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Paving the way towards clean energy and fuels in Europe, Lisbon,,29 May 2019

Energy and Climate Policy

Paris agreement

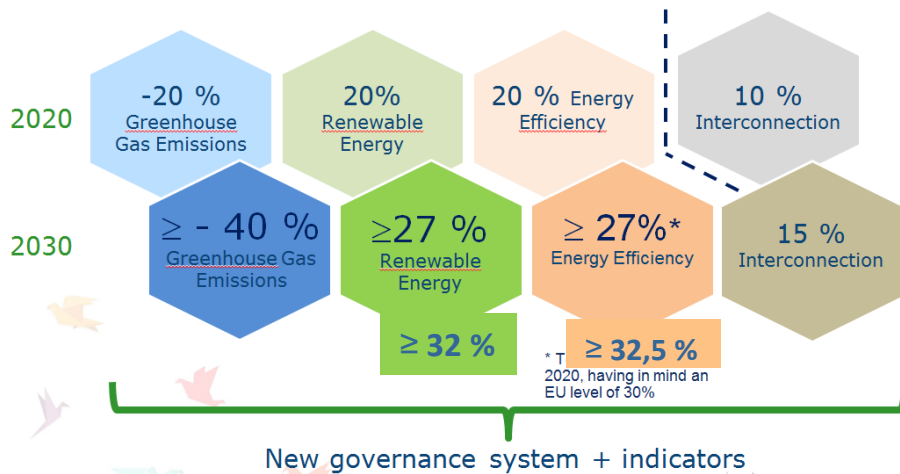
Energy Union

Sustainable Development



"Clean Energy for all Europeans"

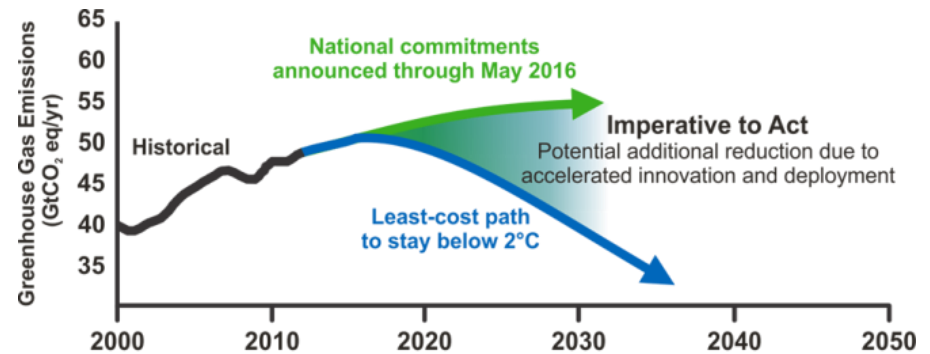
Agreed headline targets



Paris Agreement

Holding global average temperature to **well below 2°C**

Accelerating, encouraging and enabling **innovation** is crucial...



Adapted from UNFCCC, Synthesis report of INDCs, May 2016

Other EU policy priorities

- Digital Single Market
- Jobs, Growth and Investments
- EU as a strong global actor
- Sustainable Development
- ...

Research & Innovation Policy

Horizon 2020

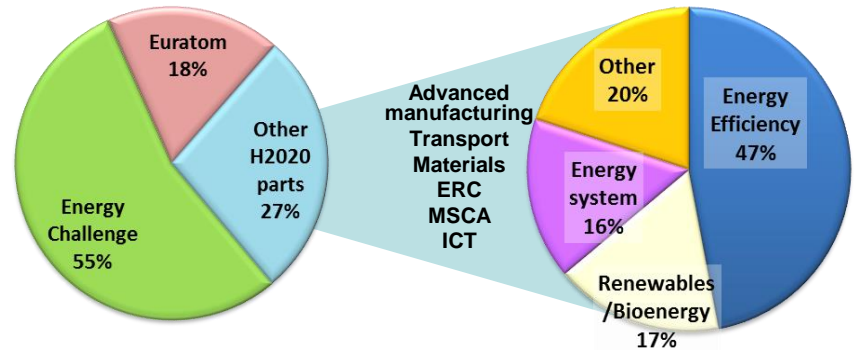
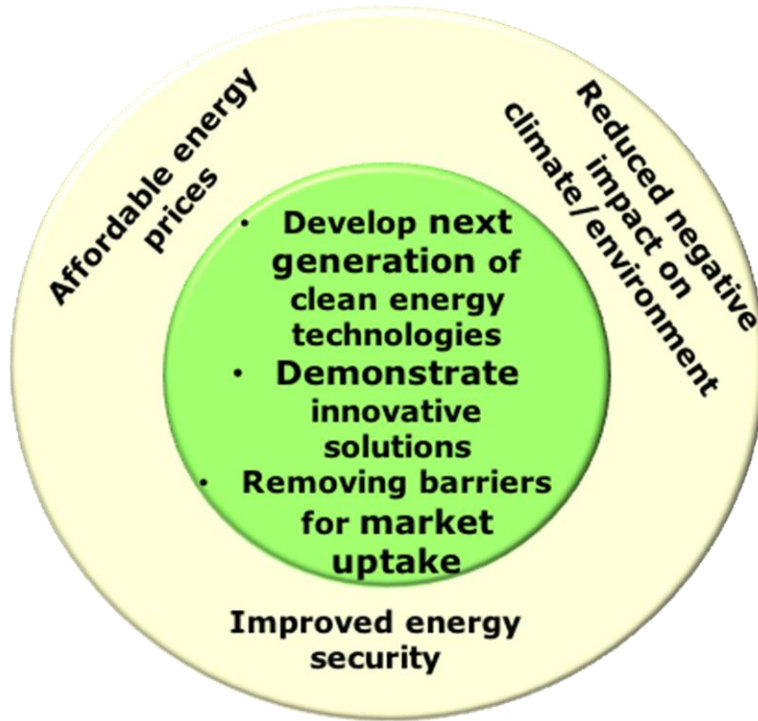
Horizon Europe

