Orkugarður, 28 október 2014

Kristmundur Þór Ólafsson, Rannis

Almennt um Horizon2020

Orkuáætlun Horizon2020

Umsóknakerfið og mat umsókna

Spurningar/Svör

rannís

Hvað er Horizon 2020?

- Rammaáætlun ESB um rannsóknir og nýsköpun
- Samstarfsverkefni á öllum fræðasviðum og aukin tenging á milli rannsókna, nýsköpunar og markaðarins.
  - Fjármagna á rannsóknir til að mæta samfélagslegum áskorunum. (öryggi, umhverfi, orka etc.)
  - Styrkja stöðu ESB og Evrópu í alþjóðlegu samhengi á sviði rannsókna, nýsköpunar og tækni.
  - Með áætluninni er verið að bregðast við efnahagsþrengingum með því að fjárfesta í fleiri störfum og auknum hagvexti.
  - Áskoranamiðuð áætlun: Fjármögnun til að leysa ákveðið vandamál/ áskorun -ekki fjármögnun ákveðinna fræðasviða

rannís

3 Pillar Structure

Excellent Research

- European Research Council (ERC)
- Future & Emerging Technologies (FET)
- Marie Sklodowska Curie actions
- Research Infractructures

Industrial Leadership

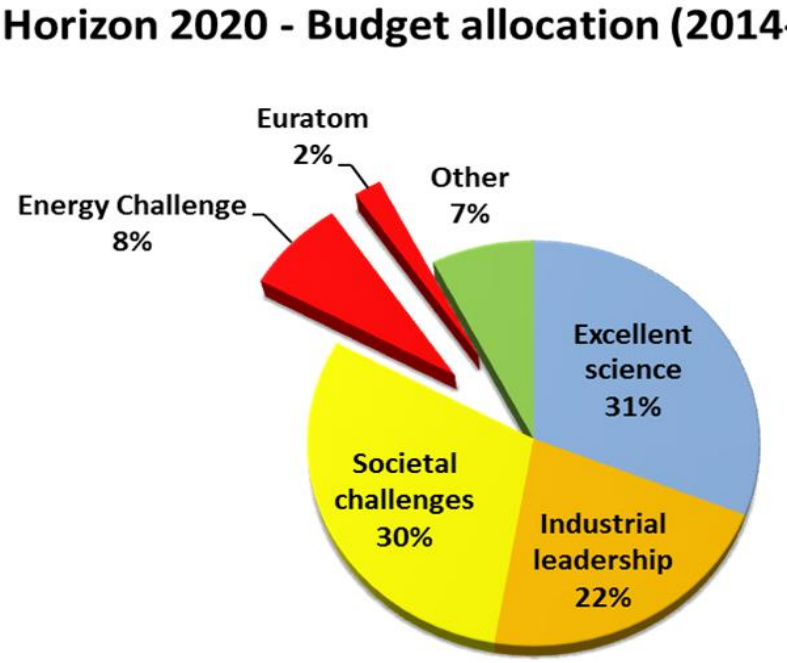
- Innovation in SMEs
- Access to Risk Finance
- Leadership in Enabling & Industrial Technologies

Societal Challenges

- Health, demographic change and wellbeing
- Food security, sustainable agriculture, forestry, marine, maritime, inland water and bio -economy
- Secure, clean and efficient energy
- Smart, green and integrated transport
- Climate action, environment, resource efficiency and raw materials
- Inclusive, innovative and reflective societies
- Secure societies – protecting freedom and security of Europe and its citizens

Fjármagn (2014-2020)

- Heildarfjármagn: EUR 78,6 billjónir (~11.987.040.000.000 krónur)
- Fjármagn til orkumála tæplega tvöfaldast frá því 2007-2013 og er nú 8% fjármagni tímabilsins.
- Verkefnastyrkir misstórir 0,5 m.€ - 40 m.€.
- Algeng verkefnastærð er um 1,5-5 m.€ (sem dreifist gjarnan á fleiri aðila)



Mismunandi styrkir

- Fjármögnunar annað hvort 100% eða 70% af beinum kostnaði.
  - **Research and innovation actions (100% funding):**
  - **Innovation actions (70% funding)**

  3 lögaðilar í mismunandi Evrópulöndum.

