BUDAPEST
A VÁROS, AMELY EGYESÍT

Smart city activities of Budapest, regarding the EU Urban Agenda and JASPERS-related activities

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Smart city vision of Budapest

Energy transition
Urban mobility
Innovative & Responsible Public Procurement
Climate Adaptation
Air Quality

Challenges to overcome in Budapest

Smart City vision (2017-2030)

In 2013, Budapest's long-term urban development concept for the period until 2030.

The Smart City Vision is based on the target system of the Budapest2030 Long-term Urban Development Concept covering the period of 2017-2030. Approved by GA in January 2017, by the end of 2017 a smart city action plan will be developed.

4 main goals of Budapest until 2030, they are Budapest's development priorities:

Goal 1#: Budapest become strong member of the European region;

Goal 2#: develop a harmonious and a diverse city environment;

Goal 3#: the society serve as a platform for the improvement of the quality of life, and harmonious coexistence of different groups;

Goal 4#: strengthen the values of a knowledge- based and sustainable economy.

The smart city vision focuses on 6 strategic areas in Budapest

(1) to become one of the **centers of international innovation, to become the target of knowledge transfer mechanism**,

(2) to **safeguard the environment in Budapest**, through the sustainable use of resources and the generation of waste,

(3) to create **an urban mobility system**, that provides a **sustainable and livable city of Budapest**,

(4) to become a **respond able city to the environmental and technological changes of the 21th century**,

(5) the people in Budapest live **in an open and cooperative society**,

(6) to have **further development which is based on sustainable and local economy**.

(1/a) Energy Transition: Climate KIC projects

In 2012 Budapest also joined the Climate-KIC, which is Europe's largest public-private innovation partnership, to address the challenge of climate change.

There are 3 ongoing projects:

Transition Cities aims to bridge the findings of low carbon projects with wider European policy on climate change.

Three key areas of activity: in **energy, buildings and mobility**.

The change required to make **significant emissions reductions** within cities.

SOLSUN
IoT for the SmartCity Landscape

SOLSUN is focusing on energy efficient public lighting with sensors. Main objectives are to reduce energy consumption and GHG levels within cities.

OASIS+ is a demonstrator project aiming to carry out a Danube Flood Hazard and Risk Model.

(1/b) Energy Transition: Energy efficient street lighting

Together Budapest Flood & Budapest Public Lighting Company (BDK)

Street lighting as a **„hot spot”** for Budapest in the CEPPI project's energy baseline study and a procurement sector that offers a large energy saving potential.

- Pilot project:
  - installing 7000 pcs. energy efficient lighting luminaires,
  - supply of 7000 LED energy efficient street lights,
  - led by BDK, the public company responsible for street and cultural lighting,
  - the Municipality has allocated its own resource: long-term developmental loan,
  - operation of the system will be the BDK's task.

Planned innovative elements of the procurement process:

Award criteria: 40 % cost of the luminaries, 30 % the amount of energy savings, 30 % the duration of the warranty

(1/c) Energy efficient street lighting / the lanterns will be compatible with various Smart City devices

Smart city lanterns:

- will be compatible with various Smart City devices
- will have two-way communication capacity
- will be able to support many city services with real-time data communications, video streams, data-rich contents and other possibilities
- be used as Wi Fi hotspots

We expect 2 GWh/year energy saving upon the project.

With integrated controls and software the City could achieve even more energy savings.

The BDK plans to redeem the Municipality's loan from the savings achieved from the lowered energy consumption costs.

(1/d) Energy Transition 3. PURE project (Pioneering Urban Renewal in Europe)

Submitted under call SCC-01-2017. Pioneering Urban Renewal in Europe (PURE).

Lighthouse cities: Copenhagen, Ghent, Budapest

Our PURE vision is

to pioneer the future of community-driven and improved smart integrated cities!

to influence city planning, decision making and outcomes;

where cities design user-centric infrastructures and services with the genuine influence of our youth;

to demonstrate replicable roadmaps and solutions that society, investors and industry embrace;

and that accelerate us towards a new paradigm for shared, low consumption, low environmental impact, urban living.

(2) Integrated e-mobility concept for Budapest (2017)

The Integrated e-mobility concept was prepared as part of the „Climate-KIC Transition Cities" project in 2016.

