



HORIZON 2020

The new Framework Programme for Research and Innovation

**The societal challenge on secure, clean and
efficient energy**

**2nd International DHC+ Research Conference
REDEVELOP, RECREATE, RETHINK**

5-6 November 2013

Not legally binding

**Research &
Innovation**



Outline

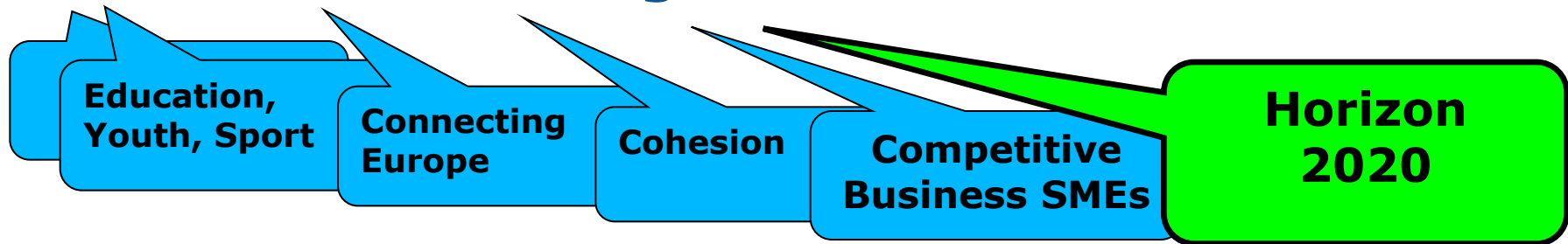
1. What is the Horizon 2020 Framework Programme?
2. The societal challenge: Secure, clean and efficient energy
3. The first Work Programme
4. Simplification measures

What is Horizon 2020?



The Multiannual Financial Framework (MFF) 2014-2020 (~ € 960 Bn)

1. Smart & inclusive growth



2. Sustainable growth, natural resources

3. Security and citizenship

4. Global Europe

5. Administration

What is Horizon 2020?

- Initial Commission proposal for a €80 billion research and innovation funding programme (2014-2020); now ~ €72 billion
- A core part of Europe 2020, Innovation Union and European Research Area:
 - Responding to the economic crisis to invest in future jobs and growth
 - Addressing people's concerns about their livelihoods, safety and environment
 - Strengthening the EU's global position in research, innovation and technology

What's new in relation to FP 7?

- **A single programme** bringing together three separate programmes/initiatives*
- **Coupling research to innovation** – from research to retail, all forms of innovation
- **Focus on societal challenges** facing EU society, e.g. health, clean energy and transport
- **Simplified access** for all beneficiaries

* The 7th Research Framework Programme (FP7), innovation aspects of Competitiveness and Innovation Framework Programme (CIP), EU contribution to the European Institute of Innovation and Technology (EIT)



Horizon 2020 and partnering

Public private partnerships:

Through Joint Technology Initiatives or other formal structures (Art. 187)

Through contractual agreements, which provide inputs for work programmes

Only when criteria met, e.g. clear commitments from private partners

Public public partnerships:

Through « ERA-Nets » for topping up individual calls/actions (replacing current ERA-Net, ERA-Net Plus, Inco-Net, Inno-net)

Through participation in joint programmes between Member States (Art. 185)

Supporting agendas of Joint Programming Initiatives when in line with Horizon 2020

Only when criteria met, e.g. financial commitments of participating countries

European Innovation Partnerships:

Not funding instruments, but for coordination with broader policies and programmes

Horizon 2020

Three priorities:

- 1 Excellent science**
- 2 Industrial leadership**
- 3 Societal challenges:**

- *Health, demographic change and wellbeing*
- *Food security, sustainable agriculture, marine and maritime research and the bio-economy*
- *Smart, green and integrated transport*
- *Climate action, resource efficiency and raw materials*
- *Inclusive, innovative and secure societies*
- **Secure, clean and efficient energy**

The Energy Challenge in Horizon 2020





Energy challenge

Support the transition to a reliable, sustainable and competitive energy system by:

- Reducing energy consumption and carbon footprint
- Boosting development of renewable and alternative energy technologies and their integration in the energy system
- Making the grid more flexible (inclusion of new energy sources, lowering costs of necessary infrastructure upgrades)
- Decarbonising the power and other industrial sectors



Energy challenge

Increase the competitiveness of European industry

- Addressing the whole supply chain
- Increase energy efficiency in industry
- Decrease energy costs

Budget for Secure, Clean and Efficient Energy:
€ 5.7 bn Euro (€ 2.3 bn in FP7)

Energy challenge

3 Focus areas:

- Competitive Low-Carbon Energy
- Energy Efficiency
- Smart Cities and Communities

Focus Area : Competitive Low-Carbon Energy

- Renewable electricity & Heating/cooling
- Grids
- Storage
- Biofuels & sustainable alternative fuels
- CCS and efficient fossil fuel generation
- Socio-economic research and cross-cutting issues

Focus Area : Energy challenge

**Approach based on Technology Readiness Levels (TRLs),
for example:**

- New knowledge and technologies (TRL 2 to TRL 3-4)
- Developing the next generation technologies of renewable electricity and heating/cooling (TRL 3-4 to TRL 4-5)
- Demonstration of renewable electricity and heating/cooling technologies (TRL 5-6 to TRL 6-7)
- First-of-a-kind, commercial-scale industrial demonstration (TRL 8)
- Market uptake

Technology Readiness Levels

- TRL 0: Idea
- TRL 1: Basic research
- TRL 2: Technology formulation
- TRL 3: Applied research
- TRL 4: Small Scale Prototype Development Unit
- TRL 5: Large Scale Prototype Development Unit
- TRL 6: Prototype system
- TRL 7: Demonstration system
- TRL 8: First of the kind commercial system
- TRL 9: Full commercial application

First Horizon 2020 Work Programme



First Horizon 2020 Work Programme

Basic principles:

- 2-year work programme to allow for better preparation of applicants
- Challenge-based approach (not prescribing technology options)
- Cross-cutting actions
- Use of Technology Readiness Levels to specify scope of activities



First Horizon 2020 work programme

Timeline:

- Spring/summer 2013: Internal preparations, discussion with high-level Member States' representatives
- Formal consultation with Member States ('shadow PC'): September – November 2013
- Adoption of WP and publication of calls for proposals: end 2013

Simplification: Rules for Participation



Simplification

- **Single set of** simpler and more coherent participation **rules**
- New **balance between trust and control**
- Moving from several **funding rates** for different beneficiaries and activities to just two
- Replacing the four methods to calculate overhead or «indirect costs» with a **single flat rate**
- **Successful applicants to get working more quickly:** time-to-grant of 8 months; exceptions for the ERC and in duly justified cases

Thank you for your attention

Questions?

