Cohesion is competition.

Values in thousands of €

	2019	2020	2021
Economic value generated	**801,230**	**540,819**	**715,898**
Value of production	801,230	540,736	715,578
Income from equity investments	-	83	320
Extraordinary income	-	-	-
Distributed economic value	**720,782**	**506,869**	**638,839**
Operating costs	581,394	359,315	478,235
Value distributed to employees	34,839	38,469	39,521
Value distributed to capital providers	5,793	5,824	8,751
Value distributed to the Public Administration	55,566	54,567	75,059
Value distributed to shareholders[90]	42,195	47,795	36,577
Value distributed to the community*	994	898	696
Economic value retained	**80,448**	**33,950**	**77,060**

* Donations, sponsorships, events, membership fees.

Distribution of the economic value generated	2021
Suppliers	66.8%
Employees	5.5%
Capital providers	1.2%
Public Administration	10.5%
Community[91]	5.2%
Economic value retained	10.8%

Payments made to the Public Administration in the form of tax revenues, contributions and fees in 2021 amounted to approximately € 75 million, which are mainly allocated to local governments in the form of taxes paid to the Region, IMU (municipal property tax) and TASI (taxes on indivisible services), state fees for the use of public waters, waste taxes and other contributions.

[90] Finaosta SpA is the Group's sole shareholder.

[91] In order to obtain a more representative value distributed to the community, the economic value of the donations and sponsorships provided by the Group also includes the value of the dividends distributed to the Sole Shareholder Finaosta S.p.A., which holds 100% of the share capital of the CVA Group CVA under special management on behalf of the Autonomous Region of Aosta Valley.

The supply chain

A sustainable and responsible supply chain is the basis for efficient economic management of the company. The Group's supply chain now involves more than about **560 different companies** from which works, services and supplies are purchased.

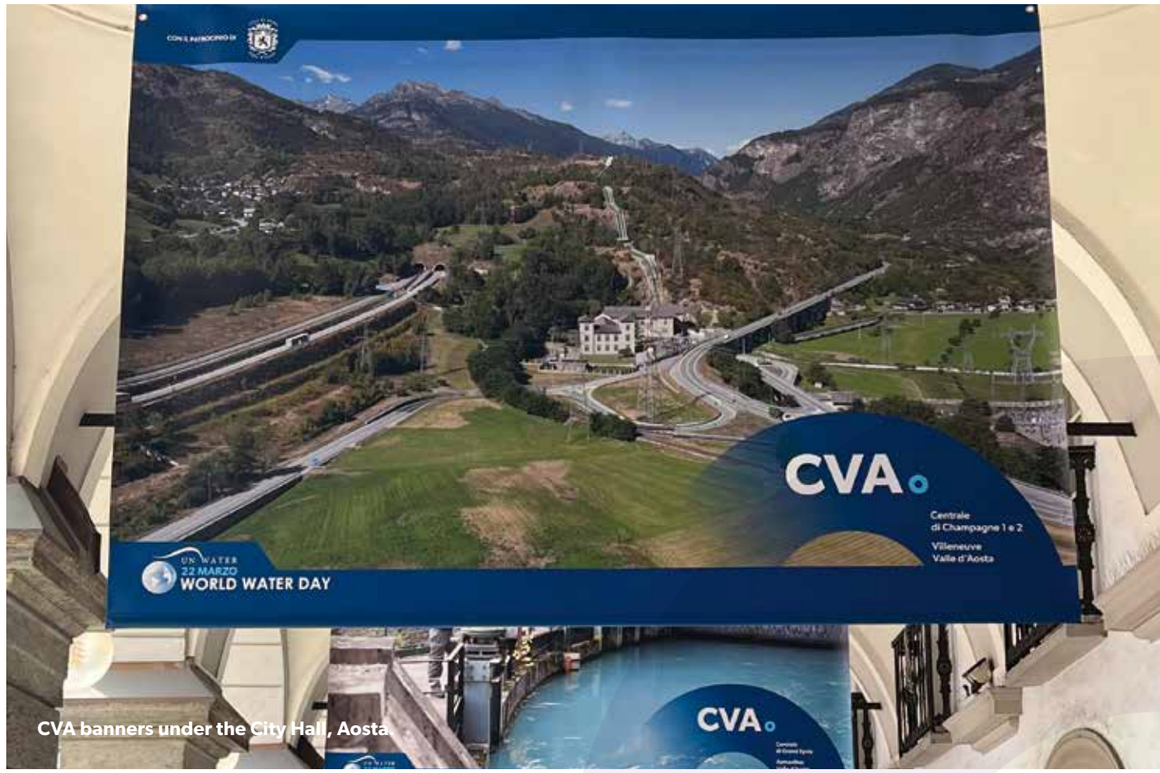
Over the past three years, the value of purchases commissioned by CVA from companies in Aosta Valley was more than **€ 50 million**, more than **45%** of the total orders issued in 2021. For CVA, making its purchases locally means promoting and supporting the development of the economy and the entrepreneurial environment of the territory.

Values in thousands of €

CVA Group	Aosta Valley		Non-regional		Total	
FY	Suppliers	Amount	Suppliers	Amount	Suppliers	Amount
2019	158	11,179	436	35,535	594	46,713
2020	211	16,250	331	52,929	542	69,179
2021	231	54,402	337	65,958	568	120,261

€ 120 million
the value of supplies in 2021.

231
local suppliers in 2021 (40% of the total).



CVA banners under the City Hall, Aosta

Attention to our customers

~85,000
customers
served in 2021.

97%
of supply points
is in Aosta Valley.

Attention to its customers is one of the core values of CVA Energie, which is committed to developing offers and solutions that are tailored to domestic customers, small professionals, condominium customers, and even large business customers.

In 2021, residential customers accounted for 99% of the users served, and almost all supply points are in the Aosta Valley (97%). Large business customers, distributed throughout the country, account for more than 90% of the energy sold in 2021.

Tipologia di clienti finali	2019		2020		2021	
	Energia venduta (GWh)	Clienti	Energia venduta (GWh)	Clienti	Energia venduta (GWh)	Clienti
Business	3.909	1.174	2.083	799	1.524	722
Retail	150	42.992	155	44.686	-	45.659
Maggior Tutela	70	44.308	62	41.096	52	38.184
Totale	**4.131**	**88.474**	**2.300**	**86.581**	**1.576**	**84.565**

Differences between Free Market and Regulated Market

Since 2007, the Italian electricity market has also been deregulated for small professionals and domestic customers, creating the division between the free market and the regulated market. Although **in the regulated market service, the tariffs are regulated by the Regulatory Authority for Energy, Networks and Environment (ARERA), in the free market they are determined on the basis of bids made by electricity companies**, which are in competition with each other. Under this regime, the Regulatory Authority for Energy, Networks and Environment (ARERA), determines energy costs only for matters concerning transport, distribution and system charges.

For several years now, **the transition to the free market** has been prepared, which after numerous postponements, is now scheduled for **January 1, 2024**. In 2021, there are still about 13 million Italians who have not chosen their operator, remaining subject to the regulation of the regulated market. The transition to the free market will be important not only in **boosting the competitiveness of operators and enabling informed customer choice, but also in contributing to the use of renewable energy**: the regulated market, in fact, uses the national *fuel mix* as regards energy supply, which means that supply is never completely *green*.

For all those who have not yet joined the free energy market, from 2016, **CVA Energie** - a Group company operating in this market - has been exercising the regulated market service through the Enerbaltea brand, supplying more than **38 thousand customers** each year.

CVA Energie: an increasingly user-friendly interface

The CVA Energie website represents one of the first points of contact between the CVA Group and the community, so it is important to make its use increasingly intuitive and customer-oriented.

Precisely with the aim of further facilitating and accelerating access, 2021 saw the introduction of the possibility for customers to enter the restricted area via **SPID** credentials. *On-line* or telephone contact support then continued throughout the year, taking advantage of the potential of digital tools to facilitate contact with customers and avoid travel wherever possible. During the year, **nearly 2,800 cases were processed using the *on-line*** portal.

2,800
cases processed
on-line in 2021 (+40%
compared to 2020).

In terms of accessibility, CVA ENERGIE's site also meets the needs of **visually impaired** people: the use of appropriate colour contrasts between background and text makes it easier to read the various contents. The latter is also facilitated through the management of navigation on the page using keyboard commands and the inclusion in the communicative images of *alt tags* to allow the textual alternative to be read by the visually impaired and, finally, through the use of *responsive* mode with adaptation to changing font size and page zoom up to 200%.

The site has also recently been enriched with a new feature. In fact, the *landing page* has been integrated with a **section dedicated to reporting any cases involving scams or suspicious contact**. In this way, the Group intends to limit and, above all, prevent inconvenient and harmful incidents not only for customers but also for industry players, helping to **make the market increasingly transparent**, to the benefit of all consumers.

Closer and closer to customers

In 2021, CVA developed and implemented a number of activities and offerings to remain close to its customers. The Group is committed to offering **services that are sustainable across the board**, not only energy-wise but also socially, which is why the focus on people also includes promoting their health and well-being.

In October, the Group entered into a **partnership with AON**, the first group in Italy in risk consulting and insurance brokerage. At the heart of the partnership is the provision of a dedicated counselling service for *caregivers*, people who are caring for a family member in a particular situation of fragility. The ***Family Coach*** service, offered free of charge for one year to all new customers of CVA Energie, offers the support of a team of professionals such as psychologists, doctors, nurses and social workers, who, after analysing the situation in detail, are able to offer support and customised solutions, such as home care and telemedicine, for both the *caregiver* and the patients themselves. A telemedicine service is also included within the package. Through this service, the Group offers concrete support for families who need help in caring for their loved ones.

Closely related to the initiative developed with AON is the collaboration with the **Aosta Valley Disability Coordination (Co.Di.VdA) geared towards building project synergies in the area of social inclusion initiatives**. A first initiative is aimed at fostering awareness of the constantly changing electricity market to increase consumer awareness of the changes taking place. For this reason, part of the agreement includes a series of **informative and in-depth meetings on the subject of energy**, which can answer the doubts and uncertainties of end customers about bills and the conclusion of theregulated market service. These meetings will be organised by CVA Energie, for the benefit of federated organisations and Co.Di.VdA members, precisely to raise awareness of fully-informed and sustainable energy use, while respecting and

protecting the environment. In addition, new CVA Energie customers already associated with Co.Di.VdA are offered a complimentary *Family Coach* package.

"This alliance shares values such as concern for social, territorial and environmental issues, which have always been cornerstones of CVA Energie and all CVA Group companies." Enrico De Girolamo, General Manager of CVA.

CVA Sconto40

the offer designed for Aosta Valley.

For the first quarter of 2022, households and businesses still in the protected market will face higher energy and gas prices, leading to bill increases of up to 55% and 42% respectively[92]. This circumstance increases the risk of **energy poverty**, which already affects 1 in 6 Italians[93]. Once again, CVA stands by its citizens and has activated the Discount40 service for new customers who own a domestic utility in Aosta Valley and wish to access CVA Energie's free market. In addition, as of February 2022, individuals and businesses in Aosta Valley already supplied by CVA Energie were eligible for an increased rebate on their bills, amounting to 40% for domestic users and 10% for other uses.

[92] Arera (2021): Energy: raw material prices lead to +55% for electricity and +41.8% for gas. Government intervention limits worst-case scenarios. Families in difficulty protected from the increase.

[93] Banco dell'Energia (Energy Bank) ONLUS (2021): ENERGY BANK MANIFESTO - Together to fight energy poverty. Available at the link: https://www.bancodellenergia.it/bne/export/sites/default/bdo/downloads/MANIFESTO-BANCO-ENERGIA.pdf.

To strengthen support for its customers, CVA also implemented several initiatives in 2021 aimed at meeting special needs that emerged as a result of the persistence of the pandemic. In particular, customers were granted the option to apply for **short-term instalment payment of bills** with no interest. In 2021, 165 instalments were granted for a total of about **€ 580,000**, of which 80 were for domestic customers (97% in Aosta Valley) and 85 for professional customers (28% in Aosta Valley).

From March 2020 to February 2021, supply unbundling activities for delinquency were also suspended. Subsequent to their resumption, short-term **repayment plans** with no interest were granted to both domestic and professional customers to enable them to gradually realign their debt position. In addition, to support the area's economic hardship, **interest on late** payments for both retail and business customers in the amount of € 24,000 for late payments received in 2021 has been **rebated**.

Finally, to help reduce waste, CVA has proceeded with the **dematerialisation of reminders**; this has resulted in both paper savings and an economic benefit by sending **3,695 reminders via e-mail instead of priority mail**; as well as the start of the process of **digitising registered coupons with acknowledgement of receipt**, which will lead to process optimisation and reduced environmental impact (in 2021, the Credit Management Function sent 4,645 R/R registered **coupons**). With the digitisation of coupons, the activities associated with: printing, paper filing and delivery by the postal carrier of the coupons will no longer be necessary.

A Manifesto against energy poverty: the participation of CVA

Countering energy poverty and ensuring access to affordable, secure, sustainable and modern energy systems for all are goals that are among the targets of the United Nations 2030 Agenda. However, the economic and social emergency due to the Covid-19 pandemic, combined with the recent increase in the cost of energy, threatens to undermine the progress made toward achieving this goal.

As proof of the Group's commitment to the issue, in **December 2021 CVA signed with other major players in the sector the Manifesto of the Onlus Energy Bank**, a non-profit organisation that has been supporting economically and socially vulnerable families since 2006.

Programmatic points of the Manifesto include: activation of monitoring related to energy poverty at national level, education on energy conservation, special-purpose building alliances between public, private and third sector organisations, and raising public and policy maker awareness.

Finally, again in support of the Aosta Valley region, the Group entered into a partnership with an operator in the local large-scale retail sector and, on the occasion of the Marché Vert Noël held in Aosta, offered all new domestic customers who signed a supply contract a **€ 50 purchase voucher** for shopping at a large-scale retail outlet renowned for its focus on local products. In a context where the reduction of disposable income is reflected in a drastic

contraction of consumption, CVA intends to come to the aid of the community by directly supporting the local productive fabric.

The transition to a new generation of meters

By 2022, ARERA has ordered the replacement of old first-generation meters with new 2G *smart meters*. Replacement plans to reach at least 90% of the total number of meters by 2025 (95% in 2026), benefiting about 37 million users throughout Italy.

In December 2021, Deval, as the distributor of the CVA Group, presented the Commissioning Plan for the new 2G meters in Aosta Valley. The investment of **€ 17.6 million** includes the replacement of **more than 130,000 meters**. The Plan presentation was attended by local authorities, mayors, customers, consumer associations and building administrators. The main objective of the meeting was to raise public awareness regarding the activities that will be carried out by Deval with reference to meter replacement. The Plan has been devised in detail to ensure user support at all times and will be developed over **15 years**, with a large-scale phase between 2022 and 2026. Prior to the replacement, an information campaign will be launched for all interested parties through printed advertisements, banners in web-based publications, and the putting up of posters in the affected municipalities. Communications will be organised with sales companies and the GSE, as well as meetings with the Consortium of Local Authorities of the Aosta Valley, mayors and associations of various production categories. Finally, about 2 months before the replacement, a communication on how to install it will be sent (in Italian and French) addressed to each end user.

