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«EU Financing for Energy Efficiency: Programmes, de-risking investments, innovative funding, capacity building and technical assistance»

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Legal base for the Energy Efficiency of EU Industry

The Energy Efficiency of EU Industry is mainly driven by four key pieces of EU legislation:

1. **The Energy Efficiency Directive (EED) (2012/27/EU) as amended in 2018 (2018/2002) and the 'Fit for 55' package includes a recast of the EED by aligning its provisions to the -55% greenhouse gas (GHG) target, set rules and obligations for achieving the EU's 2020 and 2030 energy efficiency targets. The EED covers a group of binding measures to reduce total energy consumption across the EU and Member States.**

2. **The EU Emission Trading System (ETS) Directive 2003/87/EC, which sets emissions allowances for industry installations of certain size and sector while providing the ability to trade emissions below or above the allowed amount to other installations in the carbon market.**

Legal base for the Energy Efficiency of EU Industry

3. The Industrial Emissions Directive (IED) (2010/75/EU), which requires that the BAT (Best Available Techniques to reduce emissions and environment impact, including the reduction of energy consumption) conclusions shall be the reference for setting the permit conditions of the installations covered by the IED.

4. The Eco-design (2009/125/EC) and Energy-labelling Directives (2017/1369), which sets the minimum energy efficiency standards and energy labels to support the development and market uptake of energy efficient products.

Legal base for the Energy Efficiency of EU Industry

- **Under the Governance Regulation 2018/1999, EU Member States are required to draw up integrated 10-year national energy and climate plans (NECPs) outlining how they intend to meet the energy efficiency and other targets for 2030.**

- **At the end of 2019, Member States submitted integrated National Energy and Climate Plans (NECPs) for the period 2021-2030.**

- **NECPs contain detailed strategies on how Member States will comply with the EU's 2030 Climate Target Plan. They must also address energy efficiency, greenhouse gas (GHG) emissions reductions, renewables and R&I.**

Legal base for the Energy Efficiency of EU Industry

- **The NECPs provide information relevant to public and private investment plans, in tandem with the EU funds earmarked for investments into climate solutions.**

- **Member States must also submit revised National Energy Efficiency Action Plans (NEEAPs) every three years as part of the Energy Efficiency Directive (EED).**

- **These detail national energy consumption estimates and strategies to achieve reduction targets.**

EU Programmes

Current funding

- **The European Green Deal is the EU's growth and recovery strategy that aims to transform Europe into the first climate-neutral bloc by 2050.**
- **Energy efficiency is a key area of action, without which the full decarbonisation of the EU economy cannot be achieved.**
- **Energy efficiency investments need to be increased in all sectors of the economy. This is the most cost-effective and sustainable way towards climate neutrality.**
- **EU funding programmes ensure direct co-financing of investments in energy efficiency and leverage private and public investments via tailored instruments and project development assistance**

EU Programmes

Co-financing investments

- **Various EU funding programs mobilise public and private investments that contribute to reaching the EU's energy efficiency and climate objectives.**

- **The Commission's multi-annual financial framework 2021-2027 and the NextGenerationEU instrument directly co-finances energy efficiency investments in the EU through three different funds, namely:**

1. **Recovery and Resilience Facility (RRF)**

2. **Cohesion policy funds**

3. **The Modernisation Fund**

EU Programmes

Mobilising investment

- **InvestEU acts as a single investment support mechanism with an EU budget of €26.2 billion. It aims to leverage €370 billion, replacing all the existing centrally managed financial instruments.**
- **InvestEU aims to mobilise public and private financing in the form of loans, guarantees, equity or other market-based instruments for strategic investments to support EU internal policies. It is divided into 4 policy windows: sustainable infrastructure (€ 9.9 billion); research, innovation and digitisation (€ 6.6 billion); SMEs (€ 6.9 billion); social investment and skills (€ 2.8 billion).**
- **Energy efficiency will be supported under all 4 windows, but mainly under sustainable infrastructure.**

