

ISSUE #06
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From Dubai to Baku: A Year of Climate Diplomacy



COP29
Baku
Azerbaijan

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FROM DUBAI TO BAKU: A YEAR OF CLIMATE DIPLOMACY



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HELLENIC
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ENERGY ECONOMICS

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Abbreviations	
COP	CONFERENCE OF PARTIES
NDCS	NATIONALLY DETERMINED CONTRIBUTIONS
NCQG	NEW COLLECTIVE QUANTIFIED GOAL
UAE	UNITED ARAB EMIRATES
UNFCCC	UNITED NATIONS FRAMEWORK CONVENTION ON CLIMATE CHANGE
UN	UNITED NATIONS
GGA	GLOBAL GOAL ON ADAPTATION
GCF	GREEN CLIMATE FUND
ETF	ENHANCED TRANSPARENCY FRAMEWORK
IMO	INTERNATIONAL MARITIME ORGANIZATION
ICAO	INTERNATIONAL CIVIL AVIATION ORGANIZATION
NAP	NATIONAL ADAPTATION PLAN
NBS	NATURE-BASED SOLUTION
ARC	AFRICAN RISK CAPACITY
CCRIF	CARIBBEAN CATASTROPHE RISK INSURANCE FACILITY
CFAF	CLIMATE FINANCE ACTION FUND
EU	EUROPEAN UNION
ETS	EMISSIONS TRADING SYSTEM
EMGF	EASTERN MEDITERRANEAN GAS FORUM
PPP	PUBLIC-PRIVATE PARTNERSHIP
CBDR-RC	COMMON BUT DIFFERENTIATED RESPONSIBILITIES AND RESPECTIVE CAPABILITIES
EV	ELECTRIC VEHICLE
CCS	CARBON CAPTURE AND STORAGE

Introduction



COP28, held in Dubai, marked a significant turning point in global climate action. The conference concluded with the UAE Consensus, a historic agreement committing nearly **200 countries to transition away from fossil fuels to renewable energy**¹ and to strengthen resilience and adaptation measures. Although not a definitive halt to fossil fuels, this outcome is seen as the beginning of the end, with a call for governments and businesses to turn pledges into real-economy outcomes without further delay.

The conference made significant progress on the fronts of justice, resilience, and solutions to climate emergencies, emphasizing innovation while considering the most vulnerable at the same time. Key achievements included new funding for loss and damage, support for communities on the climate frontlines,

and the establishment of a global goal for strengthened resilience. New targets were set for measuring progress on adaptation and mobilizing further action, and efforts were made to harness ecosystems, biodiversity, and forests as climate allies. Practical solutions were also highlighted, with partnerships and scaled-up action on agriculture, health, and methane.

COP28 also saw the operationalization of the Loss and Damage Fund, a significant breakthrough reached at the previous COP27. The fund, hosted by the World Bank, **received \$660 million in pledges**² and aims to support countries particularly vulnerable to climate change. The fund's governing instrument and accountability arrangements were approved, with the first funds expected to be disbursed in 2024.

1 [COP 28: What Was Achieved and What Happens Next? | UNFCCC](#)
2 [Pledges to the Loss and Damage Fund* | UNFCCC](#)



The conference emphasized the need for a quantum leap in climate finance, aiming for a **new global climate finance goal to be agreed upon at COP29 in Azerbaijan**. Countries were urged to increase their efforts to prepare new economy-wide national climate plans and National Adaptation Plans, strengthen their 2030 emissions cuts targets, and submit Biennial Transparency Reports. By COP30, all plans should contribute to a global surge in climate action, with a focus on tripling renewables, doubling energy efficiencies, and boosting adaptation efforts.

The first global stocktake, held from 2022 to 2023, concluded at COP28, revealing that while progress has been made, it is not fast enough. Countries committed to speeding up the transition to clean energy, advancing adaptation efforts, scaling up finance, and developing stronger climate action plans.

The Enhanced Transparency Framework (ETF) was highlighted as a crucial tool for effective policies and implementation³, with new reports and reviews under the Paris Agreement providing a snapshot of climate action and support.

Overall, COP28 was a major operational achievement, bringing together thousands of stakeholders to advance international cooperation on climate action. The conference supported 15 constituted bodies to progress negotiations, provided legal and procedural support to the COP Presidencies, and facilitated over 200 meetings, workshops, and capacity-building events. The transparency of the conference was notable, with every delegate and their affiliation named on a publicly accessible list.