SET Plan

H2020 ENERGY Challenge

Research Policy Framework

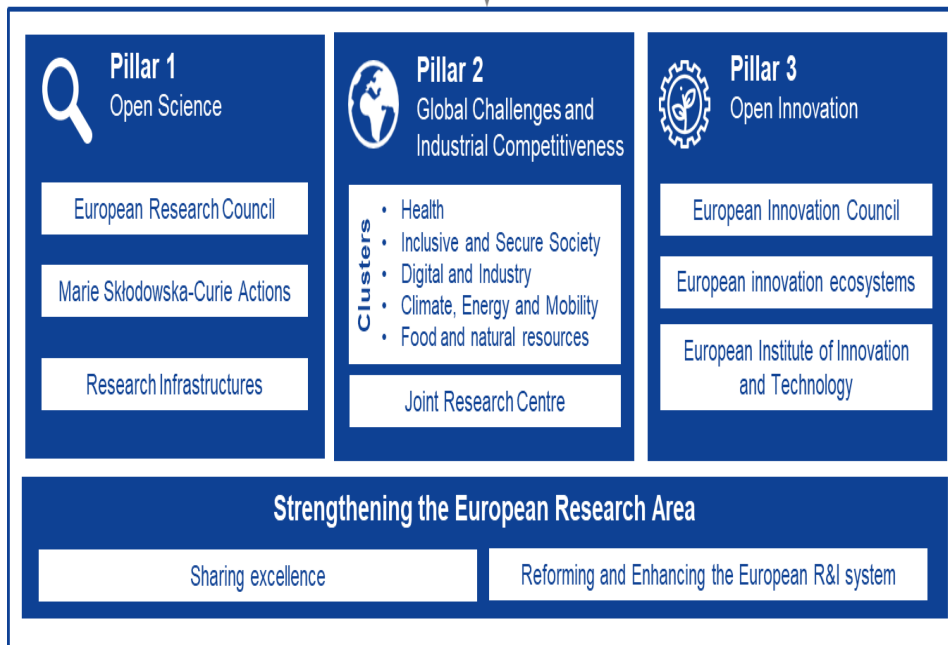
Horizon 2020 (2014-2020) €70,2 billion



✓ Additional energy-related spending in H2020 outside Energy Challenge: ~ **50%** of the Energy Challenge budget

- ✓ H2020-Energy Challenge budget **EUR 5,7 billion**
- ✓ H2020 total Energy budget
- ✓ ~ **EUR 8.5 billion, 11,4%**

Horizon Europe (2021-2027): € 100 billion



Pillar 2

Global Challenges & Industrial Competitiveness:

boosting key technologies and solutions underpinning EU policies & Sustainable Development Goals

Clusters implemented through usual calls, missions & partnerships	Budget (€ billion)
Health	€ 7.7
Inclusive and Secure Societies	€ 2.8
Digital and Industry	€ 15
Climate, Energy and Mobility	€ 15
Food and Natural Resources	€ 10
Joint Research Centre supports European policies with independent scientific evidence & technical support throughout the policy cycle	€ 2.2



The Implementation Plans by country

SUSTAIN TECHNOLOGICAL LEADERSHIP IN RENEWABLES (1 AND 2)

- Solar Photovoltaics (PV) IP
- Concentrated Solar Power / Solar Thermal Electricity (CSP/STE) IP
- Offshore Wind Energy IP
- Deep Geothermal Energy IP
- Ocean Energy IP

