



Hydropower in Horizon 2020, Energy Union, ACEI and SET-Plan

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Renewable Energy Sources

Outline

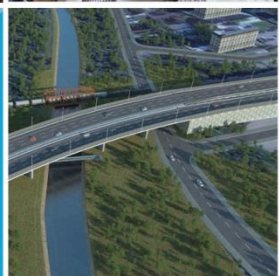
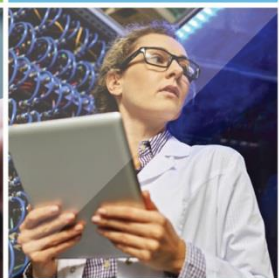
- EU Energy Policy
- Accelerating Clean Energy Innovation
- SET-Plan
- Hydropower R&D

"...We now have a unique opportunity to look beyond energy and climate policy and **link it up with other areas** such as **industrial policy, transport, competition, agriculture, foreign, trade and development policy, or research**. This is the only way to transcend the so-called contradiction between '**competitiveness**' and '**decarbonisation**'. There is no such contradiction, we need both at the same time"

Vice-President for Energy Union Maroš Šefčovič



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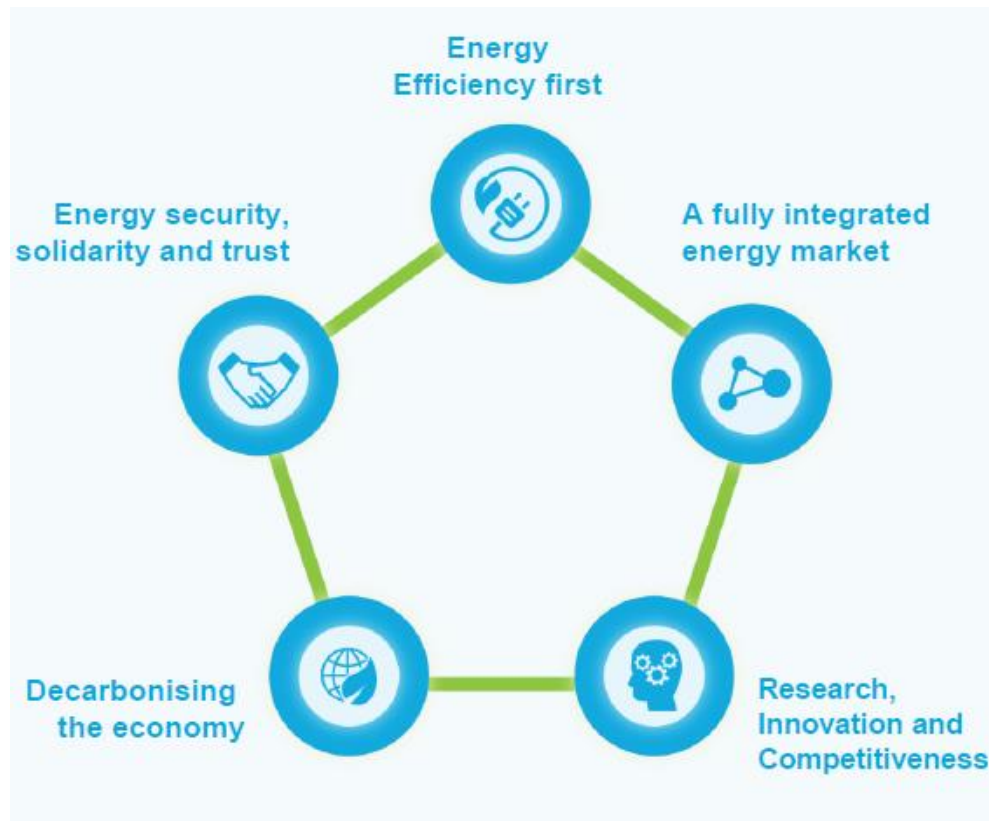


CLEAN ENERGY FOR ALL EUROPEANS



SMART AND CLEAN ENERGY FOR ALL – IMPLEMENTING THE ENERGY UNION STRATEGY

AN ENERGY UNION BASED ON 5 MUTUALLY SUPPORTIVE AND INTERLINKED DIMENSIONS



WHY DO WE NEED A NEW LEGAL FRAMEWORK?