COP28: Looking back



Key Highlights⁴

At COP28 in Dubai, an agreement was reached marking the “beginning of the end” for fossil fuels, aiming for a swift, just, and equitable transition with deep emissions cuts and increased finance. For the first time, fossil fuel language was included in the final agreement, signaling a significant shift in energy transition efforts. The nearly 200 Parties agreed on the world’s first ‘global stocktake’ to enhance climate action by 2030, aiming to keep the global temperature rise within 1.5°C. The stocktake calls for a 43% reduction in global greenhouse gas emissions by 2030, tripling renewable energy capacity, and doubling energy efficiency. It also emphasizes phasing down unabated coal power and phasing out inefficient fossil fuel subsidies. Countries are encouraged to set ambitious, economy-wide emission reduction targets by early 2025, aligning with the 1.5°C limit.

4

<https://unfccc.int/cop28/5-key-takeaways#end-of-fossil-fuels-~:text=Collapse%20all-,Key%20highlights%20from%20COP%2028,-Signalling%20the%20%E2%80%98beginning>

A historic agreement was reached during COP28 to operationalize funding for loss and damage, including a new dedicated fund under the UNFCCC. This marked the first time a substantive decision was adopted on the conference's first day, with commitments exceeding USD 600 million. This builds on the COP27 decision to support vulnerable countries facing climate impacts. Throughout 2023, a Transitional Committee, comprising representatives from developed and developing countries, worked on operationalizing these funding arrangements. The fund, with commitments totaling USD 661 million, symbolizes global solidarity and a step towards international climate justice. Additionally, an agreement was reached for the UN Office for Disaster Risk Reduction and the UN Office for Project Services to host the Santiago network's secretariat, which will provide technical assistance to developing countries vulnerable to climate change. Significant progress was made on the Global Goal on Adaptation (GGA), setting targets to enhance resilience against climate change impacts. The GGA framework, covering water, food, health, ecosystems, infrastructure, poverty eradication, and cultural heritage, aims to guide adaptation planning and align necessary finance, technology, and capacity-building support. This decision marks a shift towards future-oriented adaptation progress.

Climate finance was a key focus, with the Green Climate Fund (GCF) receiving pledges totaling USD 12.8 billion from 31 countries. Additional commitments included over USD 174 million for the Least Developed Countries Fund and Special Climate Change Fund, and nearly USD 188 million for the Adaptation Fund. Despite these pledges, the 'global stocktake' highlighted that current climate finance flows are insufficient to meet the trillions needed for developing countries' clean energy transitions and climate plans.

The stocktake emphasized the need to reform multilateral financial systems, scale up climate finance through grants and concessional finance, and develop new funding sources. Discussions continued on setting a new collective quantified goal on climate finance for 2024, starting from a baseline of USD 100 billion per year, to support new national climate plans due by early 2025.

At COP28, major steps were made in linking climate action with nature conservation, addressing the triple planetary crisis of climate change, biodiversity loss, and pollution. Governments were urged to consider ecosystems, biodiversity, and carbon stores in their national climate action plans due by early 2025. The 'global stocktake' decision emphasized the importance of conserving and restoring nature to achieve the Paris Agreement's temperature goals, including halting deforestation by 2030 to cut global emissions by 14%.

This decision marks the first formal recognition of such a pledge under the UNFCCC. Enhanced support and investment, including financial resources, technology transfer, and capacity-building, were highlighted as essential. Nature-based solutions were recognized as crucial for mitigating climate change and protecting vulnerable communities. These efforts align with the Kunming-Montreal Global Biodiversity Framework, which includes commitments to protect 30% of the planet's land and oceans and restore 30% of degraded ecosystems by 2030. The Global Climate Action space facilitated collaboration among governments, businesses, and civil society to showcase practical climate solutions. The High-Level Champions launched the 2030 Climate Solutions roadmap, aiming to halve global emissions, address adaptation gaps, and increase resilience by 2030.



Key announcements included:

- 125 countries signed the UAE Climate and Health Declaration, with USD 1 billion mobilized for climate and health solutions.
- 137 Heads of State committed to transforming food systems within their national climate plans, with USD 2.6 billion pledged
- for regenerative agriculture and climate-food innovation.
- The EU and its Member States announced EUR 175 million for the Methane Finance Sprint to reduce methane emissions in the energy sector.
- These initiatives highlight the importance of practical solutions and financial commitments in tackling climate change and enhancing global resilience.

