Implementation of Smart Specialisation Strategy

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Theme 3: Smart Cities and Communities

Slovenian dimension – Overview:
Towards Smart Cities and Communities in Slovenia

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The content of the presentation

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- Smart Cities and Communities / EU approach in FW7 and Horizon2020
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- SCC – Focus areas and technologies (S4)
- Challenges that Slovenia follows
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EU priorities-R&I&C SET Plan related actions

- CP 1: Number 1 in renewable energy:
  - Action 1: Sustain technological leadership by developing highly performant renewable technologies and their integration in the EU's energy system;
  - Action 2: Reduce the cost of key technologies.
- CP 2: The future smart EU energy system, with the consumer at the centre:
  - Action 3: Create technologies and services for smart homes that provide smart solutions to energy consumers;
  - Action 4: Increase the resilience, security and smartness of the energy system.

EU priorities-R&I&C SET Plan r. a. (cont.)

- CP 3: Develop and strenghten energy-efficient systems:
  - Action 5: Develop new materials and technologies for, and the market uptake of , energy efficiency solutions for buildings;
  - Action 6: Continue efforts to make EU industry less energy intensive and more competitive.
- CP 4: Diversify and strenghten energy options for sustainable transport:
  - Action 7: Become competitive in the global battery sector to drive e-mobility forward;
  - Action 8: Strengthen market take-up of renewable fuels needed for sustainable transport solutions.

EU priorities-R&I&C SET Plan r. a. (cont.)

- AP 1: Driving ambition in carbon capture storage and use deployment:
  - Action 9: Step up research and innovation activities on the application of carbon capture and storage (CCS) and the commercial viability of carbon capture and use (CCU).
- AP 2: Increase safety in the use of nuclear energy:
  - Action 10: Maintaining a high level of safety of nuclear reactors and associated fuel cycles during operation and decommissioning, while improving their efficiency.

SCC / EU approach in FW7 and Horizon2020

- Smart Cities 2012-2013: Energy and ICT
- Smart Cities 2014-2015: Energy, ICT and Transport
- Smart Cities 2016-2017: Energy, ICT, Transport and Nature based solutions
  - R&I: Innovative and systemic governance, business, financing models & economic innovation action tools for renaturing cities
  - Demonstrating innovative nature-based solutions for energy efficiency and climate resilience in cities
  - Nature-Based Solutions for Inclusive, Equitable and Liveable cities (including regeneration of deprived districts)

Slovenia - overwiev

- We promote Slovenia as country which is
  - green
  - active
  - healthy and digital region
- Before and 2010 – 2013 at SCC: Energy and ICT
  - Above average success in the field of ICT (in FW programmes)
  - Slovenian Technology platform for Smart Grids
  - Programme of development of the smart grids in the Republic of Slovenia
  - Operational plan for implementation of the smart grids Programme in the Republic of Slovenia
- Slovenian platform for sustainable mobility: Transport

R&D&IA, Pilot & Demonstration projects

- A lot of success and good stories in the country implemented
  - potential to serve as a powerful trigger for sustainable development of urban areas in the area of energy, ICT and transport
  - highlighting the environmental impact and sustainability assessment and improving the understanding of energy-related socio-economic trends and prospects: Nature based solutions
  - critical mass of knowledge, capacities and competences
  - bottom-up approach
- The results of the integration and collaboration is recognized in S4 and OP for ESIF where SCC are identified as priority in the area of „Healthy working and living environment“

SCC – Objectives (S4)

- develop globally-competitive systemic solutions in the field of smart grids and IT platforms with user solutions
- establish at least two pilot projects, in particular in the area of energy, urban mobility and safety
- use reforms of public administration and introduction of smart health systems for the entrepreneurship promotion and access to global markets
- 2023 objective: raise value added per employee in companies by 15%.

SCC – Focus areas and Technologies

- Focus areas
  - Systems and IT platform solutions – IT ecosystem for hosting (mobile) applications
  - Conversion, distribution and energy management
- Technologies
  - Cloud computing and big and open data
  - Internet of things and future internet
  - Embedded smart systems
  - High Performance Computing (HPC) infrastructure
  - Capture and use of long-distance earth observation data

Challenges that Slovenia follows

- Integration of grids (electricity, telecom, heating and cooling, gas) and storage.
- Building management incorporating smart appliances, smart meters,…
- RES - smart integration of PV modules, wind turbines, heat pumps, CHP.
- Not only conventional insulation of the building envelope.
- Smart storage management for maximising self-consumption.
- Open structures in data, including data security.
- Cooperation with other cities that show an European added value.
- Economic research and development of new business models that avoid lock-in situations into monopolies, on the reduction of the energy bills for citizens, development of new templates for easy understanding and transparency of the energy bills.
- Innovative, cost effective nature based solutions.

