

LAUNCH OF THE COMPETITIVENESS PROGRESS REPORT

on the Clean Energy Transition

On 14 October, the European Commission launched its first-ever [Report on progress of clean energy competitiveness](#) and its underpinning analysis [Clean energy transition – technologies and innovations report](#), as part of the 2020 State of the energy union report. The report takes stock on whether their development is on track to deliver the green transition and the EU's long-term climate goals.

From 2020 on, the Commission will publish a yearly progress report on clean energy technologies and the competitiveness of the EU clean energy industry. EHP participated in the informal consultations on the supporting analysis, CETTIR, and covered the digital launch of the report ([see agenda and speakers](#)) on 10 November.

Key findings of the report

The CPR report focuses on **offshore wind, ocean energy, solar PVs, renewable hydrogen produced from electrolysis, batteries and smart grids** (HVDC, digital grid solutions for RES integration). The Conclusion also mentions geothermal, solar thermal, CCS and nuclear. **Buildings technologies** are also identified as a high energy consumer, the Commission notes that “The EU has a strong position in certain sectors such as prefabricated building components, district heating systems, heat pump technologies and home/buildings energy management systems (HEMS/BEMS).” Interestingly the conclusion also notes the importance of citizens and **cities** that “can play a key role in developing a holistic and integrated approach” and are at the heart of the energy transition (p.31).

The supporting analysis features the DHC sector more prominently in [the buildings section \(3.7\)](#) “District heating and cooling industry” and with developments that will interest EHP members on, i.e., industrial heat recovery, bio CCS (in the renewable fuels section). It notes that “the EU is a world leader in *District Heating and Cooling* (DHC) technology and exports it globally, especially to China, USA and South Korea. The *industrial heat recovery* sector is important for its CO₂ emission reduction potential in a hard-to-decarbonize sector and the current industry in the EU, for example in industrial heat pumps, would benefit if the sizable market potential for the recovery of industrial waste heat would be developed further.”

Back to the main report, the Commission stresses the link between the EU innovation capacity and the achievement of the long-term climate targets.

- “Achieving these 2030 and 2050 targets **requires a major transformation of the energy system. This however depends heavily on uptake of new clean technologies and increased investments in the needed solutions and infrastructure.** However, as well as the business models, skills, and changes in behaviour to develop and use them.”
- “Competitiveness in the clean energy sector is defined as the capacity to produce and use **affordable, reliable and accessible clean energy** through clean energy technologies, and compete in energy technology markets, with the overall aim of bringing benefits to the EU economy and people.”

The assessment of competitiveness relies on **many indicators**, data is sometimes scarce (p.4), see table 1.

The report points out the **decoupling of energy demand from economic growth**, as well as the general increase of the share of renewables in energy, particularly for electricity, thanks to a policy push. However, the report mentioned that despite a temporary decrease, **energy net import dependency is back on an upward trend.**

Interestingly, the report also notes that “the **value added of the clean energy sector** (EUR 112 billion in 2017) was more than double that of fossil fuel extraction and manufacturing activities (EUR 53 billion), **having tripled since 2000.** **The clean energy sector thus generates more value added that stays within Europe than the fossil fuel sector.**” (p.6)

The report also describes the main R&I trends in the EU, that EU officials qualified of “worrying” during the launch event.

- “In recent years, the EU has invested an average of nearly EUR 20 billion a year on clean energy R&I prioritised by the Energy Union. The R&I budget allocated to energy in the EU represents 4.7% of total spending on R&I.”
- “In absolute terms, however, Member States have reduced their national R&I budgets for clean energy.” “Public sector R&I spending on low-carbon energy technologies was lower in 2019 than in 2012, while countries continue to allocate large amounts of R&I funding to fossil fuels.”
- “Today the EU has the lowest investment rate [*in public R&I*] of all major global economies measured as a share of GDP” (see table p.9).

Notes on keynote speakers and panellists’ interventions

Kadri Simson, European Commissioner for Energy

Interviewed by Ann Mettler, Director, Europe at Gates Ventures

- **On the timing of the report:** We need innovation to reach the long-term climate ambition. Innovative clean technologies will bring the EU **industrial autonomy and resilience of energy technologies**. Recovery funds will be used for innovation. We are at an important moment to take stock of industrial competitiveness and assess what needs to be done to **reinforce the competitiveness of key value chains**.
- **Innovation is key to keep a competitive edge**, but we see that member states have reduced their R&I spending and are still spending a great share on fossil fuels. **Venture capital** in clean energy has increased but is still too low.
- **Clean procurement** will also be key, as governments can be early adopters of clean technologies. **Simplification in Horizon Europe** have been made to make funding more accessible, especially for SMEs. The EU is already well placed in some key value chains for green technologies, for instance **offshore wind, green hydrogen, energy storage, batteries and photovoltaic**.
- Setting climate and energy targets in the long-term should ensure a good environment for boosting investment. **Taxonomy** should create more demand for clean technology, revising state aid guidelines for energy and environment should **shorten the innovation cycle**. Research funding programs, for instance horizon Europe and EU invest should help attracting private finance.
- The EU Commission will focus on **working with member states and private sector** to encourage member states to set their own target.
- The offshore energy strategy will be launched next week, and TEN-E guideline will be revised later this year.