At COP28, negotiations on the 'enhanced transparency framework' set the stage for a new era of implementing the Paris Agreement. UN Climate Change is developing transparency reporting and review tools, to be available by June 2024. Azerbaijan will host COP29 in November 2024, and Brazil will host COP30 in November 2025. The next two years are crucial: COP29 will focus on establishing a new climate finance goal, while COP30 will require countries to present new, comprehensive nationally determined contributions aligned with the 1.5°C limit. UN Climate Change Executive Secretary Simon Stiell emphasized the importance of these commitments in achieving climate goals and urged global citizens to raise their voices for change, highlighting the critical role of public determination in the coming years.



Passing the torch

On February 21, 2024, a multilateral consultation was held, involving the Presidency of COP 28, the incoming Presidency of COP 29, and other key stakeholders. The consultation aimed to reflect on the outcomes of COP 28, known as the UAE Consensus, and to discuss priorities for COP 29.

The **UAE Consensus** was praised for setting a clear roadmap to keep the 1.5°C goal within reach. One highlight was the successful conclusion of the first global stocktake, which informs the next round of Nationally Determined Contributions (NDCs) due in early 2025. The consensus also called for a just energy transition, tripling renewable energy capacity, and doubling energy efficiency improvements by 2030. Additionally, the operationalization of new funding arrangements for loss and damage, the UAE Framework for Global Climate Resilience, and the UAE–Belém work programme were highlighted.

The discussants emphasized the need to build on the momentum of COP 28 and translate the UAE Consensus into tangible actions. Reaching an agreement on the New Collective Quantified Goal (NCQG) is seen as crucial for COP 29's success. The NCQG should address the needs of developing countries and support the implementation of the UAE Consensus. Parties called for mobilizing finance from a wider range of sources and ensuring existing commitments are upheld. There was also a call for mainstreaming climate change in economic and financial decisions and accelerating the development of new sources and types of climate finance.

Building on COP 28's momentum, the Parties urged constituencies to submit their nominations to the Loss and Damage Fund's Board and called for more pledges to capitalize the Fund. The need to finalize arrangements for the Fund at COP 29, aligning with the NCQG, was also highlighted. The Parties also emphasized the need to advance adaptation-related work, including the UAE Framework for Global Climate Resilience and the UAE–Belém work programme. Progress on national adaptation plans and the Global Goal on Adaptation was also noted as important.

Finally, to keep the 1.5°C goal within reach, Parties called for ambitious NDCs due in early 2025, covering all sectors and types of greenhouse gases. Enhanced mitigation ambition by developing countries should be supported by adequate means of implementation. There was also a push for tangible progress on the mitigation work programme and the phasing out of fossil fuels.

The Presidencies of COP 28 and COP 29 committed to working closely with all stakeholders to develop plans for a successful COP 29, guided by transparency, inclusivity, and impartiality. Further consultations will be held throughout 2024 to ensure continued progress in advancing ambitious climate action.

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COP29: Planet does not "negotiate" any further delay for climate action

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The "beginning of the end" for fossil fuels, a phrase used by the Executive Secretary of the UNFCCC, Simon Stiell, at the 28th United Nations Climate Change Conference (COP28, Dubai) is raising expectations in view of COP29, to be held from 11 to 22 November in Baku, Azerbaijan¹.

The effort to limit global warming to 1.5°C above pre-industrial levels (Paris Agreement, 2015) is discussed at every following COP. The "UAE Consensus", signed at COP28, analyses ways that States will attempt to achieve this goal. Nevertheless, for many people the "transition away from fossil fuels" -the wording was heavily negotiated- is not the most courageous commitment². This is because the intensity and frequency of the phenomena resulting from climate crisis have been intensified and unquestionably anthropogenic climate change is now affecting every region around the world, albeit at different levels, depending on their degree of vulnerability and the adoption of adaptation, mitigation and resilience measures³.

1 <https://unfccc.int/news/we-didn-t-turn-the-page-on-the-fossil-fuel-era-but-this-outcome-is-the-beginning-of-the-end-un>
2 <https://www.cop28.com/en/the-uae-consensus-negotiations-outcome>
3 https://www.ipcc.ch/site/assets/uploads/sites/2/2022/06/SPM_version_report_LR.pdf



In this context, the debate around financing for climate action, innovation, and, ultimately, just and inclusive transition to a sustainable society in partnership with local communities is expected to arouse interest at COP29. Developing countries are seeking a new and more favorable agreement on financial support from richer countries to boost their efforts to achieve their goals. In general, funding will have to be significantly increased and channeled to alternative sources. Under current conditions, energy transition will require more than USD 7 trillion of investments per year by 2050⁴.