  - **Coordination and support actions (100%)**
  - **SME Instrument (70%)**

  1 lögaðili

- Óbeinn kostnaður (overhead) er 25% greitt fast ofan á beinan kostnað.

	Direct costs	Indirect costs	Total costs	% EU contribution	EU contribution
100/25 Funding	100	25	**125**	100%	**€ 125**

rannís

Horizon2020:

Secure, Clean and efficient Energy

2014-2015

Solar

Biofuels

Wind

Nuclear Energy

Smart Grids

Clean Technologies

Smart Cities and Communities

Energy Efficiency

Competitive Low Carbon Energy

rannís

Lýsing viðfangsefna (Topics) í vinnuáætlun

- **Áskorun: (Specific Challenge)**
  - Útskýrir samhengið.
  - Útlistar þær áskoranir sem þarf að mæta og hversvegna íhlutunar sé óskað.

- **Umgjörð : (Scope)**
  - Útlistar vandamálin nánar
  - Úskýrir nánar þann ‘ramma’ sem á við um hvert vandamál.
  - Útlistar **EKKI** sérstakar leiðir til að leysa vandamálið.

Fjármagn: 3-8 milljón Evra.

- **Áhrif: (Expected Impact)**
  - Útskýrir lykilatriði er varðar áhrif niðurstaðna og hvernig þau tengjast þeirri áskorun sem á að leysa.
  - Hvaða mælikvarðar eru notaðir til þess að meta árangur verkefna?

Gerð verkefnis: (t.d. Research and innovation action-100%)

rannís

Orka –Áskoranir

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

- 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

Increase the competitiveness of European industry

- Addressing the whole supply chain
- Increased energy efficiency in industry, decreased energy costs

Building a European Research Area in the field of energy

- Coordinating research activities of Member States, Associated States and Regions

rannís

Orka - Umgjörð: (Scope)

- **Reducing energy consumption and carbon footprint by smart and sustainable use**: New concepts, non-technological solutions, technology components and systems for buildings, cities/districts, industry and individuals
- **Low-cost, low-carbon electricity supply**: innovative renewables, efficient and flexible fossil fuel power plants and carbon capture and storage, or CO2 re-use technologies
- **Alternative fuels and mobile energy sources**: bio-energy; power and heat; surface, maritime and air transport; hydrogen and fuel cells; new options
- **A single, smart European electricity grid:** smart energy grid technologies, including storage; systems and market designs to plan, monitor, control and safely operate interoperable networks; standardisation issues; emergency conditions
- **New knowledge and technologies:** multi-disciplinary research for energy technologies (including visionary actions)
- **Robust decision making and public engagement:** tools, methods, models and perspective scenarios for a robust and transparent policy support
- **Market uptake of energy innovation:** applied innovation; promotion of standards; non-technological barriers; smart and sustainable use of existing technologies

rannís

Orka - Áhrif:

- **(Research and) innovation action**
  - Reduction in total buildings (primary) energy consumption by at least a factor of 2 with respect to the current situation, and a cost-level better than traditional renovation activities.
  - Reduction in installation time by at least 30%, compared to a typical renovation.
  - Demonstrate the technical and economic synergy between local storage (ideally of several energy vectors), smart grid management, demand response and their integration with advanced ICT.
  - Enlarging the portfolio of effective storage technologies with potential for European wide usage.
- **Coordination and support action**.
  - Impacts must be measured in terms of number of public officers influenced and number of new or improved policies and plans. The number of final consumers impacted should also be measured in millions of people. In addition, proposals targeting governments should also demonstrate that they accelerate the implementation of the new Energy Efficiency Directive.
  - Increasing the share of sustainable bioenergy in the final energy consumption. Substantial and measurable reductions in the transaction costs for project developers as well as for the permitting authorities, whilst still fully addressing the needs for environmental impact assessments and public engagement, including considerations for indirect impacts and energy balance,. Development of better policy, market support and financial frameworks, notably at national, regional and local level.

