Energy development in Riga
Dr.sc.ing. Maija Rubina, director Riga Energy Agency

Meeting with Kosovo delegation in Riga, 12.10.2012.
Riga Energy Agency - REA

- REA – non profit municipal establishment, created in 2007 with the aims:
  - Management and coordination of energy supply, energy efficiency and renewable energy sources in Riga municipality;
  - Raising awareness amongst the local population.

- REA structure - 5 full time employees:
  Director, Administrator, International project manager;
  Head of Energy efficiency information center;
  IT expert.
Riga City Sustainable energy action plan for 2010-2020 (SEAP)

- Riga signed the Covenant of Mayors in 2008 with commitments as follows:
  >20-20-20 by 2020
- Riga City Council approved SEAP in 2010.
- In 2011 the First Progress Report on implementation of SEAP was collaborated.
  In fact reduction of CO₂ emissions for the period 1990.-2010. - 49%.
- Every year in October REA organises a month Riga Energy Days (seminars,
  Exhibitions, discussions etc.)
Power supply in Riga City

The power supply is ensured by the JSC “Latvenergo” from the 3 power plants:

- Riga TEC-1 (upgraded, 144 MWel.)
- Riga TEC-2 (outside Riga – 620 MWel., second stage of modernization is currently ongoing)
- Riga HES (outside Riga)
Cogeneration stations on biogas:

- at the waste water treatment plant “Daugavgrīva” (Ltd “Rigens”) – 2,1 MWel.; 2,6 MWth;

- Ltd “Getliņi EKO” at the solid waste landfill – 5,3 MWel.; 6,8 MWth.

Heat is used in greenhouses household

Cogeneration stations on biomass (wood chips):

- TC “Daugavgrīva” – 0,6 MWel.

- construction stage TC “Ziepniekkalns”-
  - 4 MWel.; 22 MWth
BIOMASS – wood chips

The main district heating operator in Riga – JSC “Rīgas siltums”

Aim till 2015 – increase the proportion of biomass utilisation share in the operator balance up to 20%
The main type of heating – district heating system 76% of total consumption.

The main fuel- natural gas.

70% of the heat is supplied from Riga TEC-1 and Riga TEC-2.

30% of the heat is provided by JSC “Rīgas siltums” from:
   - 5 thermostations;
   - 38 natural gas boilerhouses.

➢ 90% of the heat is developed in highly efficient cogeneration process.
➢ Heat loses in network are reduced till 13%.

12.10.2012
Energy efficiency measures in Riga heating system

The main heating system rehabilitation measures:
- The central heat substations (185) liquidation;
- Installation of local heat substations of consumers;
- Heat network rehabilitation with pre-insulated pipes;
- Temperature regime introduction at consumers;
- Heat consumption data remote reading system introduction.

Heat stations are introduced with condensing economizers for flue gas heat recovery.

For energy efficient cogeneration unit in TS “Imanta” a powerful (2 MW) absorption-type heat pump has been set.
Energy efficiency in residential buildings

The city has about 6000 apartment buildings with 12 million m² having an urgent need for complete renovation

Average energy efficiency of buildings - 213 kWh / m² per year
(2010 data)

Up to 2012 about 40 houses including social housing are renovated

- 26 houses are in the process
- 2011/2012 organized 70 energy audits
Improving of energy efficiency in public buildings

The city has about 400 municipal owned public buildings, including schools and kindergartens.

Up to 2012 complex renovation was done for more than 100 objects, mainly schools and kindergartens.
Ground heat

Riga municipality, removing coal boiler houses, built in two kindergartens the heating with ground heat pumps:

1. Kindergarten “Kastanītis” in Bišumuiža – 10 boreholes deep drilling - 120m
   Two-stage heat pump
   57,5 kW
Ground heat (2)

2. Kindergarten Nr.108 in Mežaparks -
12 borehole deep drilling – 80 m;
Two heat pumps with a capacity of 29 kW each
Solar Energy

The monthly values of global solar radiation on a horizontal plane kWh / m² in Northern:

The biggest solar battery is installed in Riga hazardous waste recycling company Ltd "Green Latvia" with the planned thermal power of 1500 kWh per year.
ELECTRIC CARS IN RIGA

The first Latvian registered electric vehicles (8) are introduced in Riga:

- in Riga Municipality – 5 electric cars;
- JSC “Latvenergo” – 2 electric cars;
- car dealer – 1 electric car

In Riga there is also registered the vehicle with electric and petrol engine, which is a world-known Oscar—the first electric car that took part in the Dakar Rally
ELECTRIC CARS IN RIGA(2)
PUBLIC CHARGING POINTS

Elektroautomobilju un divrieteņu transportlīdzekļu publisko uzlādes punktu karte

Elektroautomobilju un divrieteņu transportlīdzekļu publiskie uzlādes punkti (video)
In 2012 the first performed selective cycle counting was - around 3500.

For development of cycling in 2011 street crossings margins were lowered.
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Thank you for your attention!