The European goal of climate neutrality by 2050 presupposes increasing productivity within the Union and improvement of its competitiveness. The recent flagship report of Mario Draghi states that only EUR 8 billion will be available from the European budget to support first-of-a-kind installations and production plants between 2021-2027⁵. The need for a coordinated and more ambitious European strategy is also reflected in Enrico Letta's report, which stresses that strengthening stability and security, as well as reducing dependency on third countries, should be essential components of the EU's strategy⁶. Besides, the geopolitical landscape is constantly changing and the risks that arise in turbulent periods, with constant conflicts around the world, can derail the EU's programming.

4 https://www2.deloitte.com/content/dam/Deloitte/de/Documents/sustainability/Deloitte_Financing_the_green_energy_transition_Report_2024.pdf

5 https://commission.europa.eu/document/download/ec1409c1-d4b4-4882-8bdd-3519f86bbb92_en?filename=The%20future%20of%20European%20competitiveness_%20In-depth%20analysis%20and%20recommendations_0.pdf

6 <https://www.consilium.europa.eu/media/ny3j24sm/much-more-than-a-market-report-by-enrico-letta.pdf>

Interconnections are among key pillars of the green transition. According to Eurelectric's "Grids for Speed" study, the requirements for future investments in electricity grids are estimated up to EUR 67 billion per year till 2050⁷. Energy storage is also at the core of the current transition. It is assumed that the installed capacity for energy storage will reach 200 GW and 600 GW at an EU level by 2030 and 2050, respectively⁸. The Greek NECP sets a target of ca. 6.1 GW of energy storage capacity, 4.3 GW of which for batteries, by the end of the current decade⁹. Strengthening interconnections and increasing green energy exports could also have a curative effect on the problem of oversupply, curtailments and consequent low, zero or even negative prices.

In 2023, Greece reached a record for renewable energy production, since 57% of its electrical energy mix was "green"¹⁰. The penetration of offshore wind into the mix of clean energy technologies, grounding on the target of 1.9 GW by 2030 set in the revised NECP, will reinforce renewable generation and improve diversification levels. It is estimated that a total investment of more than EUR 6 billion by 2030 and more than EUR 28 billion by 2050, including investments across the whole value chain (e.g. shipyards, ports, industry, etc.), will be needed to achieve the exact targets¹¹. The planet does not "negotiate" any further delay for climate action. At COP29, diplomacy should pave the way for cooperative, fair, drastic, but also binding measures to mitigate the escalating climate crisis.

7 https://powersummit2024.eurelectric.org/wp-content/uploads/2024/05/Grids-for-Speed_Report.pdf

8 https://energy.ec.europa.eu/publications/staff-working-document-energy-storage-underpinning-decarbonised-and-secure-eu-energy-system_en

9 <http://www.opengov.gr/minenv/wp-content/uploads/downloads/2024/08/%CE%95%CE%B8%CE%BD%CE%B9%CE%BA%CF%8C-%CE%A3%CF%87%CE%AD%CE%B4%CE%B9%CE%BF-%CE%B3%CE%B9%CE%B1-%CF%84%CE%B7%CE%BD-%CE%95%CE%BD%CE%AD%CF%81%CE%B3%CE%B5%CE%B9%CE%B1-%CE%BA%CE%B1%CE%B9-%CF%84%CE%BF-%CE%9A%CE%BB%CE%AF%CE%BC%CE%B1-%CE%95%CE%A3%CE%95%CE%9A.pdf>

10 <https://www.admie.gr/nea/deltia-typoy/hronia-rekor-2023-gia-tin-kathari-energeia-stin-ellada>

11 <https://eletaen.gr/wp-content/uploads/2024/09/2024-09-02-OW-Supply-Chain-Greece-ELETAEN-consolidated-report.pdf>



From planning to action: Overcoming the obstacles.

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Over the last year, energy markets have been characterized by volatility due to ongoing conflicts, affecting commodity prices and underlining the need for renewables. Following the COP28 declaration of the "beginning of the end" of the fossil fuel era, COP29 will be dedicated to renewable energy. In this context, it is of high importance for parties not only to support ambitious plans but also take action to materialize the deployment of clean energy technologies and address the emerging challenges arising from the rapid penetration of renewables.