Funding Opportunities – ESIF

- The state will provide financial support to the identified priority areas as well as non-financial support providing services implemented in close cooperation with strategic partnerships (S4, 8)
- It is predicted establishment of strong synergies and complementarities with other S4 areas of application and OP investments under thematic objectives 2, 3, 4, 11:
  - Enhancing access to, and use and quality of, information and communication technologies
  - Dynamic and competitive entrepreneurship for green economic growth
  - Sustainable consumption and production of energy and smart grids
  - Rule of law, enhancing institutional capacity, efficient public administration and capacity building of NGOs and social partners

Funding Opportunities – other EU funds

Connecting European Facilities (CEF), **Competitiveness of Enterprises and Small and Medium-sized Enterprises (COSME),** Innovative Financial Instruments for Sustainable Development of Alpine Space **(**FIDIAS), European Industrial Initiatives (EIIs on Wind, Solar PV, Solar CSP, nuclear, CCS, electricity grids, bioenergy), European Platform of Universities engaged in Energy research (EPUE/EUA), European University Association, European Energy Research Alliance (EERA), KIC InnoEnergy, European Institute of Innovation & Technology, Fuel Cell and Hydrogen JU (FCH JU), European Innovation Partnership on Smart Cities and Communities (EIP SCC), Public Private Partnerships (PPPs) on Energy Efficient Building (EeB) and Sustainable Process Industry through Resource and energy Efficiency (SPIRE), Technology Platform Renewables Heating and Cooling (RHC), European Association for Storage of Energy (EASE), European Ocean Energy Association (EU-OEA), European Geothermal Energy Council (EGEC), European Strategy Forum on Research Infrastructures (ESFRI), European Investment Bank (EIB), EURELECTRIC, EUREC AGENCY, Smart Energy Demand Coalition (SEDC), European Committee of Domestic Equipment Manufacturers (CECED), Euroheat & Power, European Engineering industries association (Orgalime), European Federation of Local Energy Companies (CEDEC), Buildings Performance Institute Europe (BPIE), Smart Energy Demand Coalition (SEDC), EU Turbines, EUROGAS, EURACOAL, Energy Material Industral Research Initative (EMIRI), European Power Plant Suppliers Association (EPPSA), COGEN Europe, European Smart Metering Industry Group (ESMIG), European Alliance of Companies for Energy Efficiency in Buildings (EuroACE), BioBased Industries, Third Generation Environmentalism (E3G), European Council for an Energy Efficient Economy (eceee), Energy Efficiency in Industrial Processes (EEIP), European Federation of Intelligent Energy Efficiency Services (EFIEES), European Heat Pump Association (EHPA), European Alliance to Save Energy (EU-ASE), European Building Automation and Controls Association (eu.bac), Federation of European Heating, Ventilation and Air-conditioning Associations (REHVA), Confederation of European Waste-to-Energy Plants (CEWEP), Climate Alliance, Climate Action Network Europe (CAN Europe), World Wildlife Fund (WWF), Friends of the Earth Europe, Energy Research Knowledge Centre (ERKC), Alpine Space…

Good practices

- Large scale demonstration projects in Slovenia:
  - **FutureFlow** is a four-year long international project involving twelve consortium partners from seven EU Member States and one candidate country. The project that marked the beginning in January 2016 is worth almost 13 million euro and is financed entirely from a Horizon 2020 programme. The role of the coordinator has been conferred to the Slovenian electricity operator ELES. This is a significant recognition for ELES and its international activity.
  - **SCC&SG - joint Slovenian-Japanese project** in 2016 will start under the umbrella of NEDO (New Energy and Industrial Technology Development Organization) from Japan and the Ministries of Infrastructure and Economic Development and Technology of the Republic of Slovenia. The Slovenian coordinator, which is also a partner to NEDO, is again the Slovenian electricity operator ELES.
  - **SincroGrid** – PCI, ELES (presentation)

Vision

- Although the projects will be demonstrational in nature, they will
  - open up new international opportunities for the Slovenian know-how in the field of energy, ICT, transport and nature based solutions
  - broaden up prospects for business cooperation with foreign partners
  - broaden up the possibility for inclusion of Slovenian companies to larger international projects