The transition to the new generation of meters will also address environmental sustainability: the *smart meters* that will be installed are made from totally recycled material recovered from the disposal of first-generation meters.

Building the future together, in communication with the territory

CVA has always been at the forefront of contributing to the social development of the Aosta Valley region through community investments, initiatives to support the organisation of regional events, and through the independent organisation of activities and projects that can strengthen the Group's connection with people and the environment.

The value donated in 2021

The Group's support, through donations or sponsorships, targets numerous events and sectors, from healthcare to sports, mobility to culture, and the environment to inclusiveness. In 2021, the value of CVA's contribution to the territory was **€ 143,617**.

Among other initiatives, the collaboration with the **Courmayeur Mont Blanc Foundation** continued to support its scientific activities, carried out through studies and research involving national and international entities and individuals.

Similarly, the sponsorship of the **Grand Paradis Film Festival** continues, which allows awareness-raising and discussions of environmental issues, as does the collaboration with **Aosta Classica**, which in 2021 hosted the project **Da Aosta ai 4 mila**, a festival celebrating music and culture.

Throughout the year, CVA also sponsored the **Cactus International Children's and Youth Film** Festival, a film festival with an international reach that aims to discover stories designed for childhood and pre-adolescence and to create a cultural, artistic and relational background tailored to the youngest children. For the 2021 edition, the Festival has gathered more than 1,150 short films from film-makers from 88 different countries around the world through an international call for entries. The **Cactus Edu** format, specifically, is designed for schools, and in its first edition, was joined by more than 30 thousand students from all 20 regions of Italy.

Among the 2021 initiatives under the banner of social sharing and respect for the environment was an **Alex Britti concert on the Beauregard Dam** in August. The concert, organised by CVA in cooperation with the municipality, was attended by more than **360 people** and is part of the Group's broader commitment to organise events to enhance its water basins and allow the local area to discover its beauty. The concert was totally *carbon free* and **fully powered by** the Group's **green energy**.

Italian musician Alex Britti live from Beauregard dam.

Together for the environment

Save The Glacier 2021

Also in 2021, the Group continued its collaboration with the **Save the Glacier** project, created in partnership with Skyway Monte Bianco and Grivel, two important Aosta Valley businesses, with which practical actions were taken to protect the glaciers of Mont Blanc and the territory in general. The first leg of this tour, in 2020, was the Monte Rosa massif; in 2021 it was the turn of the Matterhorn while in 2022 it will take place at Gran Paradiso to conclude in 2023, with Mont Blanc.

Supporting education as the first step to value creation

CVA, in agreement with the Department of Education, Universities, Youth Policies, European Affairs and Investees of the Aosta Valley Region, is launching a series of initiatives aimed at **raising young people's awareness of sustainability issues and renewable energy**. The goal is to provide students in Aosta Valley, of different levels and grade levels, with tools that enable the dissemination of *green* issues that are particularly dear to CVA, and that are embedded in the achievement of the regional goals of Aosta Valley *Fossil Fuel Free* 2040. In fact, it is precisely the **young people who are the driving force of the regional future**, both in terms of skills and knowledge, and in terms of sensitivity to those issues that are indispensable for the preservation of the natural environment and for the development of a sustainable economy that represents the future not only of our Region, but of the whole of Europe.

Students working on the school project LabEnergie.

In 2021, the **CVA Group participated in the 9th CSR Show**, entitled **Rinascere Sostenibili (Sustainability Renaissance)**. The purpose of the event was to share participants' ideas and plans for a sustainable renaissance that places the central focus on organisations, governments and territories. CVA presented its project "**Restarting from the Future: CVA with schools to build a more sustainable environment**," a project to support the educational mission of educational institutions.

The project has 2 key objectives: to intervene in the ***digital divide*** that has become more pronounced during the pandemic situation and to promote **sustainability education** through knowledge of environmental energy resources in the area. To achieve these goals, CVA has deployed numerous initiatives.

Together for School: donate a coffee for the future of young people

The project, in collaboration with Rotaract District 2031 (North Piedmont - Aosta Valley), is a ***crowd-funding*** initiative **with the goal of raising € 70,000, aimed at purchasing PCs and tablets for students** in both public and private primary and secondary schools in Piedmont and Aosta Valley.

Indeed, the advent of the pandemic and the large-scale use of remote learning has highlighted the phenomenon of the digital divide, often hidden or overlooked, which has found so many families lacking adequate digital equipment to enable girls and boys to adequately enjoy on-line school lessons. The gap between those who have access to the web and those who are prevented from doing so causes significant discrimination by impeding equal access to education, and the more general access to knowledge and comparison possible via the web.

Initiatives for younger children

Raising children's awareness of environmental issues is a priority goal for the European Union, which the Group fully embraces. For this reason, CVA funded and participated in the production of the book "**How We Enhance the Environment**," in which, through the characters of Magoutte, Petit Soleil and Tourblillon, it depicts, in a colourful and engaging way, how a drop of water, a ray of sunshine and a puff of wind are transformed into energy. Guiding readers is Monsieur Casteau, the dam-building beaver, who takes children on a journey to discover renewable energy with games, quizzes and colouring books. About **1,250 copies of the book** were distributed to primary schools in 2021.

LabEnergie

The LabEnergie project offers middle school students in the Aosta Valley the opportunity to **learn about how energy is produced from the renewable sources** water, wind and sun

through both *on-line* videos that virtually take kids through the operation of hydroelectric, wind and photovoltaic plants, and through **experiments**, which allow them to better understand and memorise the theoretical information learned by putting it into practice immediately.

In 2021, the project involved **10 regional schools, 12 teachers and 389 pupils**. The project focused on **photovoltaic energy** in the experimental phase. In fact, a kit containing a small motor with connecting wires, a 0.5 V photovoltaic panel and a propeller was made and distributed, and students were able to creatively make small objects where the propeller turned thanks to photovoltaic energy.

The ***learning by doing*** method not only stimulates imagination, but also promotes inclusion and equity among students with different abilities, as it makes learning content more accessible even to pupils with some difficulties, because by experiencing first hand they become active participants in their learning.

The goal of this and upcoming initiatives with schools is to spread knowledge about clean energy, environmental compliance and sustainability in broader terms. As early as 2021, two new LabEnergie modules have been planned that include videos related to **hydropower and wind power** and the design of a kit that includes the materials needed to make miniature plants using these sources, as well as a photovoltaic power generator.

CVA together with the region and institutions

CVA is an active member of the inter-institutional network called the **Energy Network** for the support and development of disciplines pertaining to the **STEM** (Science, Technology, Engineering and Mathematics) field, coordinated by the Superintendency of Studies of the Aosta Valley Region, in order to develop projects that, in addition to disseminating knowledge related to energy from renewable sources and sustainability, meet the teaching and educational needs related to different school courses.

A new site full of opportunities

On its website, CVA has a section dedicated to the various initiatives undertaken by the Group for schools, in which it is possible to **download educational materials for nursery and primary school children**, including a notebook to colour and complete with letters and drawings on the theme of clean energy, animated videos showing how water is transformed into electricity, and what can be done to limit its consumption.

It is then possible to take **virtual tours** at some of the Group's hydroelectric power plants by accessing the appropriate area of the website. These virtual tours were also made with **360-degree shots**, which allow the visitor to experience the visit as close as possible to the in-person experience.

All the energy of sport and attention on diversity

Sport, by encouraging connections with others, can become a successful tool not only in tackling discrimination, but also to **give value to differences**, transforming them into important resources for society. That's why CVA invests in inclusion by supporting the important initiatives reported below.

Diverse Bici e Passeggiate sonore (Diverse Bikes and Soundwalks) - The events accessible to all

In August 2021, the Diverse Bikes event was held in the municipality of Brusson. The day aimed to capture some of the challenges, which are also present in the 2030 Agenda for Sustainable Development, in order to combine important aspects of our future: that of **sustainable mobility** and its **accessibility for all**, especially those who are not fully autonomous.

During the day, in a unique natural setting and attended by **more than 80 people**, a variety of bikes were made available to try out: *handbikes*, tandems, various tricycles, *tirides*, all environmentally friendly vehicles designed for mobility even, for those with various disabilities. Indeed, in addition to being an opportunity to promote more sustainable mobility, the event is also an opportunity for inclusion and sharing of experiences for all people, whether they have disabilities or not, united by the same desire to participate in the social life of the community.

In addition, **4 "soundwalks"** were organised in 2021, routes lasting about an hour and a half that allowed the **more than 130 participants** to discover and experience the Aosta

Tandem tricycle gifted by CVA to the Diverse Bikes event.

Valley territory while learning about its sounds, their characteristics and what they tell. This type of experience, by training sound perception and offering a different way to discover the surrounding spaces, also contributes to the development of tools and skills geared towards inclusiveness and diversity education.

Giri di Energia

Giri di Energia is an initiative that offers the opportunity to run **12 laps of CVA's facilities in the middle of nature**. During 2021, a project was overseen aimed at mapping the accessibility of the 12 routes through the preparation of detailed sheets about the slope, the accessibility of the cobblestones, the presence of aids along the route, accessible toilets, and many other variables useful for an assessment of the usability of the routes for people with disabilities, families with young children, or people with differing abilities and sporting inclinations. Giri d'Energia Inclusivi will be inaugurated in 2022, each route already represented on the CVA website with maps, videos, and factsheets; it will also include sign language videos and sound recordings for blind people. In order to strengthen and improve this initiative, a meeting with the associations of Co.Di.Vda (Coordinamento Disabili Valle d'Aosta - Aosta Valley Disability Coordination) was organised in 2021 to consider revising or supplementing the route sheets.

Towards sustainable mobility

CVA eBike Tour Evolution

114

people involved in the CVA eBike Tour Evolution 2021.

The second edition of the eBike Tour, an event created in 2019 with the aim of promoting sustainable modes of transport, took place during the month of August through a **cycle-tourist route in 8 stages with pedal-assisted bicycles**. Despite the pandemic emergency, CVA has decided to also promote the 2021 edition as an important signal of its support for sustainable mobility, in total safety and with *on-line* bookings. Also this year the event, organised in collaboration with the interested Municipal Administrations, saw participants explore some of the most beautiful corners of the Aosta Valley in a clean, fun and sustainable way.

Green Vallée d'Aoste

Green Vallée d'Aoste is an initiative in which CVA has participated for many years now, aimed at promoting electric mobility and enhancing the territory of Aosta Valley. The project makes it possible to rent electric cars at Caselle Airport or at one of the two train stations in Turin which you can then use to travel to and visit the Aosta Valley. **12 electric cars were made available thanks to sponsorship by CVA Energie** and each of them is named after one of CVA's hydroelectric power plants.

CVA eBiketour Evolution: Saint-Rhemy-en-Bosses stage.

5. FULL OF ENERGY

3 GOOD HEALTH AND WELL-BEING

8 DECENT WORK AND ECONOMIC GROWTH

5. FULL OF ENERGY

KEY FACTS AND FIGURES

623 employees[94]

Diversity Index
for an inclusive policy in the company

43.81 years
the average age

7,067 hours
of safety training

25.2%
women

4 accidents
out of more than 982,600 hours worked[95]

3%
temporary workers

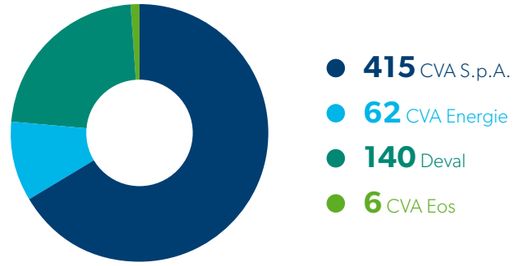
0 occupational
illnesses recorded in the last 3 years

Why it is important

People are the key to CVA Group's success.

The expertise and motivation of CVA people are the ingredient for the Group's success. It is because of their energy that CVA is able to care for the communities in which it operates, and it is thanks to their commitment that the Group grows as a team every day. Despite the unforeseen events that may affect the conduct of the Company's activities, such as interruptions, blockages, weather events or pandemics, the willpower of the employees has made it possible to always ensure the continuity of the Company's operations.

CVA GROUP PERSONNEL



The composition of the Group

In 2021, the **Group employed 623 people**, also considering employees and workers on staff leasing contracts, amounting to 23.[96] Almost all of the personnel are employed full-time (97.59%) and on permanent contracts (97.27%). 415 of the employees work directly for the parent company CVA S.p.A., while 140 are employed by Deval, 62 work for CVA Energie, and 6 are employed by CVA EOS.

Most employees are between 30 and 50 years old. Roughly 5% are under 30 years old, 25% are over 50. In terms of gender, about 25% of the population are women, a percentage that rises to 39% when considering the occupational classification of employees.

Compared to 2020, the Group's headcount increased slightly by **17**, from 583 employees in 2020 to 600 employees as of December 31, 2021 (+2.92%).

The Testo Unico in materia di Società a Partecipazione Pubblica (TUSPP - Consolidated Law concerning publicly-owned companies) - and Regional Law 20/2016 and subsequent amendments and additions regulate the management of publicly-owned companies, particularly in the recruitment of personnel.

[94] The figure includes workers on staff leasing contracts.
[95] The figure refers to employees and workers on staff leasing contracts.
[96] It is specified that Valdigne Energie has no staff in direct employment.

A team that continues to grow

CVA pursues its ambition to grow with increasing strength and people, contributing directly both to local development and employment and to the strengthening of strategic business functions, including one dedicated to wind and photovoltaic power generation.

During the year 2021, the CVA Group made 31 placements, of which 5 were for stabilisation of positions covered by temporary staff, 15 for filling positions related to new requirements, and 11 for replacement of workers who have terminated or will terminate their employment with the Group.

Contributions to the Group's growth have been made, on the one hand, by the process of gradual stabilisation of workers pursued by the company over the years and, on the other hand, the commitment to the achievement of the goals set out in the Strategic Plan geared towards decarbonisation, which require the selection and hiring of new profiles.

Safety first

CVA's commitment to people's health and safety

The integrated policy overseen by the Quality, Safety and Environment (QSA) function allows for consistent management of aspects related to worker health and safety, which is also guaranteed through the oversight of ISO45001 certifications applied to all Group Companies with the exception of EOS, which in any case is inspired by the rules defined by CVA Spa's Management System. From 2022, moreover, EOS will also be included in the certification scope. Also in 2021, despite an easing of restrictions to contain the pandemic, CVA has always continued to take care of its people, further strengthening safety measures and ensuring the protection and well-being of everyone.

