

IEEE European Public Policy Webinar 7

How does the Green Deal fit in the EU recovery plans?

7 July 2020
15:00 CEST



The material contained in this presentation may reflect the opinions of its authors and not necessarily those of IEEE.

Contents

- Objective and content of the webinar
- EU recovery measures: policy & funding
- Policy: the Green Deal with its content and timeline
- Funding: the EU's budget response to the COVID-19 pandemic
- Integrating the Green Deal with funding in EU recovery measures
- IEEE activities and initiatives on renewable energy and energy sector integration



Objective and content of the webinar

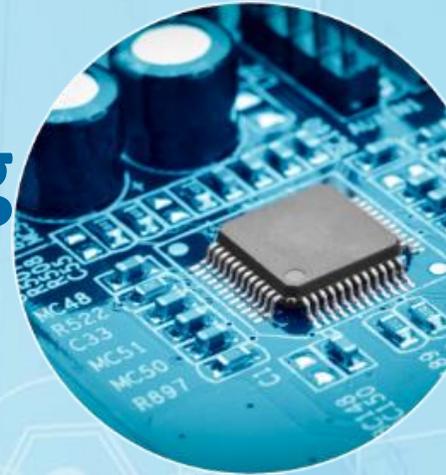


Objective and context of the webinar

- Obtain understanding of the audience on the relationship between the EU Green Deal and the EU funding initiatives that have been announced in May 2020 to combat the effects of the COVID-19 pandemic.
- Illustrate this relationship through 2 EU policy initiatives of relevance to the IEEE community:
 - Evaluation and review of the Renewable Energy Directive;
 - Upcoming Strategy for Energy System Integration.