The occurrence of zero or negative prices has significantly increased over the last year throughout Europe, while grid congestion events have been recorded, leading to an increase in the curtailment of production. Such events have an impact on the revenues of renewable energy plants, trimming the return on investment for companies and investors. Less attractive green investments could potentially damage the appetite and thus the rate of RES deployment.



These challenges have exposed the issues of rapid renewable penetration, highlighting the importance of the grid. Grid expansion and upgrades are a cornerstone in the green transition to support capacity additions and enable other types of investments (e.g., data centers, logistics centers, etc.) with economic benefits for the country and the energy industry.

The intrinsic characteristics of solar PVs and wind plants, including stochastic production and limited availability throughout the day, proved that they need to be supplemented to cover the "peaks" in demand. Complementary technologies should be deployed to provide flexibility and security of supply to facilitate the smooth penetration of renewables.

Battery Energy Storage Systems (BESS) could be seen as an apparent choice for supplementing renewable energy and mitigating challenges from the oversupply of renewable energy. As of today, only a handful of BESS projects have actually entered their construction phase. However, the momentum is very favourable for BESS investments, as their costs have fallen significantly, enabling swifter deployment while offering solid returns.

With BESS as a frontrunner, another type of storage is emerging as a viable option for the integration of green energy. Hydro pumped storage systems, though larger in scale and requiring higher capital expenditures, have a longer estimated lifespan compared to BESS. In a period of water scarcity, hydro pumped storage could be seen as an enabler for the integration of renewable energy while optimizing both energy and water management, benefiting companies and society. Their benefits are starting to be recognized in the market, as evidenced by the uptick in the licensing request for such projects.

The surplus of electricity from renewable energy could be also directed toward green hydrogen production. Hydrogen's versatile characteristics, enable the decarbonization of the hard-to-abate sectors, either a fuel/product itself or as a byproduct for the production of ammonia and methanol. Though its price is currently still high and there are transportation issues to be resolved, hydrogen's role in the green transition is well understood and acknowledged from companies and governments.

Though the green transition does not come without challenges and obstacles, there are certain technologies that can enable and facilitate the smooth deployment of renewable energy. It is now time to go from planning to action and materialize the commitments.

Connect for a new energy future

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Faria Renewables: Successful energy transition is not just about technology, it's about people

**Thalia
Valkouma**

President & CEO,
Faria Renewables



Amid the global push for sustainability, the significance of local communities has never been more emphasized. International efforts, such as those arising from COP annually, underscore the necessity for countries to adopt cleaner solutions in the fight against climate change. However, while the transition to renewable energy presents promising prospects, it also poses challenges that must be tackled through collaboration with the communities that will accommodate RES projects.

Faria Renewables, a joint venture between Faria Group and OMNES Capital, has taken an innovative approach to this challenge. At the heart of the company's operational philosophy lies the belief that empowering local communities is a must if we want to achieve a sustainable future. By focusing on local engagement, Faria Renewables is setting new standards in the energy sector, demonstrating that economic growth, environmental responsibility, and community prosperity can coexist successfully.



The Critical Role of Local Communities

Achieving long-term success hinges on the active involvement of local communities in a nation's renewable energy goals. The energy transition has the potential to create numerous new jobs, reduce energy expenses, and drive economic development. However, opposition to renewable projects, exemplified by the NIMBY (Not In My Backyard) movement, can impede progress. This resistance often stems from concerns about the environmental impact, perceived disruptions to the local economy, and a lack of transparency from project developers.

Faria Renewables acknowledges that addressing these challenges entails more than just technological innovation—it requires authentic partnerships with local communities. The company's approach centers on transparent communication, openness, and a dedication to minimizing the environmental impact of its projects. By involving local communities in the decision-making process, Faria Renewables ensures that its projects are not merely accepted but embraced by them.

Transparency and Trust: The Pillars of Success

Faria Renewables' mission is to become a leading independent power producer (IPP) across Greece, Europe, and beyond. With a diverse portfolio of projects, including solar, wind (onshore and offshore), energy storage, hybrid systems, and green hydrogen, the company's approach reflects a deep commitment to sustainability and local empowerment.

In each region where Faria Renewables operates, the company implements a comprehensive engagement plan. This involves working closely with the local communities to ensure that each project brings tangible benefits. Whether it's creating local jobs, supporting agricultural activities, or providing energy at lower costs, Faria Renewables makes it a priority to contribute to the long-term prosperity of the communities it serves.