As a provider of an **essential public service**, the Group confirmed its commitment to ensuring the continuity of work activities by participating in the updating of the "**Protocol for the regulation of measures to combat and contain the spread of the Covid-19 virus in the workplace**", with the aim of limiting the risk of infection among employees as much as possible. During the first year of the pandemic crisis, 2020, the CVA Group took action with several measures to support the local community, including the timely connection of electricity for the field hospital set up in Aosta, while special precautionary measures were taken for the Operations Centre (on 24-hour duty) for both personnel operating in the power generation area and those working on the distribution line, an essential bulwark for the delivery of the essential services which CVA is responsible for.

Since the beginning of the pandemic, **smart working mode** was also activated for all permissible activities. For those activities that cannot be carried out remotely, the tools introduced in 2020 have been confirmed and the use of the solidarity holiday bank has been revised by providing it to cover the absence of non-remote workers placed in quarantine, as an alternative to the activation of entitlements such as holidays, leave and *cassa integrazione* (wage guarantee fund). A technical round-table working group is currently under way with the trade union organisations to take action to amend the agreement on the use of solidarity leave to handle quarantine cases no longer covered by the regulations or put in place by the company for greater worker protection. The activation of smart working was also the focus of a specific agreement that aimed to bring this solution into full operation even in the context of the "new" normal.

All personnel were then given **Personal Protective Equipment** (such as masks, gloves, coveralls), which is essential to continue working safely and indispensable especially when carrying out activities that involve close distances between workers.

After the first critical phase of the pandemic, the Group immediately moved to develop and implement a gradual return of people to the office in the safest way possible, maintaining the emergency remote work tool by alternating with physical presence in company offices, so as to minimise situations involving people being in the office at the same time. The company's Protection and Prevention Service (PPS) has developed guidelines for employees for informing them about the conduct to adopt during work activities. The Group companies have maintained all the **periodic safety management activities** already carried out in previous years, such as, for example,the organisation of training, inspections, audits, coordination meetings, the drafting of DUVRI (single document on the assessment of risk from interference), legal checks, reports of INAIL (National Institute for Insurance against Accidents at Work) equipment, the maintenance of fire prevention certificates.

CVA technician at work.

In addition, since 2020, the JARVIS **app** has been active on all the *smartphones* of operational employees of CVA SpA c who travel to isolated workplaces. This **app** provides an immediate alert and an exact location in case of injury, illness or a critical situation. The alarm can be sent in two ways: automatically, in the case of a man on the ground and/or motionless (road accident, sudden fall), or by voluntary activation in case of difficulty. This method of handling emergencies was activated following a specific union agreement and after a suitable training.

In addition to the extra emergency measures put in place since the day the Covid-19 pandemic began, CVA has always ensured that its operators can work in an extremely safe environment. In 2021, also taking into account workers on staff leasing contracts, there were **4** accidents[97] (which affected only employees) out of more than 982,600 hours worked[98], none of which were considered serious[99], while no occupational illnesses were reported. There were also no deaths in 2021.

[97] Injuries are recorded where they result in the loss of more than 1 working day. There were no injuries related to workers on staff lease contracts.

[98] In 2021, 947,841 hours were worked by Group employees and 34,805 hours worked by contract workers.

[99] Injuries with serious consequences include injuries from which the worker cannot recover, does not recover, or cannot realistically be expected to recover fully by returning to the pre-accident state of health within six months.

From left to right: Engr. Artaz, Engr. Spelgatti and the CEO of CVA, Dr. Argirò, at Goillet dam.

Zero-accident objective

During 2021, CVA further strengthened its commitment to promoting worker health and safety. As well as participation in the HSE (Health, Safety and Environment) Committee of Elettricità Futura, the main association of the Italian electricity sector, which contributes to the study and promotion of best practices in safety, environment and circular economy in the context of power generation.

November 2021 saw the start of a new collaboration between the leading distributors in the Alpine region with the common goal of reducing workplace accidents to zero, by sharing the company *best practices* adopted to ensure the optimum safety conditions for technicians and the many companies that collaborate in the development and operation of the plants. In particular, in organising the different experiences into a system, Deval was able to share his own in relation to the practical management of a *Near Miss*. The alliance also targets the gradual involvement of other Italian and European electricity distributors.

The importance of this project also stems from the centrality of electricity grids in the context of the energy transition: in addition to being an enabling factor in the process, grids are undergoing constant renewal and technological adaptation to accommodate the needs of a system that is increasingly focusing on digital and quality of service. It is therefore essential that the major investments planned for the coming years on Italian networks be accompanied by constant attention to the health and safety of operators.

The Injury Severity Index expresses the seriousness of accidents at work in conventional lostdaysper thousand hours worked, while the Frequency Index measures the incidence of accidents at work per million hours worked occurring in a given period. In 2021, a severity index of 0.16 was recorded, while the recordable injury rate is 4.22.[100]

Safety training is a fundamental element for any company, but especially for CVA Group companies, whose activities often take place in mountainous settings that, owing to their configuration, can be difficult and challenging. In fact, most of the Group's facilities in the Aosta Valley are located in sensitive areas, access to which requires specific knowledge and training. Employee safety training is therefore fundamental to the CVA Group, which strives to ensure the highest level of occupational protection and safety for all its professional personnel.

[100] The figure reported refers to employees. In the case of contracted workers, both indexes are zero.

The welfare system

Based on the interaction between the Company, social partners and institutions, tools are created that aim to create a positive and stimulating working environment for all workers. Two surveys were conducted in 2020 and 2021 aimed at rationalising the use of space at work locations based on alternating attendances at the Company and the managerial practicality of work organisation.

The welfare system provides different types of benefits and services aimed at improving people's lives, starting from support for family income, study, parenting, health protection, up to proposals for leisure and commercial concessions.

As part of Patto Utilitalia, "La diversità fa la differenza" (Diversity Makes the Difference), CVA strengthens its commitment every year through participation in the Committee on Diversity and Inclusion. In 2021, a ***Diversity Index*** was developed in collaboration with Bicocca University that individual companies will be able to test on an experimental basis and, subsequently, use for an assessment of their own diversity inclusion positioning. Finally, a handbook was produced that identifies guidelines for developing an inclusive policy in the company.

Work-life balance

The introduction of a mode of **smart working** promotes digitisation within the company and enables the promotion of social, economic and environmental sustainability.

If the pandemic has brought with it any silver lining, it is surely the understanding of how important it is to ensure a **work-life balance** for employees. In this regard, during 2021, a trade union agreement report was signed regulating "steady-state" smart working in line with what has already been trialled with "emergency" smart working that was used in the last two years of the pandemic. Among the most important aspects attributable to smart work is the continued growth of digitisation and the promotion of social, economic and environmental sustainability. Smart work contributes to the creation of added value, not only within the Group's companies, but also for the Aosta Valley community, in an increasingly careful management of the environmental impact on the territory and social responsibility.

The regulation of *smart working* under standard legal parameters highlights the CVA Group's desire to promote ways of working and forms of flexibility that meet the needs for a work-life balance while boosting productivity and strengthening the results-oriented approach. The individual smart working agreement is governed by **Law No. 81 of 2017**, which ensures that remote workers are subject to all the same provisions as those working according to traditional methods.

As part of the Group's trade union agreement, all the requests put forward primarily by the Company, through the respective function heads, were accepted. The document envisages the use of remote mode in two cases: the first part organises working arrangements in case of emergency situations (as occurred during the pandemic); while a second part regulates working from home in case of steady-state activities. The agreement report, thus stipulated, is perfectly in line with the protocol adopted at the national level. The agreement defined in the "steady-state" mode, among other aspects, a benefit of **up to 2 smart working days per week** for remote workers (excluding blue-collar, shift and semi-shift workers).

In the area of health, the second-level agreement on smart working provided additional **support** measures **for pregnant workers** (providing 4 consecutive weeks of *smart working* to be taken in the period before mandatory leave), **working fathers and mothers** (providing 4 consecutive weeks of *smart working* to be taken by the time the child is one year old), and all **workers affected by life-saving therapies** (providing days after chemo, immuno, and radiation treatments).

Provision is also made for accommodating any requests for smart working for temporary and extended continuous periods by employees suffering severe hardship.

At the end of 2021, as a further initiative to identify flexible forms to ensure a work-life balance, a second-level trade union agreement report was signed introducing flexibility with ultra-daily compensation also for administrative employees of Upper, Middle and Lower Valley operations departments.

Gran Paradiso Park.

Personnel remuneration and incentives

The CVA Group applies reward and professional growth systems, deriving from national bargaining, but also based on the company's initiatives. The main tools are a marriage allowance for employees who get married, a seniority bonus, paid to persons who have been with the company for 25, 35 and 40 years, and a variable incentive pay system linked to the general performance of the company and the achievement of goals relating to the work of the Departments.

Equal importance is given to the professional growth of the Group's people. CVA wants to offer everyone the opportunity to demonstrate their skills, share their motivation, and develop new talents to meet the challenges of the future with the necessary skills. To ensure the achievement of both personal and Group goals, a number of specific systems have been activated.

These include the development of a **new way of handling transfer applications** whereby, irrespective of the duties performed, one or more career paths in an alternative business development area to the one they belong to, in line with their skills, are offered for consideration. Transfer requests are sent to the Human Resources Department, which, assisted by the Departments, proceeds with an interview to explore the employee's aptitudes, skills and motivation. Certain factors may then be taken into account to foster development opportunities, such as seniority, qualifying degrees, language and computer skills, and specific family needs.

Insurance protection and welfare

The CVA Group implements company programmes to protect the health of workers through the FISDE (Fondo Integrativo Sanitario per i Dipendenti - Supplementary Healthcare Fund for Employees), for personnel regulated by the sector's CCNL, and the FASI (Fondo Assistenza Sanitaria Integrativa - Supplementary Healthcare Fund) for executives. All permanent employees are enrolled in the FISDE, with the company paying a share, and they are entitled to health **care reimbursements for themselves and their dependants**, as is also provided by the FASI for executives.

Alongside these tools and contractually stipulated insurance coverage (including coverage from non-occupational accidents), the Group has taken out an additional insurance policy to protect all employees concerning **death risk coverage and coverage in case of permanent total disability**. The insurance policy covering any issues caused by Covid-19 infection has also been extended into 2021.

Lastly, there are two complementary pension funds for personnel regulated by the sector's CCNL (national collective labour agreement) The CVA Group has also provided for an additional contribution to supplement the contractual provisions.

Recreational - cultural activities, concessions and conventions

Through the ARCA Association, CVA supports the recreational activities of its employees. Even during 2021, as was the case in 2020, activities were inevitably reduced in the face of the still ongoing pandemic.

The Group's annual allocation, which increased compared to 2020, through which employees can obtain **subsidised loans for personal needs**, such as the purchase or renovation of a first home or for serious family needs in certain situations, remains active.

Subsidised services

Since 2016, the CVA Group has signed an agreement with the trade unions that introduced the possibility on a voluntary basis, within the limits provided for by current regulations, to convert the Performance Bonus into welfare services and benefits. The CVA Group incentivises the conversion of the Performance Bonus by increasing the converted portion by an additional percentage - currently 15%. Furthermore, if the pre-established target relating to the Profitability of the Performance Bonus is reached, the CVA Group disburses an additional fixed amount of "**productivity welfare**",to be allocated to supplementary pension funds. Starting with the 2021 disbursement, an allowance of 15 working days was introduced for calculating the premium reduction coefficient, and disbursement was also provided to employees whose employment was terminated due to retirement or death.

Teaming up

Growing together means collaborating to achieve increasingly ambitious goals: teamwork must be one of the central goals of the working life of every worker, as well as the means to create synergies through dialogue and the exchange of knowledge. CVA is constantly committed in this domain and promotes initiatives aimed at involving its employees.

To strengthen this commitment, in agreement with top management and labour associations, a major **communication and engagement project** will be launched in 2022 to prepare employees for the work scenario of the future. The initiative will also include the implementation of a corporate climate survey aimed at taking as complete a snapshot as possible of the needs, expectations and concerns of employees, and which will make it possible to map, from different points of view, the positioning of CVA Group resources with respect to the challenges of the future.

Together 2021

Each year the Group hosts a year-end corporate convention to highlight achievements and future goals together. In 2021, CVA took action to make the **convention *carbon free***.

Some work activities produce non-reducible emissions, such as computer use, which results in an annual emission of about 283kg of CO_2: sending an e-mail emits on average about 19g of CO_2, a video conference of about one hour results in an emission of 150 to 1,000g of CO_2, a passenger trip by air produces almost 300g of CO_2 for every kilometre travelled, while a car trip produces on average just over 40g.[101] Digitisation is a rapidly growing trend, and it is estimated that by 2040 the impact of digital will reach 14% of global greenhouse gas emissions.[102]

Neutralising these emissions means restoring a balance between the amount of CO_2 emitted and that captured by funded projects. With the support of an agency that specialises in the matter, **CVA adopted a methodology that allowed it to accurately calculate the emissions produced by the year-end event**. The resulting emissions have been neutralised through support for certified environmental protection projects, such as the development of technologies to capture CO_2, or the protection and preservation of forest areas.

Everyone who attended the year-end event received a code to access a selection of projects on which to offset emissions from *on-line* participation in the convention CVA.

Personnel training and development

Strengthening the skills of CVA's people and ensuring their personal development is one of the Group's goals to ensure the growth of the whole company.

Training planning in 2021 has also been rescheduled due to the inability to hold in-person training events. The goal for the year was therefore to prepare the corporate population to move away from the way in which internal training had hitherto been handled, limited to the provision of the traditional mandatory courses, and to structure, with Function Managers, a genuine **corporate training strategy** as tangible support for the development of useful skills. All this with the aim of generating *upskilling*, incentivising skills upgrades (language, IT, soft skills), and *reskilling*, retraining skills and targeting precisely the "jobs of the future" that can ensure good opportunities for personal and professional growth that will be the challenge of the 2021-2025 strategic plan (specialised training).

45
people involved in language updating initiatives.

In 2021, 45 people were involved in specialised **language *upskilling*** initiatives through two platforms, which enabled one-year *on-line* courses to be taken, also with direct activation with a lecturer. Specialised training involved approximately 143 staff in initiatives related to the development of training needs and knowledge and skills identified by their respective managers (e.g., in accounting, administrative, IT, construction, scientific, legal, contracts).

[101] Environment and Energy Management Agency (2015).
[102] Belkir L., Elmeligi A. (2018): Assessing ICT global emissions footprint.

To promote the centrality of the training process, a new **training platform** was also adopted during the year, which includes **6,500 courses**, **335** of which are currently in Italian, offering employees the opportunity to self-train by accessing the platform through the use of confidential credentials managed by the Human Resources Department from February 2022. The platform offers unlimited access to numerous courses, structured for each role and level, which can be completed at any time and on any device and usable in different languages. Within this platform, Managers are allowed to be able to assign the courses of greatest interest to their employees, in relation to the Functions and activities performed within the corporate environment.