EU recovery measures: policy & funding

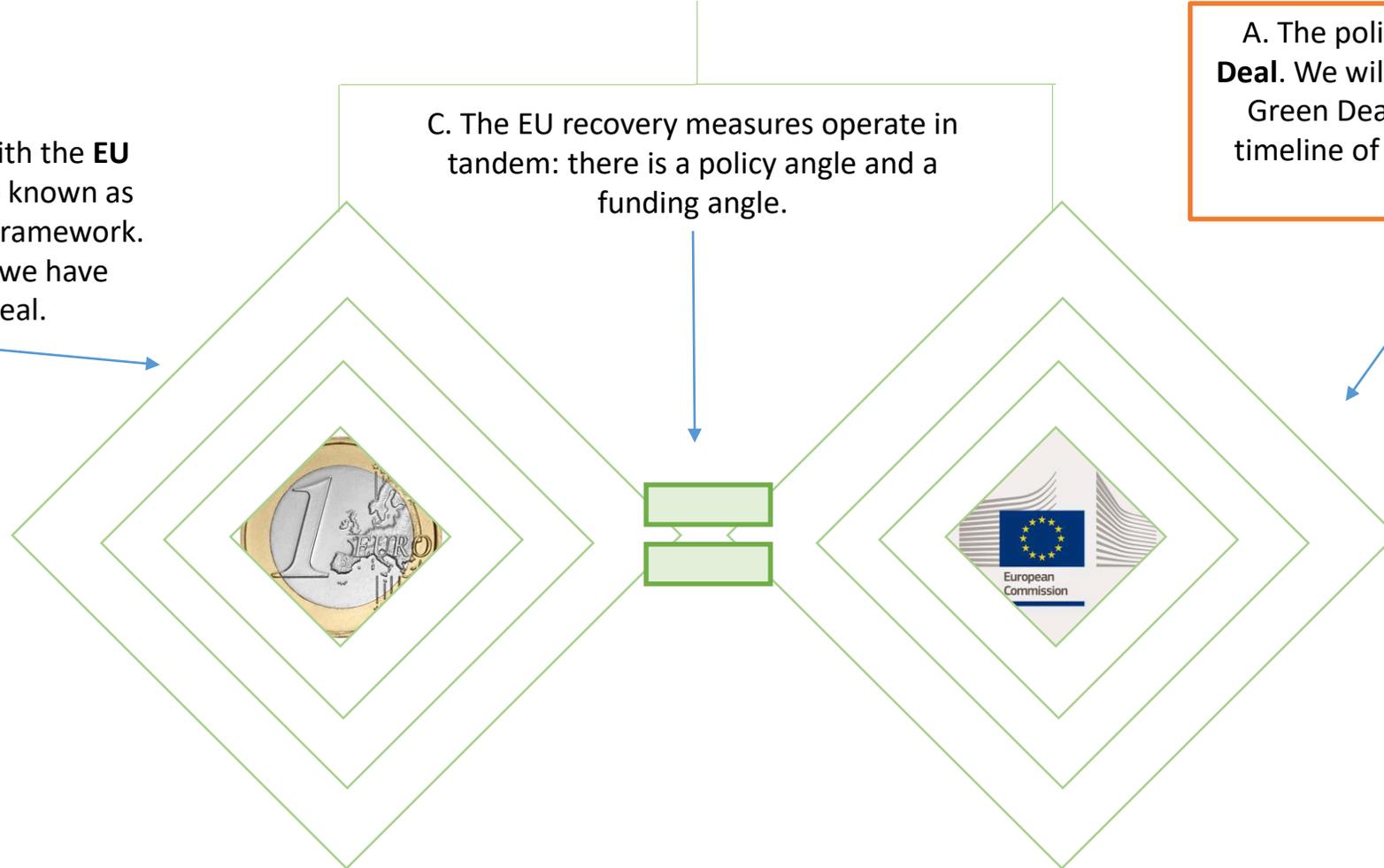


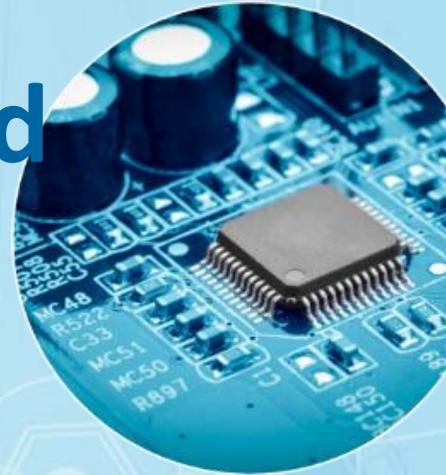
START

B. The funding angle sits with the **EU Budget for 2021-2027**, also known as the Multi-annual Financial Framework. This we will discuss after we have covered the Green Deal.

C. The EU recovery measures operate in tandem: there is a policy angle and a funding angle.

A. The policy angle is the **EU Green Deal**. We will now investigate what the Green Deal is about, and what the timeline of its implementation looks like.





Policy: the Green Deal with its content and timeline

Green Deal: what is it about ?

The Green Deal is an announcement made in December 2019 and it contains a proposal for an “EU Climate law” as well as policy initiatives in multiple areas, for the entire legislature of this Commission (2019-2024).

The Green Deal is an announcement.

This means it is not a Regulation or a Directive, and is not binding. But of course its political weight is enormous since it has been proposed at the very beginning of the term by the highest official in rank, Commission President von der Leyen.

EU Climate law proposal.

The Green Deal announced the EU Climate law:

- The Climate law is a Regulation = it becomes binding after approval by Parliament and Council.
- It is the backbone of the Green Deal.
- It sets climate-neutrality by 2050 as a key objective
- It will update the 2030 greenhouse gas emissions target
- It will, once adopted, require updates of the current targets in the entire underlying regulatory framework on energy and climate policies, including Renewable Energy Directive.

Policy initiatives in multiple areas

The Green Deal contains initiatives in the areas of:

- Energy: eg Strategy for Energy System Integration, evaluation of Renewable Energy Directive
- Mobility: eg Smart & Sustainable Mobility Strategy
- Green ICT: AI, 5G, cloud and edge computing and IoT to accelerate and maximise the impact of policies to deal with climate change
- ...

For the purpose of this webinar we will focus on the Strategy for Energy System Integration and the Renewable Energy Directive.

For the entire legislature of the Commission:

The Green Deal is the “flagship” initiative of this Commission. This means it will prioritize all policy initiatives that will support the Green Deal objectives, including the corresponding funding !



Green Deal: what are the next steps?

December 2019
Commission President Ursula von der Leyen announces Green Deal



July 2020
Publication Strategy for Energy System Integration

September 2020
Expected adoption EU climate law + start evaluation Renewable Energy Directive



Q1 2024
Start application revised Renewable Energy Directive



May 2020
Commissioner for Climate Action Timmermans reiterates: COVID should not delay Green Deal roll-out.



June 2021
Publication legislative proposal revised Renewable Energy Directive

2022-2023
On-going political discussions between Commission, Parliament and Member States on Renewable Energy Directive and initiatives listed in Strategy for Energy System integration



Funding: the EU's budget response to the COVID-19 pandemic

Overview of EU's financial response to COVID

EU funding will be prioritized towards green investments that follow a green policy objective. EU funds will go through 3 main channels:

- To Member States: support for immediate recovery purposes: e.g. bail-out programmes for certain industries (eg German + French automotive industry), cushioning of impact crisis on labour markets,...
- Support industry with immediate solvency needs;
- Increase available budget of existing EU funds (eg Horizon Europe) and create new European funds with the aim of reinforcing the recovery.