A SMART CONSUMER-CENTRIC ENERGY SYSTEM

- Smart Solutions for Energy Consumers IP (3.1)
- Towards Positive Energy Districts for Sustainable Urbanisation IP (3.2)
- Energy Systems IP (4)

DEVELOP AND STRENGTHEN ENERGY EFFICIENT SYSTEMS

- Energy Efficiency in Buildings IP (5)
- Energy Efficiency in Industry IP (6)

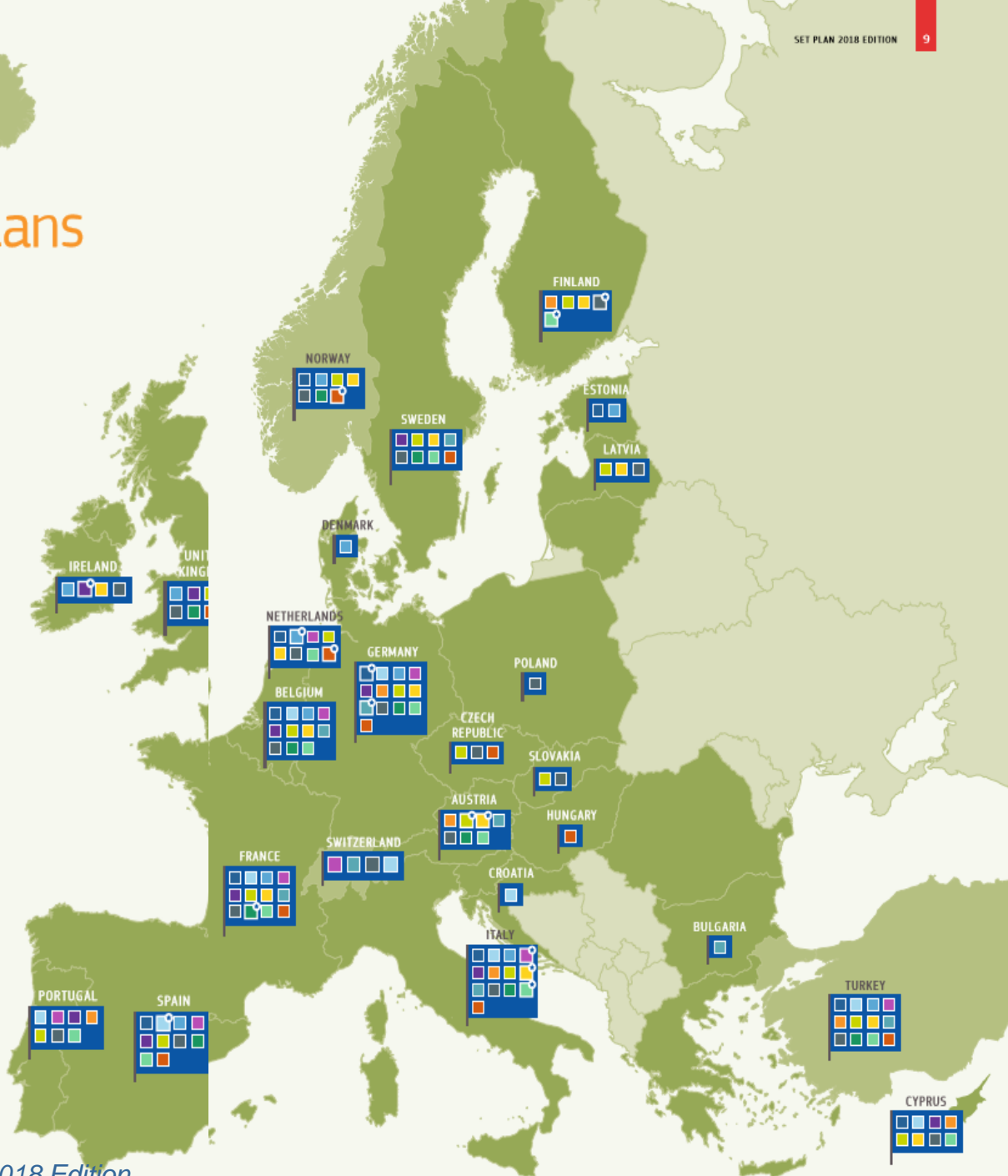
ENERGY OPTIONS FOR SUSTAINABLE TRANSPORT SYSTEMS

- Batteries for E-Mobility and Stationary Storage IP (7)
- Renewable Fuels and Bioenergy IP (8)

CCUS

- Carbon Capture Utilisation and Storage IP (9)