EU Programmes

Research and Innovation in Energy Efficiency

- **Horizon Europe**
- **100 climate-neutral and smart cities**
- **Innovation Fund**
- **LIFE clean energy transition**
- **Built4People**

De-risking investments

De-risking investments

- **EU has a structured dialogue with the finance industry to de-risk energy efficiency financing and make private investments more attractive.**
- **Energy efficiency faces one of the largest investment gaps, estimated at around €165 billion annually.**
- **Energy efficiency investments face a number of barriers: a fragmented market, complex decision-making processes and split incentives are amongst the key ones.**
- **Setting favourable framework conditions is necessary to ensure private financing supply to investments in energy efficiency of industry, buildings, transport and other sectors.**
- **The EU policy focus on Sustainable Finance and the development of the Strategy for Financing the Transition to a Sustainable Economy by financing energy efficiency investments.**

De-risking investments

Energy Efficiency Financial Institutions Group

- **The Energy Efficiency Financial Institutions Group (EEFIG) was created in 2013 by the EC and the United Nations Environmental Programme Financial Initiative (UNEP FI).**
- **It acts as an open dialogue and work platform for public and private financial institutions, industry representatives and sector experts.**
- **EEFIG's aim is to identify barriers to long-term financing for energy efficiency and propose policy and market solutions to upscale energy efficiency investments.**
- **Energy efficiency investments can be perceived as too risky by financial markets. There are several factors contributing to this perception, but it is difficult to address due to a lack of data.**
- **To change the risk perception, it is important to gather data, promote appropriate labelling and provide guidance for risk assessment.**

De-risking investments

The EEFIG framework

Two specific tools have been developed aiming to inform financial institutions, investors and project promoters about the real benefits and risks of energy efficiency investments, namely:

1. **The De-risking Energy Efficiency Platform (DEEP) is the largest pan-EU open-source database containing detailed information on the technical and financial performance of over 15,000 industrial and buildings-related energy efficiency projects. The EC encourages all market players to support this initiative by sharing available data and performance track.**
2. **The Underwriting Toolkit is a guide to value and risk appraisal for energy efficiency financing and was launched in June 2017. It aims to help financial institutions scale up the deployment of capital into energy efficiency.**

De-risking investments

EEFIG reports 2020-2023

- **Energy efficiency in the EU Taxonomy and tagging of energy efficiency loans**
- **Evolution of Energy efficiency financing practices**
- **Financial performance of loans for energy efficiency improvements**
- **Multiple benefits of energy efficiency projects**
- **Further improvements of energy efficiency in industry**
- **Energy efficiency financing in the framework of the next MFF (to be published Q2 2023)**
- **Stimulate consumers' demand for energy efficiency investments (to be published Q3 2023)**
- **Applying the energy efficiency first principle in sustainable finance (to be published Q3 2023)**
- **Collecting and monitoring data on energy efficiency investments and financing**

Innovative Funding

Innovative financing

- **Innovative approaches to financing energy efficiency investments is at the centre of the EU energy efficiency policy, legislation and funding.**

- **Many EU projects directly supported the development and scaling up of innovative financing products and schemes dedicated to energy efficiency and addressing the shortcomings of the traditional financing products available on the market.**

- **Such projects were previously funded under Horizon 2020 programme Societal Challenge 3 and will continue to be supported by the LIFE programme 2021-2027 under the Clean Energy Transition sub-programme.**

Innovative Funding

Guarantee facility

- **European Commission developed, together with the European Investment Bank (EIB), a flexible guarantee facility model, which was approved by the EIB Board on 6 February 2018.**
- **It aims to make investments in energy efficiency for residential buildings more attractive for private investors, by using EU grants as guarantees to de-risk investments. Such investments could also contribute to new jobs in the sector, help establish a renovation market for small businesses and take many European families out of energy poverty.**
- **The Guarantee facility aimed at unlocking, together with other tools from the 'Clean Energy for all Europeans' package, a total of €10 billion in public and private funds for energy efficiency projects by the end of 2020.**

Innovative Funding

Energy performance contracts (EPCs)