Training and awareness

Another central element of CVA's personnel training concerns the health and safety of workers. Therefore, more than **7,000 hours of** training on this topic were also provided in 2021. Through dedicated courses, workers acquire the knowledge and the procedures necessary to work while protecting their personal safety and at the same time reducing risks to the company.

7,067
the number of hours of health and safety training in 2021.

In this context, we report the **simulation of an emergency situation** related to the transportation of a large generator set in the mountainous environment for work on the power distribution network. This is an activity carried out for both planned and breakdown activities. The simulation made it possible to highlight any existing problems and develop proposals for improvement that will be adopted in the field.

Equally important is staff training on the **environment**, to enable everyone to be aligned with the Group's sustainability goals. A course on environmental protection was provided in 2021, in which 66 people took part.

Finally, the start of the plan to replace electronic meters with second-generation meters meant that Deval needed to identify new market IT solutions to fulfil the obligations related to making hourly measurements available for all installed meters. The Board of Directors approved the renewal of part of the application map through the purchase of a new platform, which is also used by other distributors and is continuously updated from a regulatory perspective. The introduction of the new computer system will require the provision of specific training on its operation and any process changes.

Sales Area: continuous training

Attention to training also incorporates CVA Energie, which provides training and refresher courses for its sales staff. During the year 2021, a **two-year training initiative** aimed at the 29 employees of CVA Energie - Sales Area (operating in the Business Customer Functions, Free Retail Office and Credit Management Function) was completed, the objective of which was to improve the listening and communication skills of people working in close contact with customers. In September, in particular, the final and summary meeting of the training plan was held.

6.
CAPABLE OF INNOVATING

9 INDUSTRY, INNOVATION AND INFRASTRUCTURE

11 SUSTAINABLE CITIES AND COMMUNITIES

CVA technician inspecting the top of a turbine, Tarifa.

6. CAPABLE OF INNOVATING

KEY FACTS AND FIGURES

Energy community
first trial of self-generation of energy in Aosta

3 sites
where satellite monitoring of works has been initiated

9 new in-house
software programs for more smart and resilient plants

Aosta Valley Carbon Free
by 2040

CyberSecurity Governance
by the end of 2022

82 charging
stations installed in the Aosta Valley territory

Why it is important

Energy is one of the sectors that will be most affected by technological innovation. According to the *Twin Transition* concept, energy and digitisation are the two rails of the same train, whose common destination is decarbonisation.

New innovative solutions in the energy field are essential to reach the decarbonisation targets set by the European Union at 2050, as well as the Aosta Valley's goal of becoming ***Fossil Fuel Free*** by 2040. The rise of renewables, the development of consumption monitoring systems, the evolution of storage systems, and tools for automation and remote control of plants are all innovations that will be fundamental to environmental protection and greater effectiveness and efficiency of power generation facilities. On the other hand, however, the effective use of digital technologies contributes to the implementation of circular business models in which growth is compatible with the protection of resources[103].

Particularly in the wake of the pandemic, which has injected unprecedented impetus to digitisation, the way energy is produced, consumed and exchanged has changed, while the role of renewables appears increasingly more central. Along this path, substantial investment is needed to ensure a smart grid that is as flexible as possible and uses clean energy. Precisely in this context, the Ministry of Technological Innovation has approved a new € 20 million call for tenders with which it intends to fund research projects aimed at technical and technological innovation of general interest to the electricity sector[104].

CVA Group's operations and investments follow the same direction as the ***Twin Transition*** and are geared towards the future in which new technologies and renewable energy production will have increasingly positive environmental, economic, and social impacts.

In addition to opportunities, digitisation brings with it growing cybersecurity problems that potentially undermine the rights of citizens and businesses. In 2021, globally, **total attacks per week on corporate networks increased by 50% compared to 2020**[105]. Both the EU and Italy have prepared new policies to combat *cybercrime* and strengthen cyber security. On the one hand, the European Union and the European External Action Service (EEAS) presented the EU *Cybersecurity* Strategy to strengthen the EU's resilience in the face of cyber threats[106], while on the other hand, Italy has made provision, in the **PNRR (national recovery and resilience plan) for investments of about € 620 million to strengthen the cybersecurity of the Public Administration**[107].

+50%
the growth of weekly *cyber-attacks* against companies in 2021.

[103] European Council: Council conclusions on Digitalisation for the Benefit of the Environment, 2020. Available at the link: https://data.consilium.europa.eu/doc/document/ST-13957-2020-INIT/en/pdf.

[104] MITE (2021): General Directorate for Infrastructure and Safety of Energy and Geominary Systems - October 27, 2021.

[105] CheckPoint (2022): Check Point Software's 2022 Security Report: Global Cyber Pandemic's Magnitude Revealed.

[106] European Commission (2020): The EU's Cybersecurity Strategy for the Digital Decade. Available at the link: https://eur-lex.europa.eu/legal-content/IT/TXT/PDF/?uri=CELEX:52020JC0018&from=EN.

[107] Law 101/2021: Recovery and Resilience Plan.

The general bolstering of cybersecurity must also be read with a view to greater prevention of risk or environmental damage in the event of attacks on essential services, such as those related to the energy sector, water supply and transport. Also in this case, the CVA Group, through its IT Services and the Function dedicated to *Open Innovation* activities, promotes innovative projects and initiatives. In fact, through the use of new technologies and the advantages of digital, the Group contributes to the development of the sector through the adoption of systems that ensure the increasingly efficient use of renewable energy and promotes forms of collaboration between players with different and complementary specific skills.

Alessandria Sud photovoltaic plant.

Towards a new paradigm

The advent of the ***Green Economy*** introduces a new paradigm in which the economic and social system aims to reduce human impact on the environment through the use of a model based on renewable energy and smart, sustainable cities.

Shared energy

In the new energy scenario, of which renewables and hydrogen are two pillars, the figure of the ***prosumer*** is becoming increasingly important. This new concept identifies an end customer who, operating at his or her own sites located within defined boundaries, produces renewable electricity for his or her own consumption and may store or sell such self-produced energy so long as such activities do not constitute a business activity[108]. Self-production of electricity is also one of the goals of the European Union, which has empowered citizens in this regard with the **RED II Directive**[109]. Thus, a new cultural paradigm is emerging, where private citizens and companies decide to turn to **self-production of renewable energy** by actively contributing to decarbonisation and the energy transition.

The European directive, albeit in a transitional manner, was transposed in Italy with **Article 42 bis of the Milleproroghe Decree (thousand extensions decree)**[110], which was followed by the Ministry of Economic Development's Decree of September 16, 2020, ARERA's Resolution 318/2020/R/eel and a GSE act identifying the **technical rules for the establishment of renewable energy communities**. Thanks to these initiatives, it is now possible to establish Collective Self-Consumption and Renewable Energy Communities in our country whose purpose should be to provide environmental, economic and social benefits at community level, rather than financial benefits. Although the Milleproroghe Decree introduced the possibility of using these energy production schemes, the next step of ARERA's resolution allowed the overcoming of the "*one-to-one*" scheme i.e., a Production Unit - UP serving a single Consumption Unit - UC by instead introducing a ***"one-to-many"* self-consumption model** (one UP and multiple UCs).

The RED II Decree

On November 30, 2021, **Legislative Decree No. 199 of November 8, 2021**, was published in the Official Gazette, which officially acknowledges the European Directive 2018/2001, in line with the new European targets for 2050 and the targets set out in the PNIEC, which, pending alignment with the new targets set out in the Fit for 55 package[111], identifies the achievement of a 30% share of renewables out of gross final consumption.

The RED II Decree makes important changes to existing legislation, in particular Legislative Decree. 28/2011, and introduces new incentive mechanisms regarding, among others, **renewable energy**

1MW

the new energy power cap for the establishment of collective self-consumption frameworks.

[108] Pursuant to Directive 2018/2001.

[109] EU Directive 2018/2001. Available at the link: https://eur-lex.europa.eu/legal-content/IT/TXT/PDF/?uri=CELEX:32018L2001.

[110] Decree-Law 162/19.

[111] European Commission (2021): COM (2021) 550 final.
Available at the link: https://eur-lex.europa.eu/legal-content/IT/TXT/PDF/?uri=CELEX:52021DC0550&from=HR.

installations included in collective self-consumption configurations or renewable energy communities with a capacity not exceeding 1 MW (higher than the previous limit of 200 kW provided by the Law converting the Decreto Milleproroghe). Most importantly, Article 32 of the Decree identifies the requirements that end customers must meet in order to establish energy communities:

- the community must benefit its members and not directly pursue financial purposes, even though economic benefit is inherent in the very nature of an energy community due to the possibility of savings in energy supply expenditures;
- community participation is open to all consumers, as well as companies, which, however, cannot make the energy community the core commercial/industrial activity;
- the community is an autonomous legal entity subject to the powers of control of individuals, SMEs, territorial bodies and local authorities, including municipal authorities, research and training bodies, religious bodies, third sector and environmental protection bodies, as well as public administrations as listed by ISTAT.

In general, the new legislation also confers the possibility of aggregating multiple users with each other to combat energy poverty. However, there is currently a lack of implementing decrees; in fact, the most recent PNRR calls for tender still refer to the regulatory situation prior to the transposition of RED II.

Energy Communities

European Directive 2018/2001 provides, for the first time, a definition of Energy Community, which means a legal entity that includes a **community of users** (private, public or mixed) located in a given reference area in which end users (citizens, businesses, Public Administration, etc.), market players (utilities, etc..), designers, planners and policy makers **actively cooperate** to develop high levels of "smart" energy supply, encouraging the **optimisation of the use of renewable energy sources and technological innovation in distributed generation** and enabling the application of efficiency measures, in order to achieve benefits in terms of affordability, sustainability and energy security.

According to Legambiente's report, there are now 2 energy communities in Italy that are officially functioning and fully compliant with European regulations: one in Naples and the other in Magliano Alpi (CN), and 16 others are currently in the planning stage[112]. Energy Communities will play a key role, not only as an ideal tool to make a concrete contribution to the fight against climate change, but also in combating energy poverty, which now affects more than 2 million Italian households[113].

[112] Legambiente (2021): Renewable communities.
Available at the link: https://www.legambiente.it/wp-content/uploads/2021/07/Comunita-Rinnovabili-2021.pdf.

[113] Ibidem.

Collective self-consumption and energy communities are also a key element in achieving the goals contained in the National Integrated Energy and Climate Plan. In fact, energy communities could **contribute about 30% of the PNIEC's 2030 target**, with 17 GW of new power from renewables[114].

Incorporated in this scenario is CVA's contribution which, through collaboration with the Polytechnic University of Milan and the Polytechnic University of Turin, has initiated a course of study for energy communities, and the initiation of **several experimental projects to study the feasibility of energy sharing communities** with a view to improving the quality and reliability of supply and optimising the grid's energy withdrawal, while at the same time enhancing the integration of renewable sources and reducing users' expenditure on supply.

Specifically, in 2021 the CVA Group launched an experiment in Aosta Valley aimed at sharing self-produced energy within a **condominium of 9 residential units**, where the installation of a **photovoltaic system has been proposed thanks to the 110% Superbonus**. Technically speaking, the system will have an output of 19.68 kW and a storage capacity of 30 kWh. The activity is expected to close by the end of 2022 and could give way to other collective self-consumption set-ups in the Region. The new experimentation is perfectly in line with the objectives identified in the ***Carbon Free*** by 2040 plan approved by the Aosta Valley Region, for the achievement of which the CVA Group wants to contribute all its experience and expertise. In fact, by 2026, CVA aims to support the implementation of 10 Group Self-Consumption Collective (GAC) units and 1 Extended Energy Community, the development of which is being planned at two small towns in the Aosta Valley that have shown interest.

Business Continuity and Information Security

In 2021, the CVA Group took steps to obtain the certification **ISO 27001** on the information security management system (ISMS - ***Information Security Management System***), as well as the **ISO 27701** on privacy information management (PIMS - ***Privacy Information Management System***). The project was launched in mid-2021 through a meeting with some Function Managers, which was followed by a *Gap Analysis* concluded at the end of October. Once the data had been collected, the necessary documentation analysis had been carried out, and a process for sharing tools and necessary personnel had been initiated, the application for certification was submitted.

In addition, a project is being developed to obtain the certification **ISO 22301** (BCMS - ***Business Continuity Management System***), which is scheduled to be activated in the first half of 2023.

[114] Elemens (2020): The contribution of Energy Communities to decarbonisation.
Available at the link: https://www.legambiente.it/wp-content/uploads/2020/12/studio-elemens-2020.pdf.

Electric mobility

Transportation is getting greener: as of December 2021, sales of electric cars in the 18 European markets exceed diesel cars by 16 thousand units[115].

2021, like 2020, was also a very positive year for electric mobility. The Chinese market, for example, increased by 160%, with 2.9 million units sold[116]. Italy is also proceeding on a growth trajectory: **more than 67,000 electric cars** were sold in 2021, double the 32,000 sold in 2020, an even more significant increase if **hybrid vehicles are also** taken into account, reaching **136,000 units sold** (+128% over 2020)[117].

Gasoline and diesel still continue to hold the largest share of sales in the total, accounting for nearly 60% of the entire European market, albeit down from the previous year. In the last quarter of 2021, gasoline car sales decreased by 33.5%, while diesel car sales contracted by 50% compared to the last quarter of 2020[118]. At the same time, the number of electric car charging stations has also grown. **6,700 new charging points** were installed in Italy in 2021, 35% more than in 2020. Today the country ranks second in Europe with a total of more than 26 thousand installed charging points. However, the situation is not as impressive on motorways, where there are only 1.2 charging stations per 100 km[119].

Over the past 3 years, CVA, in collaboration with BeCharge, has contributed to the installation of **82 charging columns throughout the Aosta Valley**, now covering 48 out of 74 municipalities. In 2021, there were 30 new installations of public charging columns; 12 columns were installed for the Group's corporate fleet (9 at the Châtillon site and 3 at the Aosta site), while more are in the process of being installed in anticipation of significant growth in hybrid vehicles for the corporate fleet in the coming years. In addition, employees have the option of recharging their private cars at the 7 columns installed between Châtillon and Aosta. In total, the 82 installed columns enabled 73,484 kWh of clean energy to be harvested.

9.35%

share of 100% electric cars out of the total number of cars sold in Italy in 2021 (+5% compared to 2020).

(Motus-E, 2021).

Electric cars to support the system

Electric cars could provide a critical energy reserve when total decarbonisation is achieved.

The PNIEC's goals for 2030 include 4 million electric cars. The average battery of an electric car has a capacity of 50 kWh, and cumulatively they may have a total capacity of 200 GWh. When parked and connected to the charging network, these may be able to meet part of the electricity demand.