In this context, transparency is a non-negotiable aspect of every project. By clearly communicating the projects, the benefits for the communities and the measures taken to minimize the environmental impact of their operations well in advance, the company builds trust with its stakeholders. This level of openness fosters a sense of ownership among local populations, which is crucial for overcoming resistance and dispelling myths about renewable energy projects.

In addition to transparent communication, Faria Renewables prioritizes reducing its environmental footprint. The company takes a holistic approach, ensuring that its projects coexist with local agricultural and grazing activities, preserving the natural environment while contributing to the energy transition.

A Roadmap for the Future

As the world looks towards COP29 and beyond, the importance of community involvement in energy projects will only continue to grow. Local communities are at the forefront of deploying renewable technologies, ensuring reliable power, enhancing efficiency, and creating jobs. Faria Renewables exemplifies how this can be done in a way that prioritizes people, the environment, and long-term sustainability. With each project the company demonstrates that the success of renewable energy projects is not just about technology—it's about people.

In the years to come, as renewable energy projects continue to expand, project developers will play a vital role in ensuring that these initiatives benefit everyone. By investing in local communities, we are investing in a future where sustainable development and energy transition go hand in hand.



Faria Renewables S.A. is the collaborative brainchild of Faria Group and Capenergy 5 Fund. Together, we are dedicated to fostering Renewable Energy Source (RES) projects across Europe, including Greece and other regions. Our focus extends to Offshore Wind, Onshore Wind, PV, Hybrid, Storage, Green Hydrogen, and pioneering applications. With the goal of becoming a premier Independent Power Producer (IPP) utilizing renewable energy sources, we work in tandem to develop and operate these projects.

OUR VISION:

Our vision is to empower a sustainable, green future. We are committed to facilitating the transition to renewable energy by creating efficient and eco-friendly energy solutions.

OUR GOALS:

Our primary goal is to establish ourselves as the leading Independent and Sustainable Power Producer in the rapidly expanding Greek and international markets. To achieve this, we diversify our portfolio of Renewable Energy Projects, and we actively promote innovative storage solutions and Green Hydrogen. These efforts will not only enhance the stability of the electricity network but also foster resilience and reliability.



Green gases: stabilizing the grid, bridging local communities

**Eleni
Bairami**

Owner and Managing
Director, ECO Hellas



The mass introduction of Renewable Energy Sources in the global energy mix has drastically shifted the focus and strategies of regulators, investors, producers and consumers. The initial aim to limit the dependency on fossil fuels and reduce CO₂ emissions has – up to a certain degree – been achieved and in numerous countries, including Greece. As a result, Renewable Energy meets and exceeds the grid's requirements for a number of hours daily.

However, the fact that Renewable Energy production is largely dependent on solar and wind production plans creates phenomena of either over-production during peak hours (especially on windy or sunny days) or extreme under-production on windless nights. This, in turn, leads to significant market distortions, as experienced during the summer of 2024, when energy prices spiked up to tenfold during off-peak hours.



International interconnections act as a primary solution to this problem, aiming to restore the balance in production, consumption and prices on a regional level. However, experience has proven that -for the foreseeable future- distortions will remain in the market. Thus, energy producers and consumers are striving to create Renewable Energy that is not dependent on daylight or wind and can be produced according to market conditions and needs, acting as a balancing force in the sector. In this context, "green gases" technologies, namely biogas and gasification are prime candidates to fulfill this particular role.

"Green gases" can be produced at whim and the respective facilities can act as a balancing factor in the grid, adding clean energy when required by market conditions. Biogas production and gasification are 24-hour processes, independent of weather conditions and daylight. Furthermore, production facilities scale from 1MW upwards and can operate even in remote locations, such as Greek islands, regardless of national interconnections.

ECO Hellas's development of two biogas plants in Ierapetra, Crete, totaling 2MW, is a prime example of such initiatives, aiding both local energy production but also applying circular economy doctrines in practice. Using greenhouse leftovers as well as organic residues from olives, the plants can produce renewable energy on a constant basis, while serving as means to ecologically dispose and reuse otherwise harmful materials. And at the same time, the plants are seamlessly added to the local energy mix, especially at times when "traditional" RES are limited or completely unavailable.