Ditte Juul-Jørgensen, Director-General for Energy, European Commission

- **Climate and energy targets have helped innovation and competitiveness**, but we need to do more to remain competitive and increase our domestic demand for clean technologies, in order to achieve the 2030 and 2050 targets.
- To **mitigate the short-term economic impact of the pandemic**, we need a **digital and green transition**.
- Clean energy technologies give the EU the ability to compete in the global market; they perform better, in terms of growth, than regular energy technologies and the rest of the economy. This is what the report shows, in line with other reports from the internal International Energy Agency, for instance. However, the **decreasing share of R&I for energy, in EU and national budgets, is a worrying trend**. It puts the resilience of industrial value chains and the economic competitiveness at risk.

- The good news is that the EU industry holds a **strong position in clean technologies**, including a **strong home market**, and this can be further improved via policy, a good example of this is floating offshore wind power. However, we cannot rely on only on the Home Market to be competitive. We need scale-up mechanisms in innovation funding new business models new skills economy of scale.
- **Green Technology will be combined with energy system integration and digitalization.**
- We need to be careful with the shift from fossil fuels to clean technologies, as we are **shifting dependency to critical raw materials**. This means that the **circular economy** will play a key role.
- We need to closely **engage with citizens and the industry**, and we need more data to understand investment flows and clean technology.

Panel moderated by **Vincent Berutto** recently appointed Head of the “Innovation, Clean Technologies, and Competitiveness” Unit at DG ENER, European Commission. The panellists exchanged on what is needed to make European industry more competitive, in particular the energy sector.

Isabel Cabrita, Head of Research Studies and Renewable Division, Ministry for the Environment and Climate Change of Portugal

- The real issue is not with fossil fuels subsidies but with competitiveness and Innovation, the energy system is changing. We need to address decentralisation.
- Training the workforce is key to bring change, companies need to engage with consumers, employees, to get them to accept the change.

Mechthild Wörsdörfer, Director Sustainability, Technology and Outlooks, IEA

- Scaling up of Innovative technologies should be the focus rather than just phasing out fossil fuels subsidies.
- Investment in recovery is key and the next 2-3 years will be decisive, we need to send money on the right technology and pathways.
- We need a common methodology to define what sustainable investment is.
- Clear policy commitments are needed but companies need to step up too. For instance, oil and gas companies are making only 1% investment in clean technologies.

Dr. Tobias Brandis, President of Wacker Polysilicon

- We need to push down the price of clean technologies and make sure that the EU is receiving its fair share of renewable energy and clean tech investments.
- Cheap electricity is key for industrial competitiveness, we need to think about competitiveness from an operational cost perspective too.

Peter Damgaard Jensen, Chair of the Institutional Investors Group on Climate Change

- If the right opportunities are there, then investors get into projects. We need to put the right price on carbon which means a higher price than what we have today. We need to follow the example of the public support in offshore wind which succeeded in making the sector cost competitive.
- We need to follow the offshore wind example for average Technologies to make them cost competitive.
- Investors are interested in large and long-term capital projects. I am happy to see a clear political outlook in the EU, in China and in Japan. I hope the US will move in the same direction.
- Shell, Total and BP are also trying to get into renewable energy sources as they see it is the direction the world is taking.
- What is important is a level playing field (carbon price) and to be able to make fast decisions. The ability to set a course of action quickly has been a real advantage for China, this is the way it dominates the semiconductor market.

Jim Skea, Professor of Sustainable Energy, Centre for Environmental Policy, Imperial College London

- There is a certain disappointment from the social sector that green technologies are not always able to turn into green jobs. Investing in competitiveness in Europe should be prioritised over importing technologies from abroad.
- 2/3 of private money is still going into oil and gas while public sector money has a more transformative impact. However, we should not caricature, there is no value in demonising the oil and gas sector, many of the skills and competences from this sector can be used in clean technologies (offshore exploration to offshore wind). There is a lot that the existing players can do. The low prices for oil and gas are an opportunity to drive research and innovation and a carbon price would help with this.

Conclusions [Stephen Quest](#), Director-General of the Joint Research Centre

- This is a first-of-a-kind report that will be improved, especially with regard to the indicators and the data. It has been teamwork between the JRC and other DGs from the commission.
- Thanks to the report, we gained a better understanding of Europe's Industrials industrial fabric.
- The clean energy sector outperforms the regular energy sector.
- A Cap Gemini clean Venture study estimates that 1 euro invested in cleantech generates 9 Euro return on investment.
- We are on a good track with green electricity generation. We need to be careful with shifting of the dependency on fossil fuels to raw materials, this is a future challenge.
- More work needs to be done to increase public and private innovation funding.