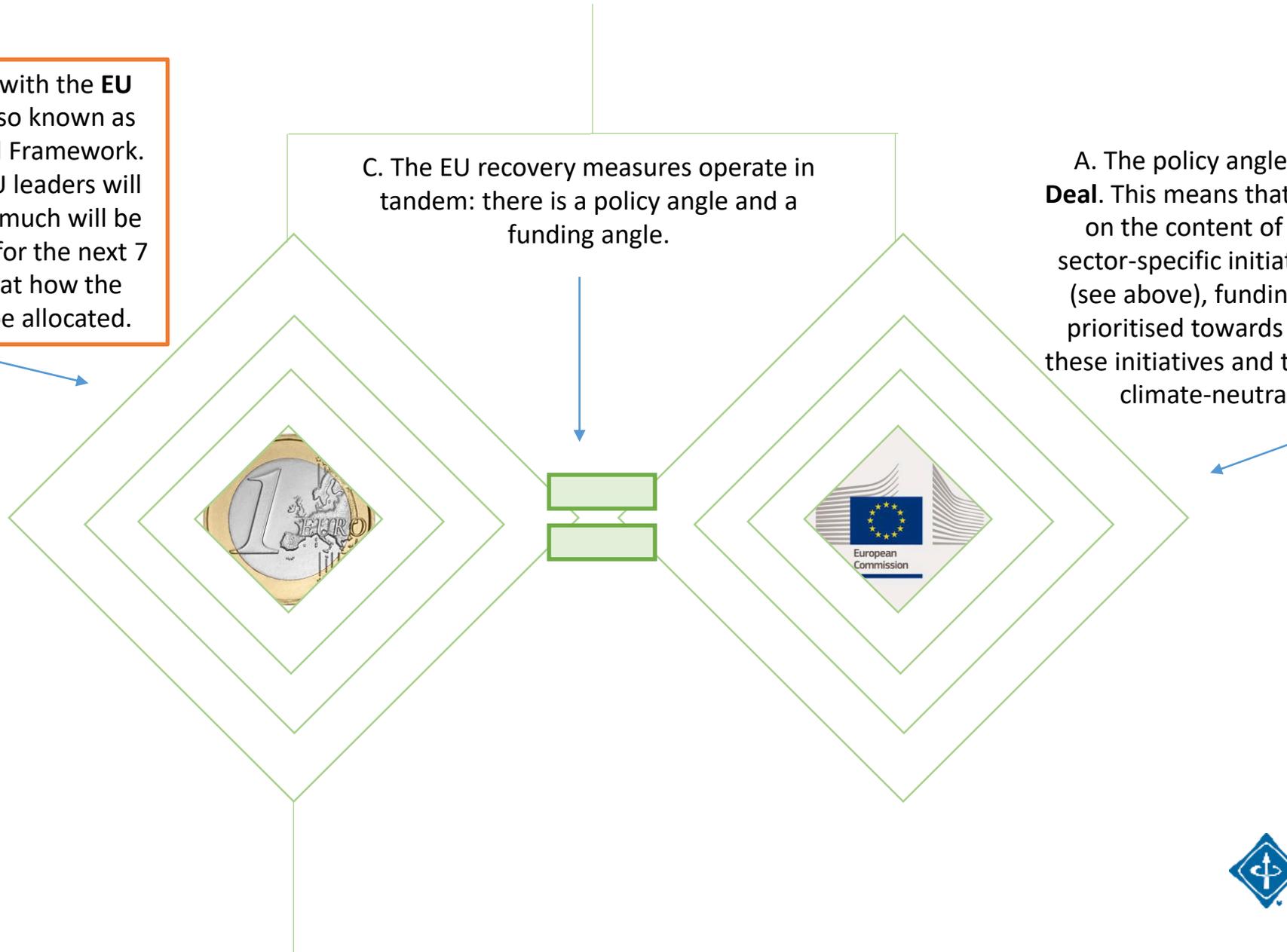
It is very **important** to underline that the Commission will prioritize, and even allocate in an exclusive manner, funds towards initiatives that align with the Green Deal objectives and the climate-neutrality principle. In other words, chances that a Member State will obtain EU funds to support certain business segments / production lines that are deemed polluting or too little environmentally friendly, are very slim.

How will this work in practice ?

B. The funding angle sits with the **EU Budget for 2021-2027**, also known as the Multi-annual Financial Framework. Within this framework, EU leaders will agree in Q4 2020 on how much will be spent in total as a budget for the next 7 years. We will now look at how the funding is built and will be allocated.

C. The EU recovery measures operate in tandem: there is a policy angle and a funding angle.

A. The policy angle is the **EU Green Deal**. This means that, while discussions on the content of the Green Deal sector-specific initiatives are on-going (see above), funding will need to be prioritised towards the objectives of these initiatives and the Green Deal, i.e. climate-neutrality by 2050.



