



*RA Ministry of Nature Protection*



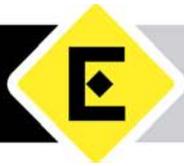
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**“Development of Armenia’s Fourth National Communication to the UNFCCC  
and Second Biennial Update Report” UNDP-GEF/00096445 Project  
and  
Czech Trust Fund**

**Feasible Solutions for Application of the Biogas Production  
from the Agriculture Waste in Armenia**

*“Armenia Marriott” Hotel, “Ararat 1” Hall*

*16.11.2017*



# **LEGAL FRAMEWORK OF THE CZECH REPUBLIC AND THE EU IN THE FIELD OF RENEWABLE ENERGY SOURCES**

**Jan Pavlík**

UNDP Armenia, 16 November 2017



## Contents of presentation

- ◆ EU policy framework in the field of energy and climate
  - ◆ 2020 climate & energy package
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- ◆ EU legal framework in the field of renewable energy
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- ◆ Czech Republic policy and legal framework
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## 2020 Climate and energy package

- ◆ The 2020 package is a set of binding legislation to ensure the EU meets its climate and energy targets for the year 2020.
- ◆ The package sets three key targets:
  - ◆ 20% cut in greenhouse gas emissions (from 1990 levels)
  - ◆ 20% of EU energy from renewables
  - ◆ 20% improvement in energy efficiency
- ◆ Main policies:
  - ◆ Emissions trading system (ETS)
  - ◆ Renewable energy – national targets
  - ◆ Energy efficiency plan & directives



## Strategies up to 2030 and 2050

- ◆ The 2030 climate and energy framework sets three key targets for the year 2030:
  - ◆ At least 40% cuts in greenhouse gas emissions (from 1990 levels)
  - ◆ At least 27% share of renewable energy in EU energy consumption
  - ◆ At least 27% improvement in energy efficiency
- ◆ The framework was adopted by EU leaders in October 2014 and should prepare for the more long term perspective up to 2050
  
- ◆ The 2050 low-carbon economy roadmap suggests that:
  - ◆ By 2050, the EU should cut emissions to 80% below 1990 levels
  - ◆ Milestones to achieve this are 40% emissions cuts by 2030 and 60% by 2040
  - ◆ All sectors need to contribute
  - ◆ The low-carbon transition is feasible & affordable.



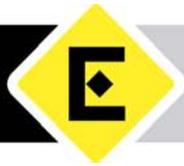
## Power generation & distribution up to 2050

- ◆ The power sector has the biggest potential for cutting emissions. It can almost totally eliminate CO2 emissions by 2050.
- ◆ Electricity could partially replace fossil fuels in transport and heating.
- ◆ Electricity will come from renewable sources like wind, solar, water and biomass or other low-emission sources like nuclear power plants or fossil fuel power stations equipped with carbon capture & storage technology. This will also require strong investments in smart grids



## Renewable Energy Directive (2009/28/EC)

- ◆ Establishes an overall policy for the production and promotion of energy from renewable sources in the EU.
- ◆ At least 20% of total EU energy needs to cover with renewables by 2020 – to be achieved through the sum of individual national targets.
  - ◆ All EU countries must also ensure that at least 10% of their transport fuels come from renewable sources by 2020.
- ◆ National renewable energy targets for each country, taking into account its starting point and overall potential for renewables.
  - ◆ Targets range from a low of 10% in Malta to a high of 49% in Sweden.
- ◆ National renewable energy action plans:
  - ◆ EU countries set out how they plan to meet these targets
  - ◆ Describe the general course of their renewable energy policy
- ◆ *On 30 November 2016, the EC published a proposal for a revised Renewable Energy Directive*