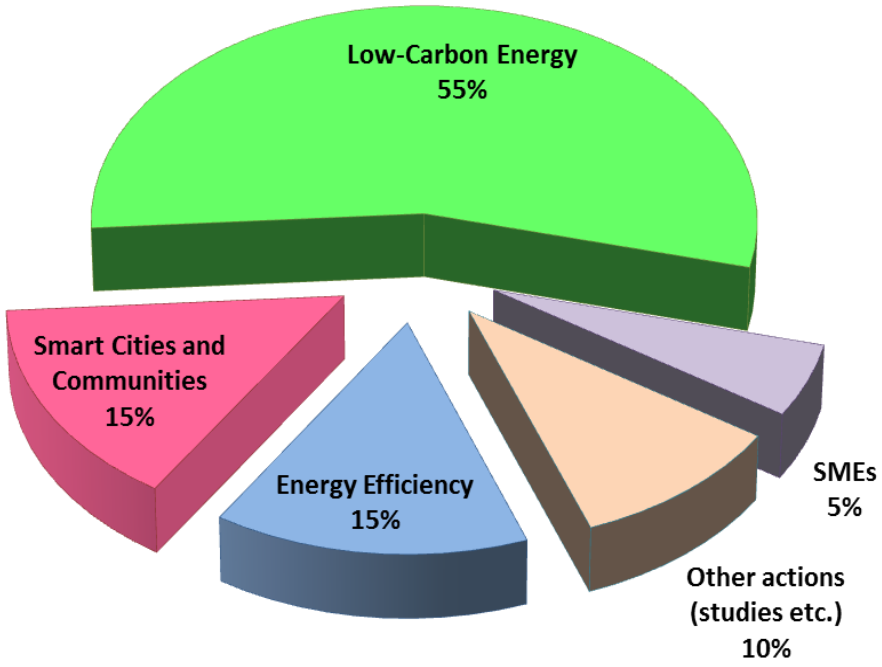
rannís

Energy Efficiency

Low-Carbon Energy

Smart Cities and Communties

Budget distribution of the Energy WP 2014-2015



SME

rannís

Energy Efficiency

1. Buildings and consumers

- **EE 5 2014/2015: Increasing energy performance of existing buildings**
- **EE 6 2015: Demand response in blocks of buildings.**

2. Heating and cooling

- **EE 13 2014/2015: Technology for district heating and cooling.**
- **EE 14 2014/2015: Removing market barriers to the uptake of efficient heating and cooling solutions.**

3. Industry and products

- **EE 18 2014/2015: New technologies for recovering waste heat from industrial processes and transforming it into useful energy forms**

4. Finance for sustainable energy

- **EE-19 2014/2015: Improving financeability of sustainable energy investments by stimulating new financial products and business models.**
- **EE- 21 2014/2015: Rolling-out innovative energy services and financial schemes for sustainable energy**

rannís

Low-Carbon Energy

1. Renewable electricity and heating/cooling
2. Modernising the single European electricity grid
3. Providing the energy system with flexibility through enhanced energy storage technologies
4. Sustainable biofuels and alternative fuels for the European transport fuel mix
5. Enabling the decarbonisation of the use of fossil fuels during the transition to a low-carbon economy
6. Supporting the development of a European Research Area in the field of Energy
7. Social, environmental and economic aspects of the energy system

rannís

Smart Cities and Communties

1. *SCC 1 – 2014/2015: Smart Cities and Communities solutions integrating energy, transport, ICT sectors through lighthouse (large scale demonstration - first of the kind) projects*
2. *SCC 2 – 2014: Developing a framework for common, transparent data collection and performance measurement to allow comparability and replication between solutions and best-practice identification*
3. *SCC 3 – 2015: Development of system standards for smart cities and communities solutions*
4. *SCC 4 – 2014: Establishing networks of public procurers in local administrations on smart city solutions*

rannís

Lítil og meðalstór fyrirtæki (SME)