3 funding streams

1. Supporting Member States

- **Recovery & Resilience Facility** = Support for investments & reforms to make EU economies resilient and foster sustainable growth
 - EUR 560bn (Grants) & EUR 310bn (Loans) to Member States
 - Linked to European Semester (framework for EU to coordinate member state spending & reforms i.e. fiscal policies)
- **ReactEU** = Investment in short-term crisis repair actions (cohesion funds)
 - EUR 55bn (mainly Grants) in 2020, 2021 and 2022 to Member States
 - Can also be used for Green Deal
- **Just Transition Mechanism** = Support the labor market transition towards climate neutrality. Comprised of:
 - Just Transition Fund = EUR 40bn (grants)
 - InvestEU Just Transition Scheme = EUR 1.5bn (grants) + EUR 10bn (loans)
 - Public sector loan facility = EUR 1.5bn (grants) + EUR 10bn (loans)

2. Supporting private investment

- **Strengthened InvestEU** = Mobilising investment to support the recovery and long-term growth, including a new facility to promote investments in strategic European value chains.
 - EUR 15.3bn in guarantees for the 4 policy windows: sustainable infrastructure, R&I and digitalization, SMEs, social investments and skills
- **Strategic Investment Facility** = represents the 5th policy window of Invest EU. Focus on supporting the creation and development of strong and resilient value chains across Europe.
 - EUR 15bn (guarantees)
- **Solvency Support Instrument** = Mobilisation of private investments to provide solvency support to viable companies hit by the crisis
 - Part of the European Fund for Strategic Investments
 - EUR 31bn to reach overall EUR 66bn (guarantees)

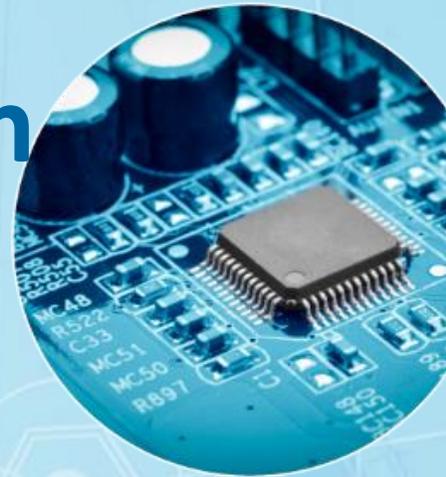
3. Research & Development

- **Horizon Europe** = aimed at strengthening the existing R&D program to support health and climate-related research and innovation activities
 - The increased budget will amount EUR 94.4bn
- **EU4Health Programme** = Investments in health security and provide dedicated support for health challenges ahead.
 - EUR 9.4bn in grants and procurement
- **RescEU** = Reinforcing the Union's civil protection mechanism response capacity to be better prepared and able to react in crises
 - Additional EUR 2bn in grants and procurement