- **Energy performance contracting is a promising financing and services model, strongly supported by European energy efficiency policy and legislation.**
- **Several provisions of the Energy Efficiency Directive have direct or indirect impact on the market uptake of the energy performance contracts (EPCs).**
- **EPCs are used in particular in the public sector. Energy performance contracting is a form of innovative financing of energy efficiency investments, where the contractor gives a financial guarantee for the expected energy savings on a project.**
- **The major barrier of application of the energy performance contracting in public sector resulted from the increase of public debt that the EPCs created in public accounts.**
- **Eurostat together with the European Investment Bank (EIB) published a practitioner's guide to the statistical treatment of EPCs in 2018.**

Capacity Building & Technical Assistance

Capacity building and technical assistance

- **The EU supports energy efficiency projects and initiatives, from idea to implementation, by financing legal, technical and financial support.**

- **Many public or private investors such as cities, individuals or businesses, need assistance to take their energy efficiency projects from idea to implementation.**

- **The EU has a number of facilities to finance legal, technical and financial support for large-scale projects with high investment advantage for each public euro going into them.**

Capacity Building & Technical Assistance

Sustainable Energy Investment Forums

- **The Sustainable Energy Investment Forums (SEI Forums) initiative is part of the European Commission's efforts to**

  -activate private-sector investments,

  -enhance access to finance for energy efficiency projects,

  -help replicate and scale up best practices and innovative approaches.

- **It supports both the Smart Finance for Smart Buildings initiative and the Renovation Wave strategy. It is in line with the EU Sustainable Finance strategy,which recognises the importance of addressing energy efficiency finance.**
- **Since its launch, the SEI forum initiative has cooperated closely with the Energy Efficiency Financial Institutions Group (EEFIG), which facilitates dialogue between the financial sector, public authorities and all stakeholders involved in delivering investments in sustainable energy at EU and national levels.**

Capacity Building & Technical Assistance

InvestEU Advisory Hub

- **The InvestEU Programme acts as a single investment support mechanism replacing all the existing, centrally managed, financial instruments as well as gathering technical assistance support under the common umbrella of its Advisory Hub.**

- **The Advisory Hub can provide technical assistance and advice for energy efficiency projects, including dedicated project development assistance grants for the preparation of aggregated investment projects through the European Local Energy Assistance (ELENA) facility.**

Capacity Building & Technical Assistance

European local energy assistance

- The European local energy assistance (ELENA) is implemented by the European Investment Bank (EIB) on behalf of the European Commission. It provides project development assistance in the form of grants to final beneficiaries for the preparation of their investment projects in energy efficiency, integrated renewable energy and sustainable transport in cities.
- The grant covers up to 90% of the technical support cost needed to prepare the investment programme for implementation and financing.
- ELENA is the main EU instrument for project development assistance for energy efficiency. It helps public and private entities create profitable projects at local level.
- ELENA has proved a very successful tool and since it was established in 2009, it has helped mobilise more than €7 billion in sustainable energy and transport investments.

Capacity Building & Technical Assistance

Project development assistance

- **Horizon 2020 funded dedicated calls for projects from €7.5 and up to €50 million, which help public and private promoters to develop sustainable energy investments projects**
- **This funding support continues as of 2021 under the LIFE-Clean Energy Transition sub-programme.**
- **The thematic coverage of the support includes energy efficiency and renewable energy solutions in buildings and urban infrastructure.**

European City Facility

- **The European City Facility (EUCF) was funded as a pilot project under Horizon 2020. It supports local authorities and their groupings with tailor-made, fast and simplified financial support and related services to enable municipalities in Europe to develop relevant investment concepts.**

Capacity Building & Technical Assistance

Technical Support Instrument

- The Technical Support Instrument (TSI) is a programme that provides tailor-made technical expertise to EU countries to design and implement reforms.
- The TSI provides technical support in a wide range of policy areas, such as the green transition, including climate action, circular economy and energy transition.

