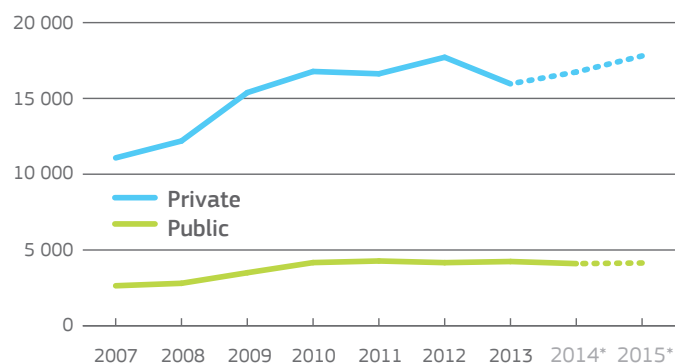


9. Investing in Clean Industrial Technologies

November 2018

The **Paris Agreement** creates **business opportunities** to drive research and **innovation** in renewable energy, energy efficiency and other low carbon technologies. For the EU to maintain and exploit its **first mover advantage in clean energy and climate science and technology**, it will need to further **support start-ups and investors** to take innovations to the market. The shift to a low carbon economy needs to be properly managed, including anticipation and mitigation of the societal impact of the transition. This will require changes in business and investment behaviour to stimulate further innovation. Ongoing bilateral and multilateral negotiations on liberalising trade in green goods and services should also be accelerated to create business opportunities for innovative European companies around the globe.

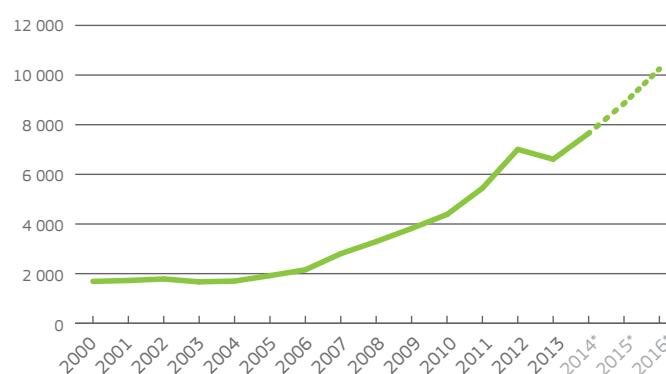
Public and private R & I investments into Energy Union priorities keep increasing in the EU



Source: European Commission

*estimated values

... This is reflected in the growing trend in low-carbon key technology innovation by the EU (international patents)



Source: European Commission

*estimated values

The European Commission is boosting new investment in clean energy and climate research and innovation by doing the following:

- ▶ Throughout 2018: dedicated financial support for sustainable and innovative infrastructure investments through the “InvestEU” programme have been provided. The EIB committed to fund at least 40% of EFSI funding under its infrastructure and innovation window to support projects that contribute to EU’s climate and energy commitments.
- ▶ Throughout 2018: Implementation of relevant policy actions of the strategy “Accelerating Clean Energy Innovation” such as:
 - Delivery of Horizon 2020 public investment in clean energy and climate research & innovation (worth €3.4 billion over the period 2018-2020 with more than € 2 billion focusing on four energy R&I priorities and € 150 million addressing the innovation challenges of the international initiative Mission Innovation)
 - Loans from the Innovfin Energy Demonstration Project financial instrument of Horizon 2020 have provided € 107 million loaned to 4 first-of-a-kind energy demonstration projects since 2016 and the budget allocated to this instrument was more than doubled (from € 150 to more than 300 € million).
- ▶ Throughout 2018, 77 projects funded (EU funding: 444M€) under the Horizon 2020 contractual Public-Private Partnership on “Sustainable Process Industries through Resource and energy Efficiency” (SPIRE) have delivered 221 significant innovations improving energy and raw material efficiency of industrial processes (on average 36% reduction in fossil energy consumption, 30% reduction in CO₂e, and 25% reduction in non-renewable primary raw material consumption). An investment of over 350M€ is planned for the period 2018-2020.

- ▶ Energy efficiency is a major priority for Europe, as a part of a low-carbon economy. Research and the involvement of the private sector is fundamental for its success. The Energy Efficient Buildings (EeB) Public Private Partnership is a joint initiative of the European Commission (EC) and the construction industry. This initiative has been very successful in promoting research on new methods and technologies able to accelerate the processes of reduction of energy use in new and retrofitted buildings and to improve the European industrial competitiveness. The participation of 35% of SMEs in research projects, an average reduction of energy use due to innovation of 18.7%, an average CO2 emission reduction due to innovation of 13.1 % and an leverage effect of 4 demonstrates the success of the initiative.
- ▶ April 2018, Launch of VentureEU which is an initiative to boost the availability of investment capital for business innovation and growth across Europe. Around 1,500 start-ups and scale-ups are expected to gain access to financing across the whole EU from a range of sectors including resource and energy efficiency. The EU will provide cornerstone investments of up to €410 million. The rest of the financing will be raised by the selected fund managers primarily from independent investors.
- ▶ June 2018: at the invitation of the European Council Conclusions the Commission will launch a new pilot initiative on breakthrough innovation within the remaining period of Horizon 2020. Presently, the Commission has entered in the design phase of an EIC pilot instrument with the objective of implementation in 2019.
- ▶ Designing a **stable and ambitious regulatory environment** that promotes innovation: The revised EU Emissions Trading System will include two new **Innovation and Modernisation funds** that have the potential to generate up to **€18 billion of revenue during the next decade**. The revenue is intended for European industry to invest in new technologies and for the Member States to modernise their power sector and energy systems. The new Regulation on the Governance of the Energy Union further provides investor certainty by putting in place a comprehensive legislative framework covering all aspects of climate and energy policies in Europe.

What will the European Commission do next?

- ▶ Continuation of the implementation of the strategy Accelerating Clean Energy Innovation adopted by the European Commission late 2016 and implementation of the Energy Union's objectives related to this initiative on investing in clean industrial technologies.
- ▶ The proposal for the Horizon Europe Research Framework Programme contains a binding target of 35% for actions on Climate.
- ▶ The revised EU ETS Directive 2003/87/EC (which entered into force on 8 April 2018) establishes
 - the new Innovation Fund, endowed with 450 million allowances. The Fund will complement other EU programmes for research and innovation. It will support the demonstration of low-carbon innovative technologies in energy intensive industry, renewable energy, energy storage and CCS sectors. Operational rules of the Fund are under development and it is planned that the Fund will launch its first call for proposals in 2020.
 - the Modernisation Fund for supporting the modernisation of energy systems in 10 lower-income Member States. The Fund will launch its operations in 2021 and complement other EU and Member States funding programmes addressing the decarbonisation of the energy sectors in these countries.