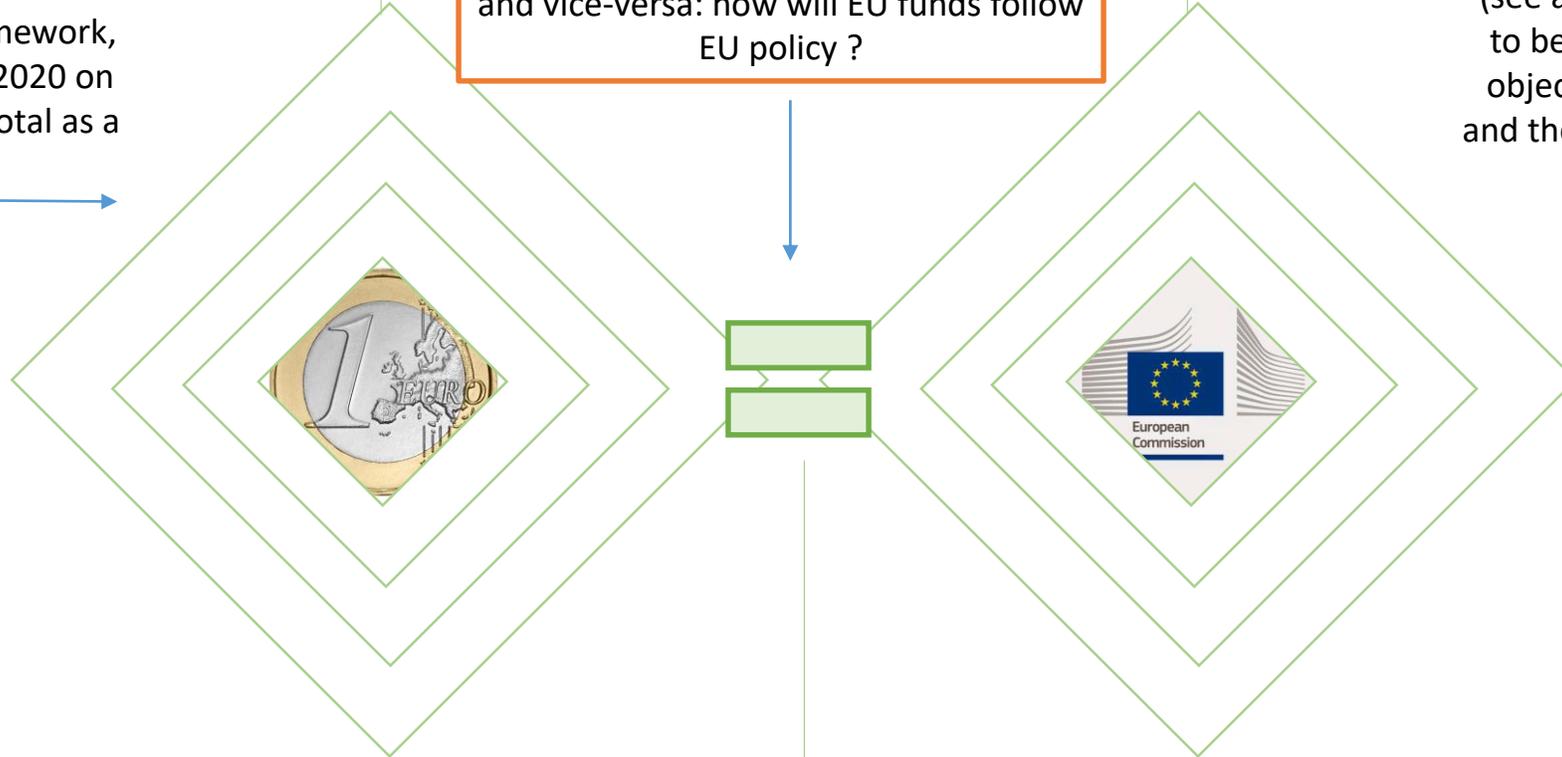




Integrating the Green Deal with funding in EU recovery measures



B. The funding angle sits with the **EU Budget for 2021-2027**, also known as the Multi-annual Financial Framework. Within this framework, EU leaders will agree in Q4 2020 on how much will be spent in total as a budget for the next 7 years.



Now we are going to look at how the funding is integrated in the policy work and vice-versa: how will EU funds follow EU policy ?

A. The policy angle is the **EU Green Deal**. This means that, while discussions on the content of the Green Deal sector-specific initiatives are on-going (see above), funding will need to be prioritised towards the objectives of these initiatives and the Green Deal, i.e. climate-neutrality by 2050.

How policy supports funding

Green Deal policy underpins the funding

- The future budget with funding is deeply aligned with the EU long-term objectives, especially Green Deal (and digitalization).
- The overall baseline of the 2021-2027 budget is 'to drive the green and digital transitions and build a fairer and more resilient economy'
- Green Deal focus areas for recovery: renovation wave; renewables, hydrogen, clean transport & logistics; just transition...



The Green Deal and its implications for climate, energy and transport are key components of the EU's recovery measures

Examples of possible funding under the three pillars of the European recovery

Pillar 1: Supporting Member States

- **Recovery & Resilience Facility** = Member States' bailout programmes for critical industries, eg automotive. EU funds can be used for VAT reliefs (=national money) for purchasing EV.
- **ReactEU + Just Transition Mechanism**= focusing on labour market: funds can be prioritized to re-skilling projects towards green (+ digital) applications eg robotics

Pillar 2: Supporting private investment

- **InvestEU + Strategic Investment Facility** = mostly projects for industry. Aim is to strengthen of the existing program to focus on EU Green Deal priorities and those include hydrogen, (offshore) renewables. But also funds will be channelled towards strategic digital capacities and capabilities, including artificial intelligence, cybersecurity, secured communication.
- **Solvency Support Instrument** = less relevant in terms of green deal as it targets companies in difficulty due to the crisis.

Pillar 3: Research and development

Horizon Europe = aimed at strengthening the existing R&D program with a budget of around EUR 100bn to focus on priority areas such as health and resilience, but also on projects aimed at greening the economy. We are looking at additional budget and a prioritization of Green Deal projects. For instance applications for calls on energy metering, eco-friendly drivetrains, EV charging infrastructure will obtain priority.

Prioritization of Green Deal: policy on renewables

The clean energy transition should involve and benefit consumers. Renewable energy sources will have an essential role. Increasing offshore wind production will be essential, building on regional cooperation between Member States. The smart integration of renewables, energy efficiency and other sustainable solutions across sectors will help to achieve decarbonisation at the lowest possible cost. The rapid decrease in the cost of renewables, combined with improved design of support policies, has already reduced the impact on households' energy bills of renewables deployment. The Commission will present by mid-2020 measures to help achieve smart integration. In parallel, the decarbonisation of the gas sector will be facilitated, including via enhancing support for the development of decarbonised gases, via a forward-looking design for a competitive decarbonised gas market, and by addressing the issue of energy-related methane emissions.