SIE 1 – 2014/2015: Stimulating the innovation potential of SMEs for a low carbon and efficient energy system. 1

- Alltaf opið en umsóknir teknar saman 2x á ári.
- Verkefni leidd af litlum og meðalstórum fyrirtækjum.
- 3 stig:
  1. Fýsileikakönnun: (50.000 evrur)
  2. Nýsköpunarverkefni m.t.t. áherslna í áætlun (0,5-2,5 m.evrur)
  3. Markaðsstuðningur óbeinn stuðningur (NMI)

rannís

EE 12 – 2014: Socioeconomic research on energy efficiency

Specific Challenge: **Energy efficiency** is playing a growing role in local, national and European policy development. **It is a complex issue spanning different disciplines** including engineering and social sciences. **To formulate long-term strategies and define cost-effective policies**, policy makers need to better understand the macroeconomic impacts of energy efficiency, and, at the microeconomic level, the evolution of energy (and where appropriate energy) efficiency, the influence of consumer behaviour, the influence of institutional factors, and the implications of trends in society and technologies.

Scope: Foresight socio-economic activities **informing the debate on the development and monitoring of energy efficiency strategies, taking a forward looking approach to the horizon of 2030 and beyond.** Proposals may also research the **multiple benefits of energy efficiency** or look at the **evolution of social, economic, cultural and educational barriers.** They may also **study major trends in society** and their implications, or advance knowledge of consumer behaviour (e.g. rebound effect) and the impact of institutional factors. They can either adopt a cross-sectorial approach or be specific to certain relevant sectors. Proposals may feed the development of energy efficiency strategies, policies and programmes at all governance levels. Where appropriate, they should take gender issues into account as well as existing macroeconomic and microeconomic models and results of socio-economic sciences and humanities. **A specific priority will be given to the development of micro-economic analysis of the latest energy efficiency measures.**

The Commission considers that proposals requesting a contribution from the EU of around EUR **1 million** would allow this specific challenge to be addressed appropriately. Nonetheless, this does not preclude submission and selection of proposals requesting other amounts.

Expected Impact: **Positive impacts on energy efficiency policy development, evidenced for example by references to impact assessments, strategy papers or other policy documents.**

Type of action: Research & Innovation Actions

rannís

Umsóknakerfið og mat umsókna.

ec.europa.eu/research/participants/portal/

rannís

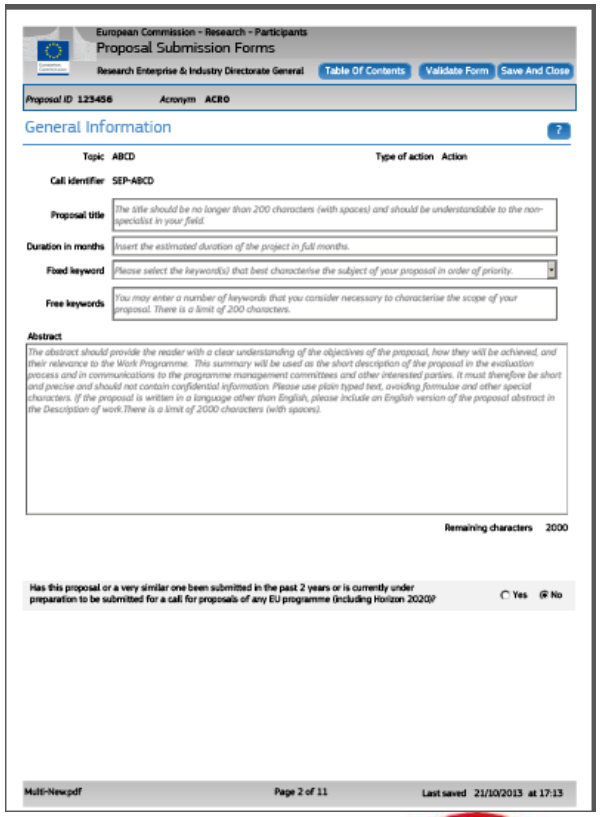
A-hluti umsóknar

Hluti 1(fyrir allt)