[115] Financial Times (2022): European sales of electric cars overtake diesel models for first time. Available at the link: https://www.ft.com/content/f1bdf1cf-8fc3-4b85-a4eb-7df716ebf0a9.

[116] CAAM (2022).

[117] Motus-E (2022). Available at the link: https://www.motus-e.org/analisi-di-mercato/gennaio-2022-i-primi-segnali-dellassenza-di-incentivi.

[118] Acea (2022): New car registrations by fuel type, European Union. Available at the link: https://www.acea.auto/fuel-pc/fuel-types-of-new-cars-battery-electric-9-1-hybrid-19-6-and-petrol-40-0-market-share-full-year-2021/#:~:text=Fuel%20types%20of%20new%20cars,ACEA%20%2D%20European%20Automobile%20Manufacturers'%20Association.

[119] Motus-E (2021): Public charging infrastructure in Italy. Available at the link: https://www.motus-e.org/wp-content/uploads/2022/01/Le-infrastrutture-di-ricarica-pubbliche-in-Italia-1.pdf.

Technology at the service of infrastructures

CVA universal spare transformers

In 2020, in collaboration with a Group partner, CVA built two **universal resin transformers** (TEUS), instruments capable of operating in most of the Group's hydroelectric plants, the first of their kind in Italy. These cutting edge devices can replace excitation transformers (TE) and auxiliary services transformers (TSA), covering a wide range of voltages.

The new transformers offer multiple benefits: on the one hand, the reduction from 4 months to 2 days of the inability to use a hydropower unit for production in the event of transformer failure; on the other hand, the ability to reduce delays in the procurement of excitation systems; or even the possibility of conducting tests with gradual tensioning even in power plants that are part of the National Electricity Grid's restart plan (*Black Start*).

La Tour photovoltaic plant.

Safeguarding power transformers: a new goal achieved

The ATMoS Basic Control 1 Mobile instrument, which was installed as a world premiere on the TR1 production transformer in Hône 1 in 2019, made it possible to extract 2.8 kilograms of water from the insulating oil in 8 months, allowing the safe operation of the machine pending its replacement in 2021. It is a mobile electromechanical instrument equipped with innovative technology, which enables continuous dehydration by low-temperature adsorption of insulating papers of oil-insulated transformers (critical element). The advantages of this *smart device* include no thermal stress to papers and hydrocarbon gases emitted into the environment, deeper dehydration, maintenance of diagnostic gases, lower consumption, volumes and costs, no logistics and high tonnage transportation, versatility and complete remote operation via the intranet.

Given the tested effectiveness of the instrument and in view of the improvements that have significantly increased its performance, this apparatus was installed on the Chavonne HV/MV transformer during 2021 to ensure greater reliability and durability. The benefits of such on-line dehydration will be felt in 2022 after several months of filtering.

ATMoS is not the only *smart device* at the service of the CVA Group's oil transformers: thanks to the combination with *Dissolved Gas* Analysis analysers, which can also be remotely controlled and operate 24 hours a day, it is possible to intercept many types of transformer failures at source and extend their useful life thanks to the **optimisation of operating conditions**. This approach is made possible through centralised analysis, operated by Electromechanical Engineering, of *big data* from the instruments. To this end, the campaign to install Hydrocal-type analysers on the Quincinetto, Isollaz and Avise production transformers continued in 2021.

The second life of batteries: the BESS-2L project

The ability to store energy and make it available at times of greatest need is critical to the future of renewables, especially for non-programmable renewables such as wind and photovoltaics. The **storage systems**, in fact, help balance supply and demand and make the network more stable.

In this regard, in 2021 the Group took part in a regional call for tenders aimed at studying **storage systems to promote the integration of renewable energy into the electricity system**. The activity is focused on the development and testing of a large-scale system for power generation facilities, with a capacity of 1 MWh, of which 500 kWh is from new batteries and another 500 from *second-life* batteries coming from the automotive sector. The research activity, which CVA will carry out in collaboration with the Aosta Valley-based company Podium Advanced Technologies and the Polytechnic University of Turin, may be in preparation for an even larger-scale project: the creation of a 10 MWh storage system, dedicated to larger-scale plants. Specifically, the project involves replacing lithium-ion batteries with flow batteries, which are more suitable for stationary use. While having lower energy density, these batteries are more sustainable (not using toxic or scarce materials such as lithium and cobalt) and durable. The project, with a duration of 24 months (April 2022-March 2024), involves the implementation of 4 different phases, the first 3 of which focus on industrial research activities and the last on experimental development.

In-house software for more smart and resilient plants

The installation of new automated *in-house* systems for the creation of a **unified electromechanical plant management process**, a process started in 2010 by the Electromechanical Engineering Function, continues into 2021. During the year, 9 new automation systems were developed and installed.

9
new automation systems developed *in-house*.

The following table shows the updated numbers of systems affected by the technology evolution and their functions.

New automated systems	What function they have	Where they are installed
RDF12©	- It regulates the speed of the plant in terms of turbine speed, synchronising the power requirement from the electrical network and the power generated - It avoids blackouts on the power lines that supply the tourist town of Gressoney in the Aosta Valley, where there are many ski lifts, at peak times	On 23 hydropower units of CVA covering more than 50% of the entire installed power
RDT14©	- It adjusts the system voltage - It synchronises the voltage produced by the generator according to the overall voltage of the network	On 16 plants
AUT16©	- Together with the two previous systems, it allows the management of the entire generation unit in an automated way - It reduces disruptions through an intuitive user interface for auditing and monitoring production groups	On 8 plants
AUTOP	- It manages the river weirs by adjusting the maximum level of the reservoir and it generates the opening and closing commands of the individual gates - It continuously monitors the Minimum Vital Flow and allows for real-time adjustment	On 5 plants
AUTDS	- A more compact version of the AUTOP particularly suitable for small intakes (of size or with few gates to be controlled) or in applications on releases for third parties	On 4 plants
RDL18	- It regulates the water level of the system's loading tank, determining the hydraulic head available and maximising efficiency - It continuously monitors the redundant acquisition of the tank level and generates anomaly alerts for this purpose - It enables integration within RDF12© - It allows the totally autonomous operation of the system depending on the water available	On 2 hydropower units
AUTCI	- Manages common plant services such as power sources, auxiliary services - It integrates inside automatic tank level adjustment	On 1 hydroelectric plant
AUTLN	- Manages the controls and signals of the Electric Station attached to the hydroelectric plant	On 1 hydroelectric plant
AUTSI	- Implements the local supervisor of the hydropower plant. Through the same it is possible to give commands to the system and keep it accurately monitored	On 1 hydroelectric plant

Drones' view of the environment and facilities

In 2021, the Civil Engineering Division was equipped with a new **Remotely Piloted Aircraft** (APR) to conduct high-quality photogrammetric surveys. The new drone, extremely small in size and weight but with advanced camera features and flight safety systems, augments those purchased by the Group in 2019.

Thanks to technological development, today's tools can also be used to do surveys in hard-to-reach or dangerous areas, such as areas prone to landslides or flood risk. Given the mountainous conformation of the Aosta Valley, these tools are indispensable in order to be able to produce three-dimensional, high-resolution maps containing information relevant to land planning, management and safety.

CVA technicians, who hold the ENAC certification, carried out numerous missions in 2021 aimed at the visual inspection of inaccessible rock faces and conducting photogrammetric surveys

By basin.

for the design activities, for the verification of the state of consistency of existing works and for the calculation of the volumes removed by the cleaning operations of the reservoirs. The data obtained from the missions, processed with the photogrammetric technique using specific *software*, makes it possible to have detailed surveys of the sites.

The Civil Engineering Division also has a **compact 3D laser scanner**. Such technology enables extremely high precision surveys by associating point clouds with images taken by a camera. The instrument is characterised by very low weight, which makes it extremely easy to transport, install and use. As a result, CVA technicians were able to carry out surveys of diversion tunnels or burrows of dams, verifying geometric anomalies and the state of cracking, and of intake and power plant works with details of the electromechanical works present as well.

An additional activity involved surveying entire portions of the facility by integrating point clouds plotted by drone with those derived from ground-based laser scanner surveys, creating a **single digital model** of the structure including exterior and interior. This solution was adopted for the Hône 2, Sendren and Valpelline facilities.

Water levels in channels: innovative monitoring systems

The shunt channels of the Hône 2 and Chavonne plants are located in risky and critical areas. They were built in the 1920s, and one of the Group's main goals is to constantly modernise and keep its assets up to date.

For this reason, in 2019, a system of 22 piezometric sensors was installed along the diversion channel of the Chavonne plant, distributed along the two branches of the channel that reach Valsavarenche and the Cogne Valley, allowing real-time monitoring of water levels within the plant. In 2020, a similar monitoring system was installed on the diversion channel of the Hône II plant with the insertion of 11 level sensors.

Each individual sensor in the system is equipped with a battery powered by a photovoltaic panel, giving it low power consumption. The transmission of the recorded data is through a *wireless* network that transmits the collected information in real time directly to CVA's servers. Therefore, despite the unique position of the plants and the sensors, the system allows **continuous and real-time monitoring of the levels inside the structure** and is able to emit alarm signals in the event of sudden drops in level, allowing a rapid closure of the intake gates.

Satellite monitoring of CVA works

Satellite monitoring is a highly innovative technique that allows plants to be monitored from geological and structural perspectives. More specifically, the technique used, known by the term SAR interferometry, makes it possible to monitor the movement of the earth's surface and controls the behaviour of slopes, on which the installations of the Group's hydroelectric power plants are built, and the movements that affect the structures themselves. The data and images collected throughout the life cycle of the plant are then comparable with each other, which makes it possible to carry out a **historical assessment of movements** in the areas of interest.

A limitation of this technology, however, is its applicability depending on the terrain morphology. Therefore, it was necessary to evaluate the effectiveness of the method for each site where the Group's plants are located. In 2020, **three pilot sites** were identified (Chavonne plant diversion channel, Beauregard dam and Gabiet dam) on which historical movement analysis has started. The activity continued in 2021 with four-monthly monitoring of the sites and plans are in place to install special artificial *reflectors* (called *corner reflectors*) that will allow a more accurate control of the areas of greatest interest.

This project is part of CVA's broader commitment to collaborate with other entities to promote local development. In fact, territorial data collected through satellite monitoring will be **shared with the Autonomous Region of Aosta Valley, including to identify new practices for land sustainability**. On the other hand, CVA periodically receives a satellite monitoring bulletin (PS Monitoring) from the Region, related to any deformation anomalies of the ground, potential precursors of landslide, processed according to an innovative computer method developed by the Geological Activities structure of the Region.

Installation of a turbine for micro energy generation

Through collaboration with a metal carpentry company, in 2019 a ***proof of concept***[120] ***(POC)*** was created for the installation of a **micro-generation power** turbine that enables on-site and remote electrical movement of canal side gutters. The innovation of this prototype lies in its ability to be installed in free-flowing channels[121] which are often found in inaccessible places or along critical and dangerous paths. The added value is that in the event of an emergency, the system allows for remote action, thus ensuring the safety of workers.

In 2021, upgrades were carried out at the Crest intake, located on the Hône 2 canal. Impeller blades and an electrical component were replaced, and the full electrical test was performed. Before proceeding with the start-up of the plant, further hydraulic testing and the start-up of remote control at the Remote Control Post is planned in 2022.

46.2%

the increase in cyber-attacks in 2021, compared to 2020, in the energy and utilities sector.

Cybersecurity for service continuity

As digitisation grows, so does the risk of cyber threats and attacks on systems. In Europe in 2021 cyber attacks grew by 68%[122]. In Italy, on the other hand, in the first half of 2021, cyber attacks grew by 24%[123] compared to the same period in 2020, reaching about 170 attacks per month.

The sector that has seen the largest increase is the transportation and logistics sector (+108.7% over 2020), but the energy and utilities sector also saw a 46.2% increase in attacks . This scenario can only increase the attention of companies to the security of their systems.

[120] Feasibility test.
[121] I.e., "not in the tunnel".
[122] Check Point (2022): Check Point Software's 2022 Security Report: Global Cyber Pandemic's Magnitude Revealed.
[123] Clusit (2021): Clusit 2021 report on cybersecurity in Italy.

Among the **Group's** main **goals for 2022** in the area of strengthening data protection is the creation of ***Cyber Security Governance*** in order to increase the current level of security, initiate practical policies to implement the principles imposed by the GDPR, and prepare the tools to preserve the continuity of business processes.

[124] Ibidem.

Col de la Seigne.

Protection of the distribution network, an essential service

DEVAL is the company that manages the regional distribution network and oversees the essential service of continuity of power supply, understood as a primary need of society. Increasing the protection of systems therefore means helping to **reduce any possibility of service interruption or malfunction**, or even worse, data theft.

DEVAL's Cybersecurity Team has been engaged in the continuous monitoring and improvement of corporate OT (Operational Technology) systems for the past few years, in line with the National Framework for *Cybersecurity* and *Data Protection*[125], a tool for organising and streamlining cybersecurity processes in complex organisational structures. Through this protocol, adopted in collaboration with companies, agencies and universities and approved by the Italian Data Protection Authority and the Department of Information Security, DEVAL has implemented continuous monitoring and improvement of the protection of *hardware* and *software* systems serving the regional power grid, with a particular focus on remote control and telecommunications.

The support of CVA's IT Services Function, which is responsible for the proper execution of IT services for all Group companies, ensures the search for the optimal balance between efficiency and effectiveness of processes with regard to the Information Technology part.

The entire cybersecurity project also enabled all Group companies to **update the approach to issues related to cyber attacks** and carry out a constructive assessment of their impact.

The focus on continuous improvement

Since 2020, CVA has had a *software* suite implementing **dual-factor authentication technologies** and a password management system using a single set of automatically generated login credentials. Access, initially planned for Group staff, was extended to external suppliers in 2021. Every user who has a VPN account in his or her name is required to provide the company with a telephone number and e-mail address in addition to his or her first and last name.

The user is also asked to download and install the free **FortiToken Mobile** App (available for all mobile operating systems) for creating OTP (One Time Password) codes on a mobile device traceable to him or her.

A reliable, secure and fast cloud infrastructure

Over the past few years, CVA has begun a **digital transformation** journey that is leading to the selection of new *software* platforms to support strategic business lines, an investment that enables the company to stay ahead of the curve and become more dynamic and faster.

In 2021, the project to upgrade the Group's *hardware* infrastructure using ***Hybrid Cloud*** Infrastructure was completed. The new *hardware* provides an even higher degree of reliability in information management and allows the necessary maintenance work to be carried out seamlessly.

[125] For more information, please visit: https://www.cybersecurityframework.it/.

The infrastructure has enabled CVA to be among the first Italian companies to make the transition to **S/4 HANA**, which, in the medium-term (2026), will be the only *database* compatible with SAP products. This database has revolutionised the standards conceived to date by introducing the concept of *in-memory* and giving birth to the new paradigm called *Agile Data Warehouse* (BW/4 HANA).