Proposals for revisions of relevant legislative measures to deliver on the increased climate ambition, following the review of Emissions Trading System Directive; Effort Sharing Regulation; Land use, land use change and forestry Regulation; Energy Efficiency Directive; Renewable Energy Directive; CO₂ emissions performance standards for cars and vans

June 2021

Extracts from Green Deal Communication (December 2019) and its annex:

- “Renewable energy sources will have an essential role”
- Revised proposal for the Renewable Energy Directive in June 2021 -> upgrade current RES target from 32% to 45 % in 2030 ?

Green Deal in the EU funding plans: renewables

1.2. Accelerating a pipeline of future projects

- EU Tendering scheme “15GW renewable electricity” in 2 years

A renewable energy acceleration program to support 25% of the market, making up for reduced tenders at MS level, hence 7.5 GW each of the next 2 years⁷; a total capital investment of 25b€⁸ for the two years together. With increasing competitiveness of renewables, actual public support would be lower, depending on electricity market prices.

- Supporting national instruments

⁷ In 2019, 30GW of solar and wind was built in the EU-28 so 25% means supporting 7.5GW per year.

⁸ Estimate based on average investment costs of utility solar, on- and offshore wind investment cost

Additional EU funding as a multiplier for MS funding . If a MS intends to tender a certain amount of capacity in the next 2 years the EU could match the national tender one on one.

This would amount to **€10 billion** over two years, **using EIB co-financing of these projects; supported through EU guarantees (eg. EUInvest).**

Extract from non-official (leaked) Commission text.
The official announcement of the funding allocation for projects in renewables can come through either the Energy Sector Integration Strategy (July 2020) and / or with the revised Renewable Energy Directive’s proposal (June 2021).

Prioritization of Green Deal: policy on energy system integration

The clean energy transition should involve and benefit consumers. Renewable energy sources will have an essential role. Increasing offshore wind production will be essential, building on regional cooperation between Member States. The smart integration of renewables, energy efficiency and other sustainable solutions across sectors will help to achieve decarbonisation at the lowest possible cost. The rapid decrease in the cost of renewables, combined with improved design of support policies, has already reduced the impact on households' energy bills of renewables deployment. The Commission will present by mid-2020 measures to help achieve smart integration. In parallel, the decarbonisation of the gas sector will be facilitated, including via enhancing support for the development of decarbonised gases, via a forward-looking design for a competitive decarbonised gas market, and by addressing the issue of energy-related methane emissions.

Strategy for smart sector integration (non-legislative, Q2 2020);	Q2 2020
Renovation wave (non-legislative, Q3 2020);	Q3 2020
Offshore renewable energy (non-legislative, Q4 2020)	Q4 2020

3. MAKING IT HAPPEN - AN ACTION PLAN TO ACCELERATE THE CLEAN ENERGY TRANSITION THROUGH ENERGY SYSTEM INTEGRATION

Energy system integration, facilitated by the correct and timely implementation of the eight legal acts of the Clean Energy Package by the Member States, is expected to progress through declining costs of renewable energy technologies, full national and cross-border market access for renewables and demand response, new markets for storage systems and electric vehicles, and digitalisation. At the current pace, however, our energy system in 2030 is rather expected to look ~~more~~ like today's system than to mirror the needs for 2050.

Extracts from Green Deal Communication (December 2019) and its annex:

- “The smart integration of renewables, energy efficiency and other sustainable solutions across sectors will help to achieve decarbonisation [...]” + “The Commission will present by mid-2020 measures to help achieve smart integration.”

Extract from Commission Work Programme (May 2020):

- Strategy for smart sector integration to be launched in Q2 2020 – *correction: Q3 2020*

Extract from leaked Strategy prior to publication (due July 2020)

Contains definitions, opportunities and roadmap for energy system integration.

Please note this version is not official nor final.



Green Deal in the EU funding plans: energy sector integration

The strategy identifies six pillars, plus a supporting funding framework, where coordinated measures are outlined to address ~~these existing~~ barriers for energy system integration. These are presented in the following sections. Each pillar contains a box with key follow-up actions²⁶ which will be undertaken by the Commission to implement this strategy.

~~aiming to provide an outlook of the R&I needs and priorities of the future...~~ Funding will be focused on promising medium and long-term opportunities such as integrated industrial clusters, energy system flexibility and storage, transport electrification, and ~~energy system modelling~~ green hydrogen. The existing digital research agenda will also be strengthened to adapt digital technologies and develop a European energy data exchange model, through Horizon Europe, TEN-E and the Digital Europe Programme.

Extract from leaked Strategy prior to publication (due July 2020)

Contains also funding plans and priorities for funding: where should the money go to ?

Eg: “Use EU programmes to catalyse private financing for system integration projects (LIFE, Horizon Europe, InvestEU Programme, Cohesion Policy, Connecting Europe Facility, Innovation Fund, Modernisation Fund) under the next 2021-2027 MFF.”