Still, despite the significant benefits of this technology, a major challenge that has arisen during the pre-development phase was the need to educate and convince the local community. Given the widespread distrust against Renewable Energy in rural areas, especially related to wind turbines, ECO Hellas focused on explaining and highlighting the importance and benefits of the investment for all aspects of the local community and economy. These included the creation of high-quality jobs, both during the construction and operation phase, the benefits for the parties that would provide greenhouse and olive residues, as well as the sustainable elimination of potentially hazardous waste. Furthermore, third-party experts from the academic community elaborated on the importance and the benefits of the problem, shedding light on all aspects that would potentially cause backlash. As a result, local stakeholders not only understood the rationale but also acted as avid advocates, helping to accelerate the process. Proving that, with the proper communication strategy, dissemination techniques and stakeholder involvement, local communities can turn into valuable allies.



Elevating Southeastern Europe's Role in Energy Security and Transition

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Trans Adriatic
Pipeline

As the world prepares for COP29, Southeastern Europe (SEE) is uniquely poised to enhance its role in Europe's energy security and the transition to cleaner energy, leveraging its strategic location to become a key player in both areas.

Aligning SEE with COP29 Goals

SEE stands at a crossroads as COP29 approaches, with the potential to solidify its role in the energy landscape and contribute to global climate goals. The region's geographical advantage and existing infrastructure enable it to play a significant role in shaping the future of European energy markets. To maximise this potential, SEE could further diversify its energy sources and enhance energy security through robust infrastructure development. Regional cooperation is crucial, enabling SEE countries to collaborate on cross-border projects and present a unified strategy at COP29, aligned with the European Green Deal.



An example of regional cooperation: TAP

TAP, the European leg of the Southern Gas Corridor that brings gas from Azerbaijan to Europe, serves as a prime example of how SEE can leverage its strategic location to advance European energy goals. TAP balances energy security with climate action, demonstrating how a key infrastructure project can support the broader transition to cleaner energy.

Nearly four years into its commercial operations, TAP has delivered **almost 40 billion cubic meters (bcm)** of natural gas to Europe. This contribution significantly strengthened Europe's energy security and positioned its host countries—Greece, Albania, and Italy—as regional energy hubs, diversifying Europe's energy portfolio and reducing reliance on single-source supplier.

TAP also facilitates connections to key gas transportation infrastructure, such as the Interconnector Greece-Bulgaria (IGB) and, potentially in the future, the Ionian-Adriatic Pipeline (IAP). The IGB, which began commercial operations in October 2022, introduced a new source of natural gas to regional markets, improving access and reducing dependency on a single source.

TAP's planned expansion—set to add 1.2 bcm per year (bcm/a) by early 2026—will further solidify the region's role as a European energy hub. With the potential to gradually double its current capacity from 10 bcm/a, TAP is poised to adapt to market demand, paving the way for further capacity increases through upcoming Market Tests, including the ongoing 2023 market test.

Towards a low-carbon future

The EU's Directorate General for Neighbourhood & Enlargement has recognised TAP as a flagship project for the decarbonisation of the Western Balkans, as it promotes access to cleaner and more affordable energy in the region.

Looking ahead, as Europe targets climate neutrality by 2050, TAP is well-positioned to play a crucial role in the continent's transition to a low-carbon future, both in the short and long term.

By providing a reliable supply of natural gas, TAP brings to Europe a transitional fuel, crucial for replacing more carbon-intensive energy sources in the short to medium term. This role helps balance the intermittent nature of renewable energy and supports broader energy transition goals. Natural gas, as a 'transition' fuel, aligns with efforts to reduce carbon emissions while ensuring energy reliability.

In the longer term, a potential expansion of TAP's capacity will further support Europe's energy transition. Under certain conditions and limitations, this energy infrastructure could accommodate renewable gases, such as hydrogen and bio-methane, advancing the region's decarbonisation efforts. Indeed, the ability to transport renewable gases through TAP in the future represents a significant step toward a sustainable energy future.





Energy Transition and the role of Industrial Prosumers

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As the COP evolves year-on-year, the importance of engaging **non-Party stakeholders** (e.g. **businesses and investors**), as well as the role they can play in climate action, gains ever higher recognition. As such, a number of pledges were announced during COP28 that involved Parties and non-Party stakeholders, including the Global Cooling Pledge for COP 28¹, the Oil & Gas Decarbonization Charter² and the Industrial Transition Accelerator³. Instrumental in all these initiatives are the efforts, and responsibility, of industry to cut its emissions and pave the way for net-zero operations.