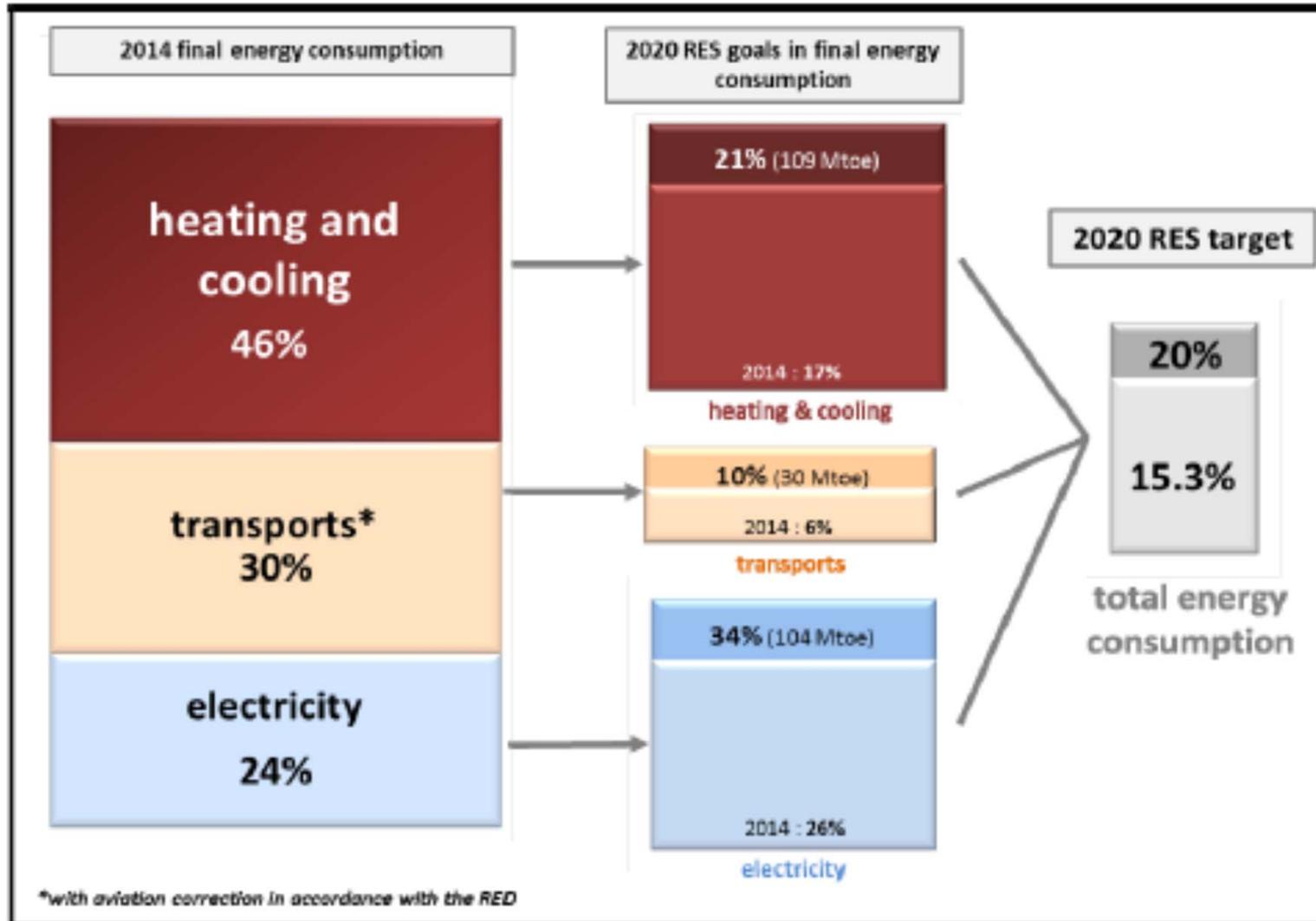


## Table of national targets

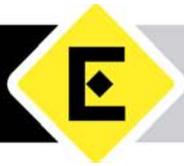
<b>Country (<i>selection</i>)</b>	<b>RES share in 2005</b>	<b>RES share in 2013</b>	<b>Target RES share in 2020</b>
Austria	23.3%	32.6%	34%
Czech Republic	6.1%	12.4%	13%
Denmark	17.0%	27.2%	30%
Finland	28.5%	36.8%	38%
France	10.3%	14.2%	23%
Germany	5.8%	12.4%	18%
Italy	5.2%	16.7%	17%
Netherlands	2.4%	4.5%	14%
Poland	7.2%	11.3%	15%
Romania	17.8%	23.9%	24%
Slovakia	6.7%	9.8%	14%
Slovenia	16.0%	21.5%	25%
Sweden	39.8%	52.1%	49%
United Kingdom	1.3%	5.1%	15%



# Final energy consumption in Europe with RES share in 2014 against RES targets



Source: European Commission, based on Eurostat calculation. 2014 data are model based estimates.