IEEE activities and initiatives



EPPC Energy WG – Draft Position Statement on renewables

The statement is aimed at promoting the use of renewables:

- by profiting from the potential of each State (e.g. different solar or wind power production potential) and by exploiting the exchange at the cross borders, by ensuring an homogeneous transition to all the Countries, including those ones actually lagging behind
- by supporting actions aimed at:
 - ✓ relieving energy distribution stresses
 - ✓ improving effectiveness of investments for both energy transmission and distribution
 - ✓ supporting the adoption of electrical energy storage systems
 - ✓ increasing demand flexibility
 - ✓ extending industrial standardization
 - ✓ smartening power electronics interfaces
 - ✓ improving R&D in the field
 - ✓ developing a holistic view on renewable energy technologies and systems, going from production up to “second life” , components and materials reuse and recycle strategies.

Draft Position Statement on renewables-European context

Revised Renewable Energy Directive (2018) Green Deal (2019) and Recovery Plan (2020)

DIRECTIVE (EU) 2018/2001 OF THE EUROPEAN PARLIAMENT AND OF THE COUNCIL
of 11 December 2018

on the promotion of the use of energy from renewable sources

European Commission President Ursula **von der Leyen** said: *“The recovery plan turns the immense challenge we face into an opportunity, not only by supporting the recovery but also by investing in our future: the European Green Deal and digitalization will boost jobs and growth, the resilience of our societies and the health of our environment. This is Europe's moment. Our willingness to act must live up to the challenges we are all facing. With Next Generation EU we are providing an ambitious answer.”*

Climate change and energy in the EU

(for the EU-28 in 2017)



2020 target:
- 20 %

Greenhouse gas emissions
78.3 index 1990 = 100
(- 12.4 index points since 2008)



2020 target:
20 %

Share of renewable energy
17.5 % in gross final energy consumption
(+ 6.2 pp since 2008)



2020 target:
1 483 Mtoe

Primary energy consumption
1 562 Mtoe
(- 8.0 % since 2008)



2020 target:
1 086 Mtoe

Final energy consumption
1 123 Mtoe
(- 4.9 % since 2008)

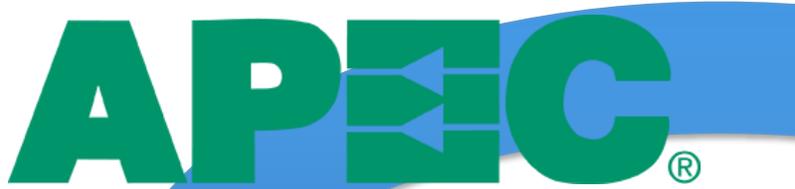
Climate neutral

The EU will be climate neutral by 2050. To do this, it will carry out a series of initiatives that will protect the environment and boost the green economy.



Other major work of IEEE on renewables

Many IEEE initiatives and contributions, from components to systems, from education to standards...and more!

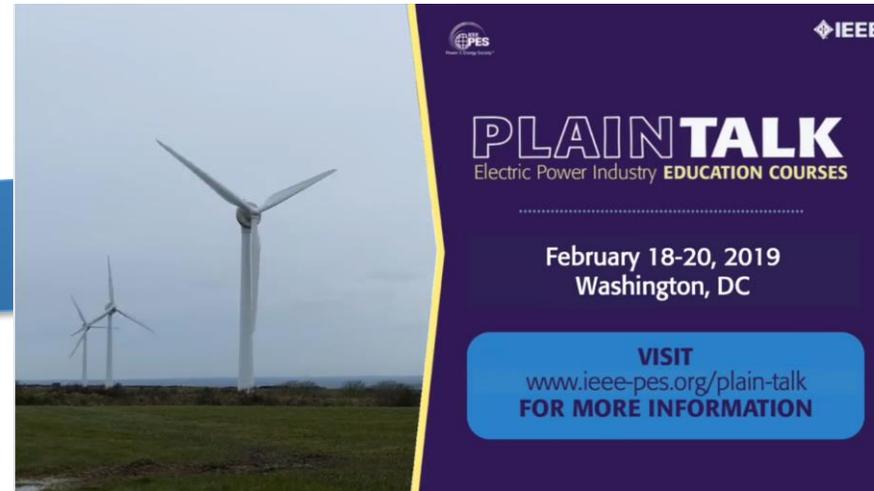
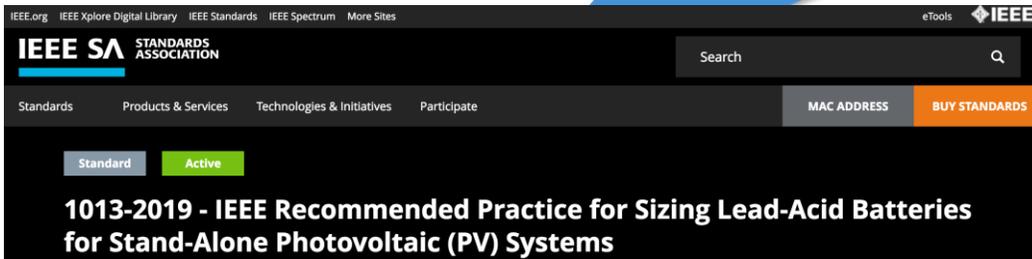