An effective way to this end is for industry and communities to embrace the role of **renewable energy prosumer**, i.e. utilise RES to supply a portion, or all, of their onsite electricity needs, and consequently sell any excess energy to the grid or other interested parties (industry, community etc.)⁴. This model offers **multiple benefits** for the prosumer, as well as the grid and local communities. For starters, it decreases/eliminates the carbon footprint of the prosumer's electricity-based operations, reduces their associated energy costs and exposure to the volatile electricity market, while offering opportunities for revenue generation by selling the excess green energy. At the same time, this activity serves the substantial compliance of industry to ESG and other decarbonization initiatives, whilst contributing to the 'greening' of communities.

1 [Global Cooling Pledge For COP28](#)

2 <https://www.cop28.com/en/news/2023/12/Oil-Gas-Decarbonization-Charter-launched-to--accelerate-climate-action>

3 [COP28 Presidency, United Nations Climate Change, and Bloomberg Philanthropies Launch New Industrial Transition Accelerator for Heavy-Emitting Industries | Bloomberg Philanthropies](#)

4 [UNIDO, Industrial Prosumers of Renewable Energy, Vienna 2015](#)



Countries and operators across the world are gradually maturing to the idea of supporting the role of prosumer, by setting and developing the required laws and regulations. In **Greece**, the long-awaited **Ministerial Decision** for the new framework regarding **self-producers and prosumers** was published in September 2024⁵. It effectively offers the opportunity for industrial and other players to develop internal RES capacity, cover part/all of their energy needs, and be able to trade any excess self-produced energy under net-billing arrangements or bilateral PPAs.

Greece's industry suffers from high electricity prices and, in parallel, has to make significant steps in its energy transition journey towards net-zero. The recent example of a feasible intervention in a leading recycling company combined the design of a PV system for electricity self-production, and at the same time rationalization of the company's operations to leverage the energy market and prosumer possibilities. Indicatively, we found that under current conditions the **discounted payback period** of the optimized PV investment can be **as low as 5-6 years** (PV economic life is 20 years), with the **levelized electricity production cost at around €40/MWh**. Depending on the scale of its energy needs a prosumer wishes/ is able to cover (as a function also of the space availability for PV installations), and whether battery storage is also considered, the above timeframes and costs may increase (for example, approaching 10-12 yrs and €50-55/MWh respectively in our feasibility study), but can be off-set by added reduction of carbon emissions, enhanced energy security, less exposure to market turbulations and better value overall for the investment. In any case, this new context of 'energy autonomy and independence' offers unique opportunities, but also **calls for a rethinking of industrial processes** and production scheduling, since RES are inherently intermittent, with time profiles not necessarily aligned with the existing production and other activities of each industry.

We are, therefore, entering exciting times, both at an international and national level, with industry being asked to play a crucial role in the efforts for energy transition and climate change mitigation. The industrial prosumer model offers great **opportunities**, but also **challenges**, as it **may require transformative changes** in the operations of a given industry. **EXERGIA**, with its longstanding presence and exceptional track record of consulting services in the Energy, Environment and Climate Change sectors, can navigate the self-producer/prosumer landscape and **support industry to make the most of the respective net-zero opportunities presented**, in a cost-effective way.

35 years of cutting-edge expertise on consulting services in energy, environment, water and climate change

Energy Transition and Use of Renewables

Optimization and cost reduction of electricity and gas use by big consumers

Electricity self-production in industry and services

Feasibility, production, supply and use of sustainable biofuels, hydrogen, low carbon fuels etc.

Compliance with carbon emission reduction obligations in maritime and aviation

Support for enterprises on corporate decarbonization action plans and energy transition investments under European Union and national schemes

Climate Change Adaptation

Calculation, monitoring and evaluation of the carbon emissions footprint

Assessment of vulnerability and risks, at both corporate and asset level, due to climate change

Adaptation studies and resilience to climate change conditions

Support for enterprises to implement net zero and ESG strategies

Environmental Assessment of Investments

Assessments of Compliance to IFI Standards for PPP projects

Ecological assessments, surveys and mitigation measures

Sustainability proofing and compliance with the Do No Significant Harm (DNSH) principle

Environmental & Social Impact Assessment Studies for power stations, transmission lines, renewables/energy storage, offshore wind farms and hydrocarbon exploration, gas pipelines

Environmental Audit and Compliance Assessment

GIS-based multi-criteria risk assessments

Compliance review with legislation and internal management systems on environment, health and safety

Due diligence assessments for supporting property acquisitions, changes of ownership and public utilities privatization

Fatal flaw analyses and red flag reports on Renewables projects

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