- Titill,
- Markmið o.s.frv.
- Lykilorð (til að hjálpa við sérfræðingaval).
- 2000 (slög) tillögu lýsing.
- Hefur hún verið lögð inn áður.

Hluti 2 (Hver og einn)

- PIC – kóði (auðkenni)
- Deild
- Fyrirtækjatengsl-dótturfélag / móðurfélag.
- Upplýsingar e-mail, sími, heimilsfang



rannís

B hluti

Hámark: 70 síður (50 síður fyrir stuðningsaðgerðir)

- **Gæði rannsókna: (Excellence)**
  - M.a. Markmið, Hvernig rannsóknin / verkefnið nær að búa til nýja þekkingu á umræddu sviði.
- **Áhrif: (Impact)**
  - M.a. Möguleg áhrif (með tilvísun í vinnuáætlun); hvernig aðferðum er beytt til að hámarka áhrif verkefnisins. (Kynningar, frekari hagnýting niðurstaðna)
- **Framkvæmd: (Implementation)**
  - Hvernig er vinnunni skipt niður í afmarkaða verkþætti (vinnupakka).
  - Hverjir hafa aðkomu að verkefninu.

rannís

Það sem metið er:

- **1. Excellence**
  - Clarity of the objectives;
  - Soundness of the concept, including transdisciplinary considerations;
  - Credibility of the proposed approach;
  - Progress beyond the state of the art.
- **2. Impact […] extent to which project outputs contribute to:**
  - The expected impacts listed in the work programme under the relevant topic;
  - Enhancing innovation capacity and integration of new knowledge;
  - *[Strengthening the competitiveness and growth of companies by developing innovations meeting the needs of European and global markets;]*
  - Effectiveness of the proposed measures to communicate the project, disseminate and/or exploit the project results, and appropriate management of IPR.
- **3. Quality and efficiency of implementation**
  - Coherence and effectiveness of the work plan, including appropriateness of the allocation of tasks and resources;
  - Competences, experience and complementarity of the individual participants, as well as of the consortium as a whole;
  - Appropriateness of the management structures and procedures, including risk management.

rannís

MAT á umsóknum.

- Óháðir sérfræðingar meta umsóknir.
  - Hver þáttur umsóknar er metinn á skalanum 1 – 5.
  - Umsókn verður að fá a.m.k 3 í einkunn í öllum þáttum.
  - Ef heildareinkun er undir 10 er það ógilding.

FP7 in Iceland

- Íslenskar umsóknir 912
- 218 samningar undir lok 2013
- Í heildina €69.7 milljónir til Íslands 2007-2013.
- Mest virkni í Heilsa, Matvælamálum og Marie-Curie.
- Stórir aðilar áberandi t.d. Matís, HÍ, Decode.
- Lítil nýliðun.

- Íslenskum stofnunum/fyrirtækjum gengur vel U þau reyna.

Allar upplýsingar og umsóknir:

Upplýsingar um áætlunina og landstengiliði á Íslandi (National Contact Points):

www.rannis.is

Aðalheimasíða Horizon 2020, öll skjöl og umsóknarkerfi:

ec.europa.eu/research/participants/portal/

Secure, clean and efficient energy:

http://ec.europa.eu/research/participants/data/ref/h2020/wp/2014_2015/main/h2020-wp1415-energy_en.pdf

rannís