The Budapest Municipality is committed to giving priority to **environment-friendly mobility with electric drive and zero low emission**, and **curbing the use of cars** with internal combustion engine that are responsible for air pollution in Budapest.

Key parts: strategic & legal background, good practices, demand and supply side, forecast.

Integrated e-mobility concept defines the e-mobility goals at social level based on the basic principles of sustainability, and also at the level of the transport system:

- means of the concept for three intervention time intervals (introduction phase, growth phase, dominance phase),
- key financial, economic (social) effects of introduction of the concept,
- action plan for execution.

(3) Innovative and Sustainable Public Procurement at the Municipality of Budapest

1. CEPPI

Budapest is involved in **H2020** funded projects such as **Coordinated energy-related PPIs actions for cities (CEPPI)** – aims to build capacity in cities on how to achieve more sustainable energy solutions through a pro-innovation procurement approach.

2. GLCN

In 2016 Budapest joined to GLCN - **Global Lead Cities Network on Sustainable Procurem**ent.

The GLCN is a group of **14 cities committed to drive a transition to sustainable consumption and production by implementing sustainable and innovation procurement.**

All participating cities are acting as **ambassadors of sustainable procurement to lead to a resource efficient, low carbon and socially responsible society.**

(4/a) Climate adaptation: Covenant of Mayors, Compact of Mayors and Under2MOU

Budapest is a signatory of Covenant of Mayors, Compact of Mayors and Under2MOU to address GHG reduction targets:

- **Covenant of Mayors**: 21% CO2-reduction commitments by 2020 in Sustainable Energy Action Plan

- **Compact of Mayors**: World's largest cooperative effort among mayors and city leaders to reduce greenhouse gas emissions, track progress, and prepare for the impacts of climate change.
  - Budapest has prepared its inventory in 2017, GHG reduction commitment is expected to be envisaged during this year.

- **Under2Mou**: The Under2 Coalition is a diverse group of governments around the world who set ambitious targets to combat climate change.
  - Central to the Under2 MOU (Memorandum of Understanding) is an agreement from all signatories to reduce their greenhouse gas emissions 80 to 95 percent below 1990 levels, or limit to 2 annual metric tons of CO2-equivalent per capita, by 2050.

(4/b) Climate adaptation: Development of a climate strategy and a climate change platform

(KEHOP-1.2.0-15-2016-00020)

The Climate strategy project is funded by (national) energy efficiency and environment OP.

Provide a wider framework for climate change adaptation and mitigation through a climate strategy for the city. Parallel with this a climate change platform will also be launched. The climate strategy and climate change platform will include all sectors (i.e. transport, energy, built environment, water, waste etc.) to provide for sufficiently wide consultation of local and regional stakeholders and effective implementation of the strategy.

The Climate strategy of Budapest will include the following aspects:

- **provide climate protection vision** (in line with EU, national, regional, and local objectives)
- **deliver decarbonisation and mitigation targe**ts (for 2020, 2030 and 2050)
- **identify concrete adaptation measures** for mid and long term
- **provide training and awareness raising activities for citizens, business, academic and public sector**

(5) LIFE HungAIRy project (submitted in April 2017)

Implement air quality plan measures: to keep appropriate state of environment, & to improve air quality in compliance with the human right to healthy environment and clean air.

- air pollution is extremely poor,
- lack of necessary air quality & emission data for local planning.

Pilot 1:

Pilot activity on **awareness raising** and **open community planning** to **improve urban green areas of Vérmező park**.

It strengthens the ecological function of one of the biggest green areas in Buda side.

- to mitigate the harmful effects of urban heat islands
- to improve urban air conditioning effect.

There will be environmental education & awareness raising programs.

Pilot 2:

Pilot activity on **emission source database and chimney cadastre**.

To establish **a direct public emission source data base** that is the basis for the program which are intended to reduce pollutant emissions by the households.

Challenges to overcome of the smart city of Budapest under the Urban Agenda

Challenge 1#: e-mobility

The current Hungarian regulatory system is not in place.
Budapest is at the forefront of the concept of the country.
Response of Budapest: - SUMP

Challenge 2#: integrated energy networks

It is based on our Smart Cities project proposal
Responses of Budapest:

- **PURE**
- ISCO

Thank You for your kind attention!

Motto:

There is no exist Smart City without Smart Citizens

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For info or further questions on this seminar and the activities of the JASPERS Networking Platform, please contact:

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