As a result, the following SAP systems were upgraded upon conclusion of the project:

- ERP system production and sales company (free market) as well as billing and credit management system of sales company (free market),
- ales company CRM system (free market),
- *Business Warehouse* system of the production and sales company in which only ERP data are reported. A further milestone in 2021 was the establishment of a **direct 10 Gbit/s fibre-optic link** between CVA's data centres and IBM's *cloud*, which improved connection speed and enabled the full potential of *cloud-based* technology infrastructure to be exploited. The modernisation process has also **increased available computing power by 20%**.

10 Gbit/s

The speed of the new direct fibre link between CVA's *data centres* and the IBM *cloud*.

Smart automation: the potential of Robotic Process Automation

Robotic process automation (RPA) is a *software* technology by which software robots that emulate human actions can be built, deployed and managed by interacting with digital systems. RPA promotes and increases process efficiency, ensuring quality and flexibility, cost reduction, and increased productivity.

In 2021, further expanding the use of RPA the following processes were implemented:

- **Prices of Guarantees of Origin**: downloading prices, published daily, of Guarantees of Origin from the *Greenfact* site and storing them in a folder for data import into TAM.
- **RAI fee data**: daily download of files with RAI fee data from the Integrated Information System portal and storage in a network folder.
- **Preliminary zonal aggregate imbalance data**: hourly *download* of preliminary zonal aggregate imbalance signs and prices from Terna's Sunset portal and storage in a folder for import into TAM.
- **Daily zonal aggregate imbalance data**: daily download of daily zonal aggregate imbalance signs and prices from Terna's Sunset portal and storage in a folder for import into TAM.
- **System charges**: downloading files with system charges from Enel's Four portal, performed twice a month.

7. METHODOLOGICAL NOTE

Blue Lake near Breuil-Cervinia.

7. METHODOLOGICAL NOTE

The CVA Group's fourth Sustainability Report confirms the company's desire to report and present to all its stakeholders the economic, environmental and social results achieved during 2021. Beginning with this edition, it also takes on the status of a consolidated non-financial statement - hereinafter also referred to as "NFS," "Statement," or "Sustainability Report" - prepared in accordance with Articles 3 and 4 of Legislative Decree. 254/2016 (hereinafter also referred to as the "Decree") and aims to ensure an understanding of the Group's organisational model, activities, key risks and performance indicators with respect to environmental, social, personnel-related, human rights, active and passive anti-corruption aspects that are relevant given the Group's activities and characteristics during FY2021, as illustrated in the materiality matrix contained in this document within the chapter "Materiality Analysis and Stakeholder Engagement."

Information reported within the document refers to fiscal year 2021 (1 January - 31 December) and is compared to 2020 and 2019 data, where possible. By adopting the same reporting boundary as the Consolidated Financial Statements, this document describes the situations and the performances of the CVA Group and of its subsidiaries.[126]

The document has been prepared in accordance with the "*GRI Sustainability Reporting Standards*," published by the Global Reporting Initiative (GRI), in *accordance* - Core. The document also provides extensive information on the management of the Covid-19 emergency and the resulting impacts, in relation to Consob Warning Notice No. 1 of 16/2/2021. In addition, the document contains disclosures related to the new business analysis requirements arising from the European Taxonomy on Sustainable Finance (EU Regulation 2020/852), in the scope of which the CVA Group falls. As required by the Reporting Standard, within this document is the "GRI Content Index," containing details of the indicators reported.

[126] Given that the entire business of the CVA Group is conducted in the domestic sphere, so the amount related to taxes is paid in full in Italy, the reporting of the approach to taxation has not been included in this document, as it is not relevant. However, the tax approach is an integral part of the corporate organisation, both at the level of processes and Group procedures.

The Sustainability Report/NFS 2021 was approved by the Board of Directors, together with the draft Consolidated Financial Statements, on May 17, 2022, evaluating the completeness and consistency with the recorded topics of the materiality matrix.

The collection of information and related data reported in the Sustainability Report took place in collaboration with all the people of the company, each for the activities within their competence, constituting a timely and comprehensive information flow that has ensured the soundness of the reporting model. For further details on the contents of this document, please refer to the Index of GRI Reported Indicators.

The Statement is also subject to a limited review ("limited assurance engagement," according to the criteria outlined in ISAE 3000 Revised) by EY S.p.A., which, at the end of its work, issued a report on the conformity of the information provided with respect to the Decree and the GRI Standards.

Notes to the data and information

Workforce Data

The headcount figures for 2021, in continuity with previous years, include the total figures for the Group and its subsidiaries as of December 31, 2021. This approach is consistent for all the tables below. Compared with the 2019 and 2020 data, the company CVA EOS is also included in 2021.

Compared with the 2019 and 2020 data, the total number of employees for 2021 does not include temporary or contract workers.

As for the data concerning turnover, they include, for the three-year period, only employees, and as for outgoing turnover, all reasons for leaving (e.g., voluntary exits, retirements, lay-offs, etc.) were considered. The incoming turnover rate (or hiring rate) was calculated as the ratio of total hires to total employees in force in the reporting year multiplied by 100. The same formula was applied to calculate the exit turnover rate (or termination rate): total terminations divided by the total number of employees in force in the reporting year multiplied by 100.

Health and Safety Data

With reference to accidents, accident data for 2020 and 2021 are shown for both employees and non-employees (contract workers), although no accidents were recorded for contract workers. The injury severity index is calculated as (number of days lost due to injury/hours worked) x 1,000. The recordable work injury rate is calculated as (number of injuries/hours worked) x 1,000,000. The rate of occupational accidents with serious consequences is calculated as the number of occupational accidents with serious consequences (excluding deaths) / hours worked x 1,000,000.

Environmental Data

The scope of calculation for data on energy consumption, energy intensity and emissions has been expanded from what was indicated in the previous Sustainability Report, referring, for 2020 and 2021, to the entire CVA Group. Regarding the conversion factors used to calculate GHG emissions, the main sources used are:

Year 2020

- *Scope 1* fuels (gasoline, diesel, LPG, automotive hybrid): Defra 2020
- *Scope 1* fuels (natural gas and diesel fuel for stationary combustion): national standard parameter table published by the Italian Ministry of Environment for 2020
- *Scope 2* Location-based: Terna 2018
- *Scope 2* Market-based: AIB 2019

Year 2021

- *Scope 1* fuels (gasoline, diesel, LPG, automotive hybrid): Defra 2021
- *Scope 1* fuels (natural gas and diesel fuel for stationary combustion): national standard parameter table published by the Italian Ministry of Environment for 2021
- *Scope 2* Location-based: Terna 2019
- *Scope 2* Market-based: AIB 2020

Data on water withdrawals (and resulting water discharges) refer only to water withdrawals for the operation of hydroelectric power plants and are calculated as detailed within the NFS text.

Table linking material topics, GRI themes, and Legislative Decree 254/2016 topics

Material issues 2021	Topics of Legislative Decree 254/2016	GRI Topic Specific Disclosure	Where the impact is generated	The engagement of the organisation	Where to talk about it
Attention and well-being of our people	Aspects pertaining to personnel management	**GRI 401-1**: New hires and terminations and employee turnover rate **GRI 405-1**: Workforce diversity **403-9**: Occupational accidents	In all those who work for or with the CVA Group (employees and their families, third party personnel)	Diretto	5. Full of energy
Climate change mitigation and adaptation	Environmental aspects	**302-1**: Internal energy consumption of the organisation **302-3**: Energy intensity **305-1**: Direct GHG Emissions (Scope 1) **305-2**: Indirect GHG emissions from energy consumption (Scope 2) **305-4**: Intensity of GHG emissions	In the territories and communities surrounding the plants	Diretto *Essendo la produzione di CVA totalmente da fonti rinnovabili, non solo vengono evitate emissioni in fase di produzione, ma anche di consumo*	1.We are the energy of the future
Service continuity and risk management	Social aspects	There are no specific GRI standards related to this material issue	On final consumers and in the communities surrounding the CVA Group's plants	Diretto e indiretto *La continuità del servizio viene garantita grazie a un monitoraggio in tempo reale dell'operatività degli impianti e all'implementazione di piani di gestione delle emergenze in collaborazione con gli enti civili attivi sul territorio*	3. Reliable and resilient
Ecological run-off and water management	Environmental aspects	**303-3**: Water withdrawal **303-4**: Discharge of water **307-1**: Non-compliance with environmental laws and regulations	In the local areas surrounding the plants	Diretto *CVA è costantemente impegnata in un uso responsabile della risorsa idrica, dalle opere di presa al rilascio*	2. Our most valuable resource
Trust and reputation	Social aspects	**205-3**: Established incidents of corruption and actions taken **204-1**: Share of purchases made by local suppliers **417-2**: Incidents of non-compliance in information and labelling of products and services **417-3**: Cases of non-compliance regarding marketing communications	In relation to all stakeholders CVA interacts with	Diretto	4. Close to the communities
Territorial roots and shared value	Social aspects	**201-1**: Direct economic value generated and distributed	In relation to all stakeholders CVA interacts with	Diretto	4. Close to the communities
Technological and service innovation	Social aspects	There are no specific GRI standards related to this material issue	Throughout the value chain	Diretto	6. Able to innovate
Landscape protection	Environmental aspects	**304-2**: Significant impacts of activities, products and services on biodiversity	In the local areas surrounding the plants	Diretto *CVA è impegnata nel rilascio del DE per il mantenimento dei naturali processi biologici e fisici dell'ecosistema fluviale*	2. Our most valuable resource
Asset integrity and resilience	Environmental aspects	There are no specific GRI standards related to this material issue	In the local areas and communities surrounding the plants, as well as for all those who work for the company (employees and third-party personnel)	Diretto e indiretto *I piani di manutenzione e rinnovo, così come il rispetto di elevati standard di sicurezza (garantiti dal Sistema di Gestione Integrato QSA certificato) sono volti alla minimizzazione dei rischi*	3. Reliable and resilient

Appendix

Workforce Data

Employees and other workers [GRI 102-08][127]

a) The total number of employees by type of contract (permanent or fixed-term) by gender

	2019			2020			2021		
	Men	**Women**	**Total**	**Men**	**Women**	**Total**	**Men**	**Women**	**Total**
Permanent	440	145	**585**	442	151	**593**	452	145	**597**
Fixed-term	12	8	**20**	6	8	**14**	3	0	**3**
Total	**452**	**153**	**605**	**448**	**159**	**607**	**466**	**157**	**600**

b) Total number of employees by type of contract (permanent or fixed-term) per company

	2019				2020				2021				
	CVA	**CVA Energie**	**Deval**	**Total**	**CVA**	**CVA Energie**	**Deval**	**Total**	**CVA**	**CVA Energie**	**Deval**	**CVA Eos**	**Total**
Permanent	387	63	135	**585**	393	64	136	**593**	397	61	136	3	**597**
Fixed-term	15	5	0	**20**	11	3	0	**14**	1	0	2	0	**3**
Total	**402**	**68**	**135**	**605**	**404**	**67**	**136**	**607**	**398**	**61**	**138**	**3**	**600**

c) Total number of employees by type of employment(full-time or part-time) by gender

	2019			2020			2021		
	Men	**Women**	**Total**	**Men**	**Women**	**Total**	**Men**	**Women**	**Total**
Full-time	448	143	**591**	444	150	**594**	453	135	**588**
Part-time	4	10	**14**	4	9	**13**	2	10	**12**
Total	**452**	**153**	**605**	**448**	**159**	**607**	**455**	**145**	**600**

d) Incidence of non-employees

	2019	2020	2021
Non-employees / Employees (%)	5.4%	4.0%	3.8%

[127] Temporary/contract workers totalled 31 in 2019 and 21 in 2020. Unlike the 2019 and 2020 data, the 2021 data do not include temporary or contract workers. For these contract types, men are divided into 1 permanent and 10 fixed-term, and women into 8 permanent and 4 fixed term, for a total of 23 staff. It should also be noted that Valdigne Energie s.r.l. has no directly employed workers.

New hires and terminations and employee turnover rate [GRI 401-1][128]

Hires and terminations by gender and age group[129]	**Unit of measurement**	**2020**					
		Men	**Women**	**< 30 years old**	**≥ 30 & ≤ 50**	**> 50 years old**	**Total**
Hires	no.	11	7	4	14	0	**18**
Terminations	no.	7	2	1	1	7	**9**
Hiring rate	%	1.89%	1.20%	0.69%	2.40%	0	**3.09%**
Termination rate	%	1.20	0.34%	0.17%	0.17%	1.20%	**1.54%**

Hires and terminations by gender and age group	**Unit of measurement**	**2021**								
		Uomini				**Donne**				**Total**
		< 30 years old	**≥ 30 & ≤ 50**	**> 50 years old**	**Total**	**< 30 years old**	**≥ 30 & ≤ 50**	**> 50 years old**	**Total**	
Hires	no.	12	8	4	**24**	2	3	2	**7**	**31**
Terminations	no.	0	1	9	**10**	0	2	2	**4**	**14**
Hiring rate	%	2.00%	1.33%	0.67%	**4.00%**	0.33%	0.50%	0.33%	**1.17%**	**5.17%**
Termination rate	%	0.00%	0.17%	1.50%	**1.67%**	0.00%	0.33%	0.33%	**0.67%**	**2.33%**

Hires and terminations by company	2019				2020				2021				
	CVA	**CVA Energie**	**Deval**	**Total**	**CVA**	**CVA Energie**	**Deval**	**Total**	**CVA**	**CVA Energie**	**Deval**	**CVA Eos**	**Total**
Hires	30	3	14	**47**	17	0	1	**18**	24	3	4	0	**31**
Terminations	5	1	3	**9**	9	0	0	**9**	8	3	3	0	**14**

[128] The data include employees, but not contract workers.

[129] With respect to contract workers, there are 15 hires and 43 terminations in 2019, and 7 hires and 14 terminations in 2020.