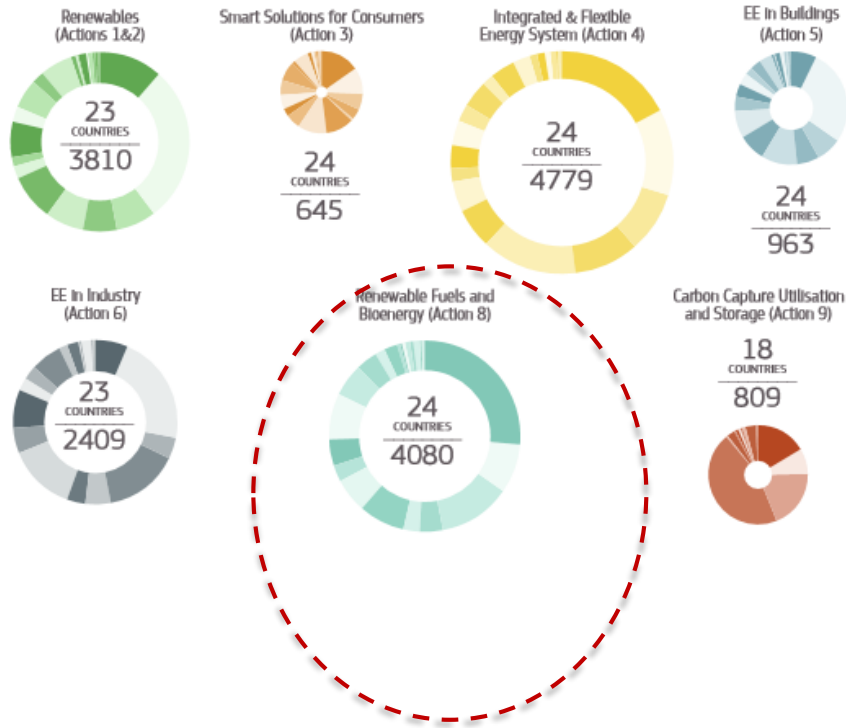
★ Chair



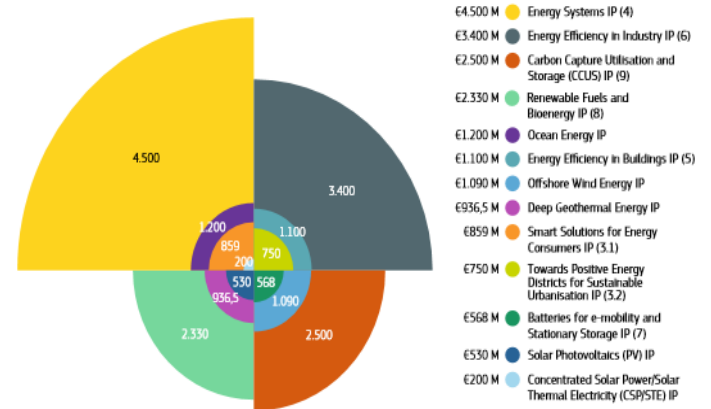
National R&I Expenditure

SET Plan Investments

NATIONAL R&D EXPENDITURE PER SET PLAN ACTION (2012-2016) [EUR MILLION]



EXPECTED VOLUME OF INVESTMENTS IN R&I ACTIVITIES AS IDENTIFIED IN THE IMPLEMENTATION PLANS (EUR MILLION)



- In 2030 more than EUR 20 billion aggregated investments in R&I
- Part of wider effort to decarbonize EU energy system

SET Plan delivering results, SET Plan 2018 Edition

Energy Financing in the Energy Union

Investment Plan for Europe

European Structural & Investment Funds

Horizon 2020

Horizon Europe

Digital Europe Programme

Innovation Fund

EU Finance for Innovators

Bioenergy, biofuels & renewable fuels

Opportunities & challenges

R&I strategy

R&I portfolio

Opportunities & Challenges

- Essential for both energy storage and use
- Biofuels deployable solution for aviation and shipping
- Reaching competitiveness via R&I to improve cost, performance and sustainability

R&I Strategy

- Technology improvement and diversification
- Feedstock diversification
- Market up-take and on particular transport needs
- Breakthrough research and market-creating innovation
- International cooperation to tackle global societal challenges

H2020 topics

Secure Clean and Efficient Energy

48 topics from 2014 to 2020

- 20 RIAs,
- 11 IAs
- 7 MuM
- 10 Strategic Actions



68 projects from 2014 to 2018

~350 million

- Next generation technologies for biofuels and sustainable alternative fuels
- Demonstrating advanced biofuel technologies
- Next generation technologies for renewable electricity and heating/cooling
- Renewable energy solutions for energy system implementation
- Market Uptake Support
- Supporting the development of a European research area in the field of energy

Key messages

A vast portfolio of technologies and value chains

Support at all TRL & value chains including new

Flexibility of installations

Collaboration across EU and internationally

Understanding early innovation potential

Ensuring financing at later stages

Regional approach and clustering of market players



**Thank you for
your attention!**

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