10 Jun 2020 | 14:31 GMT

Used EV Batteries Could Power Tomorrow's Solar Farms

An MIT study finds promise in repurposing swapped-out EV battery packs for solar grid storage

By Mark Anderson



EPPC Energy WG – Draft Position Statement on Power-to-Gas

- EU goal of climate neutrality by 2050 depends on Renewable Energy Sources (RES) being implemented on a massive scale
- This will require fundamental changes to the ways in which electricity is consumed, transported and stored
- Dealing with the inherent intermittency of RES will require more flexibility on the demand side, more flexibility in transmission networks, and more grid scale storage
- Power-to-Gas (PtG) is a technology with potential for grid scale storage, as well as being part of a new hydrogen infrastructure
- PtG can also produce methane (with lower efficiency) but allowing access to a large existing infrastructure based on methane

EPPC Energy WG – Draft Position Statement on Power-to-Gas

The draft recommendations of the Energy Working Group are as follows:

- Support for an EU regulatory framework that strengthens PtG as a crucial building block of smart sector integration within the EU's energy system.
- Support for large scale pilot projects of PtG applications, which is crucial at this stage of technology development, to understand the economic and technical benefits of “scaling up” the technology.
- Support for pilot projects that make use of existing infrastructure from the energy sector (e.g. gas pipelines, gas storage, gas turbines) as they present opportunities for more rapid implementation of PtG for grid scale storage application with reduced costs.
- Support for PtG projects that use locally available, existing sources of concentrated CO₂ to generate hydrocarbons, since these are both technically and economically most efficient.
- Support for continued research and development of key technologies needed for PtG (electrolysers, fuel cells, CO₂ capture, gas storage) to increase capacity and reduce costs. A key factor in choosing which PtG technologies to support is how well the technology can deal with an intermittent supply of energy for the conversion.
- Development of an EU set of “best-practices” and facilitate knowledge transfer for PtG applications.

EPPC Energy WG – Draft Position Statement on Power-to-Gas

How EPPC/Energy WG initiative fits into the current EU plans (Green Deal)

- Some industrial processes and some transport applications are difficult\impossible to de-carbonize with electrification. EU plans propose a hydrogen infrastructure to supply these sectors, such as steel making and heavy transport
- PtG is needed to generate “green” rather than “gray” or “blue” hydrogen for the new hydrogen energy sector.
- Grid scale storage using hydrogen (or methane or ammonia made from hydrogen) can piggyback on this “baseload” of hydrogen production from RES to supply industry, thereby increasing the utilization of the electrolysis equipment and reducing the costs
- EU recognizes that economic support for this is necessary, due to current poor economics of PtG and EU recognizes need for more research and development and innovation funding, fitting with recommendations in Position Statement.

EPPC Energy WG – Draft Position Statement on Power-to-Gas

EPPC Energy WG methodology:

- One WG member with subject matter expertise is assigned the role of main editor for the policy document
- Additional qualified committee members are assigned the role of co-editors
- A concept note that sets the scene and expectations for the policy document is prepared by the editor(s) and reviewed by the entire Energy WG
- A Call for Engagement is launched in order to create a wider core group of technology policy experts willing to contribute to the policy exercise
- All members involved submit comments and contribute substantive text to the document
- Editor(s) review and integrate into the document, to the greatest extent practicable and in a manner compliant with the original intent and message defined by the Energy WG, material by volunteers
- At the end of the editorial review/process, a revised version of the policy document is sent back to all members involved

- The document is submitted to the European Public Policy Committee for review and eventually approval
- The document is submitted to the Global Public Policy Committee for review and eventually approval



danke 謝謝 ngiyabonga
 Баярлалаа спасибо тааifelei lava merci harka welalin taek teşekkür ederim
 vinaka blagodaram dank je misaotra matondo paldies grazzi mahalo
 nanni nandiri kiitos dankie nannuruu koszonom thank you
 bayarlalaa grace hvata maururu dhanayavad enkosi bedankt
 asante gracias tapadh leat хвала
 asante manana obrigada
 djere dieuf mochchakkeram
 akun dankon atio go raibh maith agat
 chnorakaloufioun gratias ago gracies sulpay taku
 obrigado meso dekuje sukriya kop khun krap taku
 didi madaba najis tuka arigato takk dakujem trugarez
 kam sah hamnida rahmet terima kasih rahmet grazie arigato takk dakujem trugarez
 তোমাকে ধন্যবাদ 감사합니다 xiexie eucharistw diotch dhanayavadagalu shukriya merci мерси
 merci