THE ENERGY SYSTEM OF TOMORROW WILL HAVE TO LOOK DIFFERENTLY

2030

50 % of electricity to come from renewables



2050

Electricity completely carbon free



We have the most ambitious **climate commitments** in the world, thanks to the EU



With leadership comes responsibility

Unique opportunity to **modernise our economy** and to

boost competitiveness

create the growth and jobs we need

WHAT ARE OUR GOALS? (1)

CREATING JOBS & GROWTH, BRINGING DOWN GREENHOUSE GAS EMISSIONS, SECURING ENERGY SUPPLY



Putting energy efficiency first



Demonstrating global leadership in renewables



Delivering a fair deal for consumers



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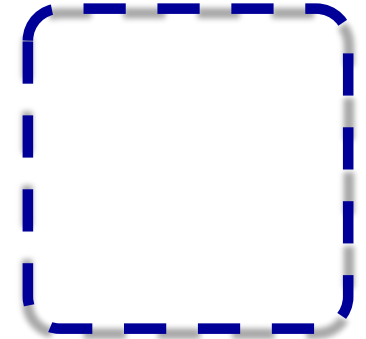
2030 climate and energy Framework

2020

20 %
GHG

20%
RES

20 %
EE



2030

40 %
GHG

27 %
RES



27 %
EE

New Key
Indicators

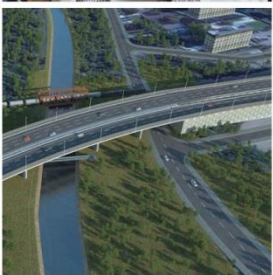
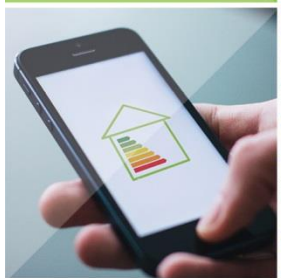
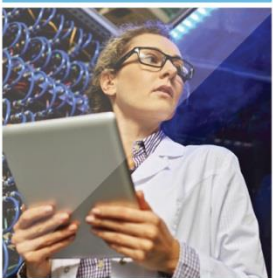
New governance system

NOT LEGALLY BINDING

Research and
Innovation



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Commission



Accelerating Clean Energy Innovation



Accelerating Clean Energy Innovation

Research and innovation as drivers for:

- *Energy efficiency first*
 - *Europe as a global leader in renewables*
 - *A fair deal for consumers*
- *Reaching Paris agreement objectives while supporting jobs, growth and investment in Europe*

Policy levers

Support clean energy research and innovation through 3 policy levers

- *Policies and regulation*
- *Mobilising private investments*
- *Public funding to push science and innovation frontiers*

Taking clean energy innovation forward

- *Leveraging Europe's global role*
- *Key actors in the energy transition*
- *Digitisation*

The SET-Plan: coordinating research and innovation across Europe

The Strategic Energy Technology (SET) Plan is the technology pillar of the EU's energy and climate change policy

- ***2013 Technology Map of the European Strategic Energy Technology Plan***
outlines a research strategy for Hydropower

Hydropower - strategy for research

- Continuous efforts to address sector's long-term challenges
- Maintaining leading position of the European industry

Hydropower in Energy WP FP7/H2020

2016 - Environmentally friendly hydropower solutions

FIThydro – Fish-friendly Innovative Technologies for Hydropower

2017 - Increasing flexibility of hydropower

Awaiting the outcome of the call

2013 – Optimisation of water turbines for integration of renewables into the grid

Hyperbole – Hydropower plants PERFORMANCE and flexible Operation towards Lean integration of new renewable Energies

2007 – New or improved hydro components and concepts

HYLOW - Hydropower converters with very low head differences

HYDROACTION - Development and laboratory testing of improved action and Matrix hydro turbines designed by advanced analysis and optimization tools

Other projects outside of the Energy WP:

FP7: REFORM, SiTHyM, CLARIS LPB, PREDHYMA, IFLOW, RIPEAK, HYDROCARB

H2020: AMBER, SHYDRO-ALP, DAFNE, KEEPFISH



Hydropower in Horizon 2020 WP 2018-2020

The WP2018-2020 is expected to be adopted in October 2017



Thank you!

Find out more:

<http://ec.europa.eu/programmes/horizon2020>