ManagEnergy

- ManagEnergy is a Horizon 2020 funded initiative dedicated to regional and local energy agencies with the objectives of assisting them in becoming leaders in the energy transition and increasing sustainable energy investments in regions and cities.
- It provides information, know-how, visibility and networking opportunities and supports local and regional energy agencies in delivering new services or boosting existing ones.

"Net Zero Industry Act" proposed Regulation 16.03.2023

- **EC President Ursula von der Leyen announced a 'Net-zero Industry Act' at the World Economic Forum in Davos on 17 January 2023, which would be part of a green deal industrial plan for the net-zero age. The plan set out a European approach to boost the EU's net-zero industry.**

- **The proposal for a Regulation was put forward by the EC on 16 March 2023.**

- **The proposed Regulation was accompanied by a Commission staff working document assessing investment needs to strengthen the EU's net-zero technology manufacturing capacity and presenting funding availabilities.**

"Net Zero Industry Act" proposed Regulation 16.03.2023

- **The total investment needed to reach the indicative technology-specific benchmarks included in the proposed regulation - taking into account only five key net-zero technologies wind, solar, batteries, heat pumps, and electrolysers - is estimated at €92 billion over the period 2023-2030.**

- **Public funding requirements would be between €16 billion and €18 billion.**

- **The EC stressed that *'the current EU budget has insufficient possibilities for supporting the objectives of the net-zero industry act and for ensuring a level-playing field between Member States, relative to the identified public investment needs'.***

“Net Zero Industry Act” proposed Regulation 16.03.2023

The changes the proposed Regulation would bring

- **The general objective of the proposed Regulation would be to establish a framework of measures for innovating and expanding the manufacturing capacity of net-zero technologies in the EU, to support the 2030 and 2050 climate targets, and to enhance the resilience of the EU's energy system by securing the supply of net-zero technologies, also contributing to the creation of quality jobs (Article 1).**

- **To this end, the proposed Regulation provides for measures aiming to ensure that, by 2030, manufacturing capacity in the EU for eight strategic net-zero technologies reaches an overall benchmark of at least 40 % of the EU's annual deployment needs to achieve the EU's 2030 climate and energy targets.**

"Net Zero Industry Act" proposed Regulation 16.03.2023

<u>These eight strategic net-zero technologies would be</u>:

1. **Solar photovoltaic and solar thermal technologies**
2. **Onshore wind and offshore renewable technologies**
3. **Battery/storage technologies**
4. **Heat pumps and geothermal energy technologies**
5. **Electrolysers and fuel cells**
6. **Sustainable biogas/biomethane technologies**
7. **Carbon capture and storage technologies**
8. **Grid technologies**

- **The EC explained that the choice of these eight strategic net-zero technologies relies on three criteria:**

  -Their technology readiness level

  -Their contribution to decarbonisation and competitiveness

  -Their existence of a security of supply risk.

"Net Zero Industry Act" proposed Regulation 16.03.2023

The concept of 'net-zero technologies' would cover (Article 3):

1. **Renewable energy technologies ('renewable energy' as defined in Directive (EU) 2018/2001, i.e. energy from renewable non-fossil sources, namely wind, solar (thermal and photovoltaic) and geothermal energy, ambient energy, tide, wave and other ocean energy, hydropower, biomass, landfill gas, sewage treatment plant gas, and biogas).**
2. **Electricity and heat storage technologies.**
3. **Heat pumps.**
4. **Grid technologies.**
5. **Renewable fuels of non-biological origin technologies.**

"Net Zero Industry Act" proposed Regulation 16.03.2023

6. Sustainable alternative fuel technologies (sustainable alternative fuels are those covered by the proposals for a Regulation on ensuring a level playing field for sustainable air transport, and for a Regulation on the use of renewable and low-carbon fuels in maritime transport).

7. Electrolysers and fuel cells.

8. Advanced technologies to produce energy from nuclear processes with minimal waste from the fuel cycle, small modular reactors, and related best-in-class fuels.