Diversity of governing bodies and workforce [GRI 405-1]

Members of the Board of Directors of CVA S.p.A.	Unit of measurement	Gender		Age groups			Total
		Men	Women	< 30 years old	≥ 30 & ≤ 50	> 50 years old	
	no.	3	2	0	3	2	**5**
	%	60%	40%	0%	60%	40%	**100%**

Members of the Board of Statutory Auditors of CVA S.p.A.	Unit of measurement	Gender		Age groups			Total
		Uomini	Donne	< 30 years old	≥ 30 & ≤ 50	> 50 years old	
	no.	3	2	0	3	2	**5**
	%	60%	40%	0%	60%	40%	**100%**

Members of the Supervisory Board of CVA S.p.A:	Unit of measurement	Gender		Age groups			Total
		Uomini	Donne	< 30 years old	≥ 30 & ≤ 50	> 50 years old	
	no.	3	0	0	1	2	**3**
	%	100%	0%	0%	33%	67%	**100%**

Number of employees by job classification and gender[130]	Unit of measurement	2019			2020			2021		
		Men	Women	Total	Men	Women	Total	Men	Women	Total
Executives	no.	2	0	**2**	2	0	**2**	3	0	**3**
	%	100%	0%	**100%**	100%	0%	**100%**	100%	0%	**100%**
Managers	no.	46	12	**58**	50	12	**62**	52	11	**63**
	%	79%	21%	**100%**	81%	19%	**100%**	83%	17%	**100%**
White collars	no.	225	141	**366**	221	147	**368**	218	134	**352**
	%	61%	39%	**100%**	60%	40%	**100%**	62%	38%	**100%**
Blue collars	no.	176	0	**176**	172	0	**172**	182	0	**182**
	%	100%	0%	**100%**	100%	0%	**100%**	100%	0%	**100%**
Total employees	**no.**	**449**	**153**	**602**	**445**	**159**	**604**	**455**	**145**	**600**
	%	**75%**	**25%**	**100%**	**74%**	**26%**	**100%**	**76%**	**24%**	**100%**

[130] Unlike previous data, the data recorded for 2021 do not include contract workers.

Number of employees by job classification and age group[131]	Unit of measurement	2019				2020				2021			
		< 30 years old	≥ 30 & ≤ 50	> 50 years old	Total	< 30 years old	≥ 30 & ≤ 50	> 50 years old	Total	< 30 years old	≥ 30 & ≤ 50	> 50 years old	Total
Executives	no.	0	0	2	**2**	0	0	2	**2**	0	0	3	**3**
	%	0%	0%	100%	**100%**	0%	0%	100%	**100%**	0%	0%	100%	**100%**
Managers	no.	0	39	19	**58**	0	41	21	**62**	0	38	25	**63**
	%	0%	67%	33%	**100%**	0%	66%	34%	**100%**	0%	60%	40%	**100%**
White collars	no.	27	261	78	**366**	22	259	87	**368**	13	243	96	**352**
	%	7%	71%	21%	**100%**	6%	70%	24%	**100%**	4%	69%	27%	**100%**
Blue collars	no.	14	135	27	**176**	9	136	27	**172**	16	137	29	**182**
	%	8%	77%	15%	**100%**	5%	79%	16%	**100%**	9%	75%	16%	**100%**
Total employees	**no.**	**41**	**435**	**126**	**602**	**31**	**436**	**137**	**604**	**29**	**418**	**153**	**600**
	%	**7%**	**72%**	**21%**	**100%**	**5%**	**72%**	**23%**	**100%**	**5%**	**70%**	**26%**	**100%**

[131] Unlike previous data, the data recorded for 2021 do not include contract workers.

Health and Safety Data

Occupational Injuries [GRI 403-9]

Employees	2020					2021				
	CVA	CVA Energie	Deval	CVA Eos	Total	CVA	CVA Energie	Deval	CVA Eos	Total
Number of recordable injuries[132]	2	1	1	n.a.	**4**	1	0	3	0	**4**
Number of injuries with serious consequences[133]	0	0	0	n.a.	**0**	0	0	0	0	**0**
Total hours worked	627,342	98,581.76	226,035.46	n.a.	**951,959.22**	630,561.03	97,129.64	219,273.5	876.59	**947,840.76**
Severity index	**0.05**	**1.35**	**4.2**	**n.a.**	**1.17**	**0.03**	**0**	**0.62**	**0**	**0.16**
Recordable injury rate	**3.19**	**10.14**	**0.06**	**n.a.**	**4.20**	**1.59**	**0**	**13.68**	**0**	**4.22**

Non-employee workers (contract workers)	2020					2021				
	CVA	CVA Energie	Deval	CVA Eos	Total	CVA	CVA Energie	Deval	CVA Eos	Total
Number of recordable injuries[134]	0	0	0	n.a.	**0**	0	0	0	0	**0**
Number of injuries with serious consequences[135]	0	0	0	n.a.	**0**	0	0	0	0	**0**
Total hours worked	21,608.40	10,655.53	0	n.a.	**32,263.93**	26,901.77	6,452.65	671	779.93	**34,805.35**
Severity index	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**
Recordable injury rate	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**

[132] Injuries are recorded where they result in the loss of more than 1 working day.

[133] Injuries with serious consequences include injuries from which the worker cannot recover, does not recover, or cannot realistically be expected to recover fully by returning to the pre-accident state of health within six months.

[134] See table note above.

[135] See table note above.

Environmental Data

Internal energyconsumption within the organisation [GRI 302-1] [136]

Direct energy consumption (MWh)	2020		2021	
Unit of measurement	MWh	GJ	MWh	GJ
From non-renewable sources	**2,777**	**9,997**	**2,607**	**9,386**
Methane gas	479	1,726	512	1,841
Diesel	2203	7929	1,992	7,172
Gasoline	58	209	69	247
Hybrid fuel	31	110	28	102
LPG	6	23	6	23
From renewable sources (self-produced and consumed)	**38,232**	**137,637**	**31,175**	**112,229**
Hydroelectric	33,757	121,527	26,304	94,694
Photovoltaic	306	1,103	290	1,044
Wind	4,169	15,007	4,581	16,491

Indirect energy consumption (MWh)	2020		2021	
Unit of measurement	MWh	GJ	MWh	GJ
Purchased electricity	**11,758**	**42,328**	**12,391**	**44,608**
From non-renewable sources	1,813	6,527	1,969	7,088
Certified from renewable sources	9,656	34,761	10,142	36,510
District Heating	289	1,041	281	1,010

Total energy consumption (MWh)	2020		2021	
Unit of measurement	MWh	GJ	MWh	GJ
From non-renewable source[137]	**4,879**	**17,565**	**4,857**	**17,484**
From renewable sources	**47,888**	**172,397**	**41,316**	**148,739**

[136] The calculation scope of the 302-3 index was expanded for FY 2021 reporting to include all Group companies.

[137] Energy withdrawn by Deval from the national grid and district heating were included in the calculation of energy from non-renewable sources.

Energy Intensity [GRI 302-3]

FY	Gross energy production		Internal energy consumption of the organisation		Energy intensity
Unit of measurement	MWh	GJ	MWh	GJ	= consumption/ production
2020	3,382,615	12,177,414	52,767	189,962	0.016
2021	2,848,353	10,254,071	46,173	166,223	0.016

Direct GHG emissions [GRI 305-1] and indirect GHG emissions from energy consumption [GRI 305-2]

GHG emissions (ton_{CO2})	2020	2021
Direct Emissions (*Scope 1*)	**429**	**643**
From stationary combustion	321	337
From combustion of fuels in owned vehicles	108	306
From fugitive emissions	-	-
Indirect Emissions (*Scope 2*) Market-Based	**881**	**951**
Electricity	831	903
District Heating	49	48
Indirect Emissions (*Scope 2*) Location-Based	**3,662**	**3,863**
Electricity	3,613	3,815
District Heating	49	48

GHG Emission Intensity [GRI 305-4]

Emission intensity	Unit of measurement	2020	2021
Market-Based			
Direct Emissions (*Scope 1*)	tonnes of CO_2	429	643
Indirect Emissions (*Scope 2*)	tonnes of CO_2	881	951
Total emissions	tonnes of CO_2	1,310	1,594
Gross energy production	MWh	3,382,615	2,848,353
Emission intensity	tonnes of CO2 / MWh	0.0004	0.0006
Location-Based			
Direct Emissions (*Scope 1*)	tonnes of CO_2	429	643
Indirect Emissions (*Scope 2*)	tonnes of CO_2	3,662	3,863
Total emissions	tonnes of CO_2	4,091	4,506
Gross energy production	MWh	3,382,615	2,848,353
Emission intensity	tonnes of CO_2 / MWh	0.0012	0.0016

Water withdrawals and discharges [GRI 303-3; GRI 303-4] [138]

FY	Water volumes [m^3]	Of which from water stressed areas [m^3]	Of which fresh water [m^3]
2019	10,749,767,314	0	10,749,767,314
2020	12,102,396,248	0	12,102,396,248
2021	9,351,710,257	0	9,351,710,257

[138] The data refer only to water withdrawals for the operation of hydroelectric power plants. The volumes shown in the table refer to water withdrawals and discharges as water consumption is zero.

GRI content index

The standards used refer to the version of GRI Standards published in 2016 with the exception of GRI 303: Water and waste-water and GRI 403: Occupational health and safety updated in 2018.

General Disclosure

GRI Standard	Disclosure	Description of the indicator	Paragraph references and notes	Omissions
ORGANISATIONAL PROFILE				
GRI 102: General Disclosure 2016	**102-1**	Organisation name	Gruppo CVA	
	102-2	Activities, brands, products and services	About us; The value chain	
	102-3	Headquarters location	The registered offices of the CVA Group companies are: – CVA S.p.A. a.s.u.: Via Stazione 31, 11024 Châtillon (AO) – CVA EOS S.r.l. a.s.u.: Via Stazione 31, 11024 Châtillon (AO) – Valdigne Energie S.r.l.: Piazza Vittorio Emanuele II, 14, Pre S. Didier, 11010 (AO) – CVA Energie S.r.l.: Via Stazione 31, 11024 Châtillon (AO) – DEVAL S.p.A. a.s.u.: Via Clavalité, 8, 11100, Aosta	
	102-4	Business locations	The CVA Group operates exclusively in Italy. The operating offices, as far as energy production is concerned, are: – CVA S.p.A. a.s.u.: Via Stazione 31, 11024 Chatillon (AO) – CVA EOS S.r.l. a.s.u.: Via Stazione 31, 11024 Châtillon (AO) – Valdigne Energie S.r.l.: Piazza Vittorio Emanuele II, 14, Pre S. Didier, 11010 (AO) The operating offices, as regards the sale of energy and therefore of CVA Trading S.r.l. a s.u., are: – Via Stazione 31, 11024 Chatillon (AO); – Via Clavalitè, 8, 11100, Aosta (AO) – Via Resistenza, 6, 11026, Pont Saint Martin (AO) – Via Valdigne,57, 11017 Morgex (AO) The operating office for the distribution business is: DEVAL S.p.A. a.s.u., Via Clavalitè, 8, 11100, Aosta (AO)	
	102-5	Ownership structure and legal form	About us	
	102-6	Markets served	About us; The value chain	
	102-7	Organisation size	About us 1. We are the energy of the future; Green energy 4. Close to the community; Creating shared value 5. Full of energy; The composition of the Group	
	102-8	Information on employees and other workers	5. Full of energy 7. Methodological note; Appendix	
	102-9	Supply chain	4.Close to the community; The supply chain	
	102-10	Significant changes in the organisation and its supply chain	No significant changes are reported	
	102-11	Precautionary principle or approach	About us; Enterprise risk management In evaluating and managing economic, environmental and social risks, CVA adopts an approach based on the precautionary principle	
	102-12	External initiatives	2. Our most valuable resource; Why it is important 4. Close to the community	
	102-13	Participation in associations	In 2021, the total amount attributable to membership fees is € 459,055 4. Close to the communities 2. Our most valuable resource	
STRATEGY				
GRI 102: General Disclosure 2016	**102-14**	Statement from the highest decision-making authority	We energise the future	
	102-15	Key impacts, risks and opportunities	We energise the future About us; Enterprise risk management 1. We are the energy of the future; Green energy	
ETHICS AND INTEGRITY				
GRI 102: General Disclosure 2016	**102-16**	Values, principles, standards and rules of conduct	About us; Responsible governance	
	102-17	Reporting mechanisms and interest in social responsibility/ code of ethics issues	About us; Responsible governance	
GOVERNANCE				
GRI 102: General Disclosure 2016	**102-18**	Government structure	The Parent Company has the following governance structure: – Board of Directors – Board of Auditors Supervisory Body	
STAKEHOLDER ENGAGEMENT				
GRI 102: General Disclosure 2016	**102-40**	Group Stakeholders	Materiality analysis and *stakeholder engagement*	
	102-41	Collective bargaining agreements	All employees of the Group fall under the National Collective Labour Agreement for the Electricity sector, to which workers on staff lease contracts are also aligned	
	102-42	Stakeholder identification and selection process	Materiality analysis and *stakeholder engagement*	

	102-43	Approach to stakeholder engagement	About us Materiality analysis and *stakeholder engagement*
	102-44	Issues that emerged from stakeholder engagement	Materiality analysis and *stakeholder engagement*
REPORTING PRINCIPLES			
GRI 102: General Disclosure 2016	**102-45**	Bodies included in the consolidated financial statements	7. Methodological note
	102-46	Report content definition and topic perimeters	7. Methodological note Table linking material themes, GRI themes and Legislative Decree 254/2016 topics
	102-47	List of material issues	Materiality analysis and *stakeholder engagement* Enterprise risk management
	102-48	Redefining information from the previous report	7. Methodological note Where indicated, additional information referring to years prior to 2021 has been provided by expanding the scope of representation
	102-49	Changes in reporting	Materiality analysis and *stakeholder engagement*
	102-50	Reporting period	7. Methodological note
	102-51	Date of the most recent report	2021
	102-52	Reporting frequency	Annual
	102-53	Contacts related to report requests	For any clarification or further information, you can contact the CVA Group at the following e-mail address sostenibilita@cvaspa.it
	102-54	GRI standard compliance statement	7. Methodological note
	102-55	GRI *Content Index*	8. GRI content index
	102-56	External certification	Independent Auditors' Report

Specific Disclosure

GRI Standard	Disclosure	Description of the indicator	References and notes	Omissions
CLIMATE CHANGE MITIGATION AND ADAPTATION				
GRI 103: Management Approach 2016	**103-1**	Explanation of the material issue and its boundaries	1. We are the energy of the future; Why it is important	
	103-2	The managerial approach and its features	1. We are the energy of the future; Green energy	
	103-3	Evaluation of the management approach	1. We are the energy of the future; Green energy	
GRI 302: Energy 2016	**302-1**	Internal energy consumption of the organisation	1. We are the energy of the future; Green energy 7. Methodological note; Appendix	
	302-3	Energy intensity	1. We are the energy of the future 7. Methodological note; Appendix	
GRI 103: Management Approach 2016	**103-1**	Explanation of the material issue and its boundaries	1. We are the energy of the future; Why it is important	
	103-2	The managerial approach and its features	1. We are the energy of the future; The path to decarbonisation	
	103-3	Evaluation of the management approach	1. We are the energy of the future; The path to decarbonisation	
GRI 305: Emissions 2016	**305-1**	Direct GHG Emissions (*Scope 1*)	7. Methodological note; Appendix	
	305-2	Indirect GHG emissions from energy consumption (*Scope 2*)	7. Methodological note; Appendix	
	305-4	Intensity of GHG emissions	7. Methodological note; Appendix	
ECOLOGICAL RUN-OFF AND WATER MANAGEMENT				
GRI 103: Management Approach 2016	**103-1**	Explanation of the material issue and its boundaries	2. Our most valuable resource; Why it is important	
	103-2	The managerial approach and its features	2. Our most precious resource; Ecological Run-off	
	103-3	Evaluation of the management approach	2. Our most precious resource; Ecological Run-off	
GRI 303: Water and water discharges 2018	**303-1**	Interaction with water as a shared resource	The CVA Group holds the following sub-concessions in the Autonomous Region of Aosta Valley for the derivation, and consequent release, of water: – Dora di Valgrisenche and tributaries; – Chalamy stream and tributaries; – Lys stream and tributaries; – Evançon stream and tributaries; – Marmore stream and tributaries; – St. Barthélemy stream and tributaries; – Dora di Rhêmes; – Savara stream; – Grand Eyvia stream and tributaries; – Ayasse streams and tributaries; – Buthier stream and tributaries; – Dora di La Thuile and tributaries; St. Barthélemy stream	
	303-2	Management of impacts related to water discharge	2. Our most valuable resource	
	303-3	Water withdrawal	2. Our most valuable resource 7. Methodological note; Appendix	
	303-4	Water discharge	2. Our most valuable resource 7. Methodological note; Appendix	
GRI 103: Management Approach 2016	**103-1**	Explanation of the material issue and its boundaries	2. Our most valuable resource; Why it is important	
	103-2	The managerial approach and its features	2. Our most precious resource; Landscape protection	
	103-3	Evaluation of the management approach	2. Our most precious resource; Landscape protection	
GRI 307: Environmental Compliance 2016	**307-1**	Non-compliance with environmental laws and regulations	No episodes of non-compliance with environmental laws and regulations were recorded during the reporting period.	