9. Carbon capture, utilisation, and storage technologies.

10. Energy system-related energy efficiency technologies.

"Net Zero Industry Act" proposed Regulation 16.03.2023

Stakeholder views

- The feedback period on the proposed Regulation is open until 27 June 2023.
- BusinessEurope pointed out that the limited scope of the proposed regulation could become a handicap for Europe's net-zero transformation.
- Orgalim believes that the shift away from fossil fuels must be complemented by greater emphasis on reducing energy demand.
- WindEurope regrets that the proposed regulation does not set up new EU funding mechanisms.
- The European Heat Pump Association (EHPA) stressed that the proposal lacked ambition for heat pump deployment, proposing an indicative target of 47 GW by 2030 for installed capacities instead of 31 GW.
- CurrENT pointed out that the proposal overlooked an entire range of commercially available grid technologies that can optimise the use of the existing electricity grid.

"Net Zero Industry Act" proposed Regulation 16.03.2023

- **The European Biogas Association welcomed the inclusion of biomethane among the proposed strategic net-zero technologies, which will facilitate the roll-out of industrial capacity in the sector.**
- **For Hydrogen Europe, the proposed regulation would be a major step forward for the growth of the hydrogen manufacturing sector in Europe.**
- **NuclearEurope called for the inclusion of nuclear as a strategic technology under the proposed Regulation.**
- **The European Environmental Bureau expressed concerns about the inclusion of carbon capture and storage as a strategic net-zero technology, as it believes that this technology would not encourage the switch away from combustion-based processes.**
- **For WWF, fast and efficient permitting is desirable but should be achieved through adequate planning and environmental impact assessments.**
- **SMEUnited pointed out that 'Net Zero Industry Act' must take greater account of SMEs.**

Conclusions - Takeaways

- **EU funding programmes mobilise public and private investments that contribute to reaching EU's energy efficiency and climate objectives.**
- **The EU has a structured dialogue with the finance industry to 'de-risk energy financing' and make private investments more attractive.**
- **The EU supports the development and scalling up of 'Innovative Energy Efficiency financing products and schemes`.**
- **The EU supports energy efficiency projects and initiatives from idea to implementation by financing its legal, technical and funding components.**
- **The European Commission and the Member States would have to undertake activities to accelerate and crowd-in private investments in net-zero strategic projects.**

Conclusions - Takeaways

- **'Net Zero Industry Act': A proposed Regulation of the European Parliament and of the Council on establishing a framework of measures for strengthening Europe's net-zero technology products manufacturing ecosystem.**
- **The 'Net Zero Industry Act' proposal is now in the hands of the co-legislators. In the European Parliament (EP), the Committee on Industry, Research and Energy (ITRE) is responsible for the file.**
- **A public hearing on the proposal was held in ITRE on 23 May 2023. The publication of the draft report is expected in June 2023.**
- **Stakeholder views would shape the 'Net Zero Industry Act' during the discussions among the EU co-legislators.**
- **'Net Zero Industry Act' must take greater account of SMEs.**
- **The 'Net-zero Europe platform' would discuss financial needs and bottlenecks of net-zero strategic projects, as well as best practices, and regularly interact with industrial alliances.**

References

- Framework of measures for strengthening Europe's net-zero technology products manufacturing ecosystem (Net Zero Industry Act), Legislative Observatory (OEIL), European Parliament.
- Net-zero industry act, European Parliament Research Service (EPRS), May 2023.
- Integrated SET: 'PlanSET Plan Action 6 on Energy Efficiency in Industry', European Strategic Energy Technology Plan (SET Plan) Revision 2021.
- Energy Efficiency in Industry, SET PLAN Progress Report 2020, EC JRC.
- Revising the Energy Efficiency Directive: Fit for 55 package, European Parliament Research Service (EPRS), May 2023.
- Fit for 55 package, European Parliament Research Service (EPRS), June 2022.
- Four challenges of the energy crisis for the EU's strategic autonomy, European Parliament Research Service (EPRS), April 2023.
- Energy efficiency: https://energy.ec.europa.eu/topics/energy-efficiency_en

Thank you very much for your attention

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