LANDSCAPE PROTECTION			
GRI 103: Management Approach 2016	**103-1**	Explanation of the material issue and its boundaries	2. Our most precious resource; Landscape protection
	103-2	The managerial approach and its features	2. Our most precious resource; Landscape protection
	103-3	Evaluation of the management approach	2. Our most precious resource; Landscape protection
GRI 304: Biodiversity 2016	**304-2**	Significant impacts of activities, products and services on biodiversity	2. Our most precious resource; Ecological Run-off 2. Our most precious resource; Landscape protection

TRUST AND REPUTATION			
GRI 103: Management Approach 2016	**103-1**	Explanation of the material issue and its boundaries	About us; Responsible governance
	103-2	The managerial approach and its features	About us; Responsible governance
	103-3	Evaluation of the management approach	About us; Responsible governance
GRI 204: Procurement practices 2016	**204-1**	Share of purchases made by local suppliers	4. Close to the community; The supply chain
GRI 103: Management Approach 2016	**103-1**	Explanation of the material issue and its boundaries	About us; Responsible governance
	103-2	The managerial approach and its features	About us; Responsible governance
	103-3	Evaluation of the management approach	About us; Responsible governance
GRI 205: Anti-corruption 2016	**205-3**	Established incidents of corruption and actions taken	In 2019, 2020, and 2021, no incidents of corruption were established, and as a result, no lawsuits were initiated against the company or its employees.
GRI 103: Management Approach 2016	**103-1**	Explanation of the material issue and its boundaries	About us; Responsible governance
	103-2	The managerial approach and its features	About us; Responsible governance
	103-3	Evaluation of the management approach	About us; Responsible governance
GRI 417: Marketing and labelling 2016	**417-2**	Incidents of non-compliance in information and labelling of products and services	No instances of non-compliance were recorded during the reporting period
	417-3	Cases of non-compliance regarding marketing communications	No instances of non-compliance were recorded during the reporting period

TERRITORIAL ROOTS AND SHARED VALUE			
GRI 103: Management Approach 2016	**103-1**	Explanation of the material issue and its boundaries	4. Close to the community; Why it is important
	103-2	The managerial approach and its features	4.Close to the community; Creating shared value 4. Close to the community; Attention to our customers
	103-3	Evaluation of the management approach	4. Close to the community; Creating shared value 4. Close to the community; Attention to our customers
GRI 201: Economic performances 2016	**201-1**	Direct economic value generated and distributed	4. Close to the community; Creating shared value 4. Close to the community; Building the future together, in communication with the territory

ATTENTION AND WELL-BEING OF OUR PEOPLE			
GRI 103: Management Approach 2016	**103-1**	Explanation of the material issue and its boundaries	5. Full of energy; Why it is important
	103-2	The managerial approach and its features	5. Full of energy; Why it is important
	103-3	Evaluation of the management approach	5. Full of energy; The composition of the Group
GRI 401: Employment 2016	**401-1**	New hires and terminations and employee turnover rate	5. Full of energy 7. Methodological note; Appendix
GRI 103: Management Approach 2016	**103-1**	Explanation of the material issue and its boundaries	5. Full of energy; Why it is important
	103-2	The managerial approach and its features	5. Full of energy
	103-3	Evaluation of the management approach	5. Full of energy; Safety first
GRI 403: Occupational health and safety 2018	**403-1**	Occupational health and safety management system	5. Full of energy; Safety first
	403-2	Hazard identification, risk assessment, and investigation of accidents	5. Full of energy
	403-3	Occupational health services	5. Full of energy; Safety first
	403-4	Worker participation and consultation and communication regarding occupational health and safety	5. Full of energy; Why it is important
	403-5	Occupational health and safety training for workers	5. Full of energy; Safety first
	403-6	Workers' health promotion	5. Full of energy; Safety first
	403-7	Prevention and mitigation of occupational health and safety impacts within business relationships	5. Full of energy; Safety first
	403-8	Workers covered by an occupational health and safety management system	5. Full of energy; The welfare system
	403-9	Occupational accidents	5. Full of energy; Safety first 7. Methodological note; Appendix
GRI 103: Management Approach 2016	**103-1**	Explanation of the material issue and its boundaries	5. Full of energy; Why it is important
	103-2	The managerial approach and its features	5. Full of energy; Why it is important
	103-3	Evaluation of the management approach	5. Full of energy; The composition of the Group
GRI 405: Diversity and equal opportunities 2016	**405-1**	Workforce diversity	5. Full of energy 7. Methodological note; Appendix

All data in this section for the year 2021 do not include contract workers, unlike the 2019 and 2020 data, unless indicated otherwise.

Material Topics Not Covered by *GRI Aspects*

GRI Standard	Disclosure	Description of the indicator	References and notes	Omissions
ASSET INTEGRITY AND RESILIENCE				
GRI 103: Management Approach 2016	**103-1**	Explanation of the material issue and its boundaries	3. Reliable and resilient; Why it is important	
	103-2	The managerial approach and its features	3. Reliable and resilient; A commitment to safety	
	103-3	Evaluation of the management approach	3. Reliable and resilient; A commitment to safety	
	CVA Indicators	Investments in plant maintenance and upgrades	3. Reliable and resilient; A commitment to safety	
	CVA Indicators	Producibility, load factor, availability index, scheduled and unscheduled unavailability index	3. Reliable and resilient; A secure network for a steady supply of energy	
SERVICE CONTINUITY AND RISK MANAGEMENT				
GRI 103: Management Approach 2016	**103-1**	Explanation of the material issue and its boundaries	3. Reliable and resilient; A secure network for a steady supply of energy	
	103-2	The managerial approach and its features	3. Reliable and resilient; A secure network for a steady supply of energy	
	103-3	Evaluation of the management approach	3. Reliable and resilient; A secure network for a steady supply of energy	
TECHNOLOGICAL AND SERVICE INNOVATION				
GRI 103: Management Approach 2016	**103-1**	Explanation of the material issue and its boundaries	6. Able to innovate; Why it is important	
	103-2	The managerial approach and its features	6. Able to innovate; Towards a new paradigm	
	103-3	Evaluation of the management approach	6. Able to innovate; Towards a new paradigm	
	CVA Indicators	Number of *software* programs developed *in-house*	6. Able to innovate; Technology serving infrastructure	

Independent Auditors' Report

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Building a better working world

Independent auditors' report on the consolidated disclosure of non-financial information in accordance with Article 3, par. 10, of Legislative Decree 254/2016 and with Article 5 of Consob Regulation adopted with Resolution n. 20267 of January 18, 2018 (Translation from the original Italian text)

To the Board of Directors of
Compagnia Valdostana delle Acque S.p.A. - Compagnie Valdôtaine des Eaux S.p.A.

We have been appointed to perform a limited assurance engagement pursuant to Article 3, paragraph 10, of Legislative Decree 30 December 2016, n. 254 (hereinafter "Decree") and article 5 of Consob Regulation adopted with Resolution 20267/2018, on the consolidated disclosure of non-financial information of Compagnia Valdostana delle Acque S.p.A. - Compagnie Valdôtaine des Eaux S.p.A. and its subsidiaries (hereinafter "Group") for the year ended on 31st December 2021 in accordance with article 4 of the Decree and approved by the Board of Directors on 17th May 2022 (hereinafter "DNF").

Our limited assurance engagement does not cover the information included in the paragraph "*The European Taxonomy and CVA Group's Disclosure*" of the DNF, that is required by art. 8 of the European Regulation 2020/852.

Responsibilities of Directors and Board of Statutory Auditors for the DNF

The Directors are responsible for the preparation of the DNF in accordance with the requirements of articles 3 and 4 of the Decree and the "Global Reporting Initiative Sustainability Reporting Standards" defined by GRI – Global Reporting Initiative (hereinafter "GRI Standards"), identified by them as a reporting standard.

The Directors are also responsible, within the terms provided by law, for that part of internal control that they consider necessary in order to allow the preparation of the DNF that is free from material misstatements caused by fraud or not intentional behaviors or events.

The Directors are also responsible for identifying the contents of the DNF within the matters mentioned in article 3, par. 1, of the Decree, considering the business and the characteristics of the Group and to the extent deemed necessary to ensure the understanding of the Group's business, its performance, its results and its impact.

The Directors are also responsible for defining the Group's management and organization business model, as well as with reference to the matters identified and reported in the DNF, for the policies applied by the Group and for identifying and managing the risks generated or incurred by the Group.

The Board of Statutory Auditors is responsible, within the terms provided by the law, for overseeing the compliance with the requirements of the Decree.

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Auditors' independence and quality control

We are independent in accordance with the ethics and independence principles of the *International Code of Ethics for Professional Accountants (including International Independence Standards) (IESBA Code)* issued by *International Ethics Standards Board for Accountants*, based on fundamental principles of integrity, objectivity, professional competence and diligence, confidentiality and professional behavior. Our audit firm applies the International Standard on Quality Control 1 (ISQC Italia 1) and, as a result, maintains a quality control system that includes documented policies and procedures regarding compliance with ethical requirements, professional standards and applicable laws and regulations.

Auditors' responsibility

It is our responsibility to express, on the basis of the procedures performed, a conclusion about the compliance of the DNF with the requirements of the Decree and of the GRI Standards. Our work has been performed in accordance with the principle of "International Standard on Assurance Engagements ISAE 3000 (Revised) - Assurance Engagements Other than Audits or Reviews of Historical Financial Information" (hereinafter "ISAE 3000 Revised"), issued by the International Auditing and Assurance Standards Board (IAASB) for limited assurance engagements. This principle requires the planning and execution of work in order to obtain a limited assurance that the DNF is free from material misstatements. Therefore, the extent of work performed in our examination was lower than that required for a full examination according to the ISAE 3000 Revised ("reasonable assurance engagement") and, hence, it does not provide assurance that we have become aware of all significant matters and events that would be identified during a reasonable assurance engagement.

The procedures performed on the DNF were based on our professional judgment and included inquiries, primarily with company's personnel responsible for the preparation of the information included in the DNF, documents analysis, recalculations and other procedures in order to obtain evidences considered appropriate.

In particular, we have performed the following procedures:

1. analysis of the relevant matters in relation to the activities and characteristics of the Group reported in the DNF, in order to assess the reasonableness of the selection process applied in accordance with the provisions of article 3 of the Decree and considering the reporting standard applied;
2. analysis and evaluation of the criteria for identifying the consolidation area, in order to evaluate its compliance with the provisions of the Decree;
3. comparison of the economic and financial data and information included in the DNF with those included in the Compagnia Valdostana delle Acque S.p.A. - Compagnie Valdôtaine des Eaux S.p.A. Group's consolidated financial statements;
4. understanding of the following aspects:
   - Group's management and organization business model, with reference to the management of the matters indicated in the article 3 of the Decree;
   - policies adopted by the Group related to the matters indicated in the article 3 of the Decree, results achieved and related key performance indicators;
   - main risks, generated or suffered related to the matters indicated in the article 3 of the Decree.

   With regard to these aspects, we obtained the documentation supporting the information contained in the DNF and performed the procedures described in item 5. a) below

5. understanding of the processes that lead to the generation, detection and management of significant qualitative and quantitative information included in the DNF.
   In particular, we have conducted interviews and discussions with the management of Compagnia Valdostana delle Acque S.p.A. - Compagnie Valdôtaine des Eaux S.p.A. and we have performed limited documentary evidence procedures, in order to collect information about the processes and procedures that support the collection, aggregation, processing and transmission of non-financial data and information to the management responsible for the preparation of the DNF.
   Furthermore, for significant information, considering the Group activities and characteristics:
   - at Group level
     a) with reference to the qualitative information included in the DNF, and in particular to the business model, policies implemented and main risks, we carried out inquiries and acquired supporting documentation to verify its consistency with the available evidence;
     b) with reference to quantitative information, we have performed both analytical procedures and limited assurance procedures to ascertain on a sample basis the correct aggregation of data.
   - For Champagne site of Compagnia Valdostana delle Acque S.p.A. - Compagnie Valdôtaine des Eaux S.p.A., that we have selected based on its activities, relevance to the consolidated performance indicators and location, we have carried out site visits during which we have had discussions with management and have obtained evidence about the appropriate application of the procedures and the calculation methods used to determine the indicators.

Conclusion

Based on the procedures performed, nothing has come to our attention that causes us to believe that the DNF of the Compagnia Valdostana delle Acque S.p.A. - Compagnie Valdôtaine des Eaux S.p.A. Group for the year ended on 31st December 2021 has not been prepared, in all material aspects, in accordance with the requirements of articles 3 and 4 of the Decree and the GRI Standards.

Our conclusions on the DNF of the Compagnia Valdostana delle Acque S.p.A. - Compagnie Valdôtaine des Eaux S.p.A. Group do not refer to the information included in the paragraph "*The European Taxonomy and CVA Group's Disclosure*" of the DNF itself, that is required by art.8 of the European Regulation 2020/852.

Other aspects

The comparative data included in the DNF for the years ended on 31st December 2020 and 31st December 2019 have not been examined.

Turin, 1st June, 2022

EY S.p.A.
Signed by: Luigi Conti, Auditor

This report has been translated into the English language solely for the convenience of international readers.

We would like to thank all our colleagues of CVA Group who worked on the preparation of this Report.

Methodological contribution: The European House – Ambrosetti.

C.V.A. S.p.A. a s.u.

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