## Renewable energy Directive (2009/28/EC) – main articles - I

- ◆ Targets:
  - ◆ Art. 3 - **Mandatory national overall targets** and measures for the use of energy from renewable sources
  - ◆ Art. 4 - **National renewable energy action plans**
  - ◆ Art. 5 - Calculation of the share of energy from renewable sources
- ◆ Cooperation mechanisms
  - ◆ Art. 6 - **Statistical transfers** between Member States
  - ◆ Art. 7 - **Joint projects** between Member States
  - ◆ Art. 8 - Effects of joint projects between Member States
  - ◆ Art. 9 - Joint projects between Member States and third countries
  - ◆ Art. 10 - Effects of joint projects between Member States and third countries
  - ◆ Art. 11 - **Joint support schemes**



## Renewable energy Directive (2009/28/EC) – main articles - II

- ◆ Art. 13 - Administrative procedures, regulations and codes
- ◆ Art. 14 – Information and training
- ◆ Art. 15 - Guarantees of origin of electricity, heating and cooling produced from renewable energy sources
- ◆ Art. 16 - **Access to and operation of the grids**
  
- ◆ Biofuels
  - ◆ Art. 17 - **Sustainability criteria** for biofuels and bioliquids
  - ◆ Art. 18 - Verification of compliance with the sustainability criteria for biofuels and bioliquids
  - ◆ Art. 19 - Calculation of the greenhouse gas impact of biofuels and bioliquids



## Other directives with links to RES and biomass

- ◆ Directive 2009/72/EC concerning common rules for the internal market in electricity
  - ◆ Authorisation / tender procedures for new capacity
  - ◆ Unbundling of distribution and transmission system operators
  - ◆ Role of different parties in the electricity supply system
  
- ◆ Directive 2012/27/EU on energy efficiency
  - ◆ Proposes several measures to increase energy efficiency, e.g. reconstruction of existing buildings, energy audits, energy services
  - ◆ Promotion of efficiency in heating and cooling (also relevant for biomass)
  
- ◆ EC has proposed revisions of both directives (November 2016)



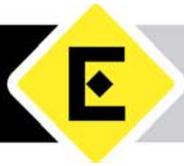
## Sustainability report on biomass - 2014

- ◆ EC report on the sustainability of solid and gaseous biomass for heat and electricity generation. The report includes information on
  - ◆ Current and planned EU actions to maximise the benefits of using biomass while avoiding negative impacts on the environment.
  - ◆ The EC has issued non-binding recommendations on sustainability criteria for biomass.
- ◆ These recommendations are meant to apply to energy installations of at least 1MW thermal heat or electrical power. They:
  - ◆ forbid the use of biomass from land converted from forest, and other high carbon stock areas, as well as highly biodiverse areas
  - ◆ ensure that biofuels emit at least 35% less greenhouse gases over their lifecycle (cultivation, processing, transport, etc.) when compared to fossil fuels. For new installations - amount rises to 50% in 2017 / 60% in 2018
  - ◆ favour national biofuels support schemes for highly efficient installations
  - ◆ encourage the monitoring of the origin of all biomass consumed in the EU to ensure their sustainability



## Czech Republic policy and legal framework

- ◆ State Energy Policy
  - ◆ Key national strategic document in the field of energy.
  - ◆ Gives a strategic task for the development of Czech energy for next 25 years.
  - ◆ Published in 2004, updated in 2015
  - ◆ Identifies the mechanisms that ensure the **national security in energy supply**, a wider diversification of resources and maintaining the existing full **independence in the field of heat and electricity supply** without significant exports of energy produced



## Czech energy legislation

- ◆ Energy Act – no. 458/2000 Coll.
  - ◆ The act provides for business conditions in the energy sector (electricity market, gas market and heat market), the role of public authorities, and the granting of licenses to conduct business in the energy sector etc.
- ◆ Renewable Energy Act
  - ◆ Establishes the conditions to meet the share of RES by 2020 (according to Directive 2009/28 / EC) with provisions on:
    - ◆ The promotion of electricity from renewable energy sources
    - ◆ Green bonus for electricity
    - ◆ Purchase prices
    - ◆ Terms connections
- ◆ Decrees of relevance to RES and biomass
  - ◆ Decree no. 16/2016 Sb. on the requirements for connection to the electricity grid
  - ◆ Decree no. 194/2013 Sb. on the control of boilers and heating networks
  - ◆ Decree no. 441/2012 Sb. on the minimum efficiency in production of heat and electricity



## Strategies in the field of RES, biomass and forestry

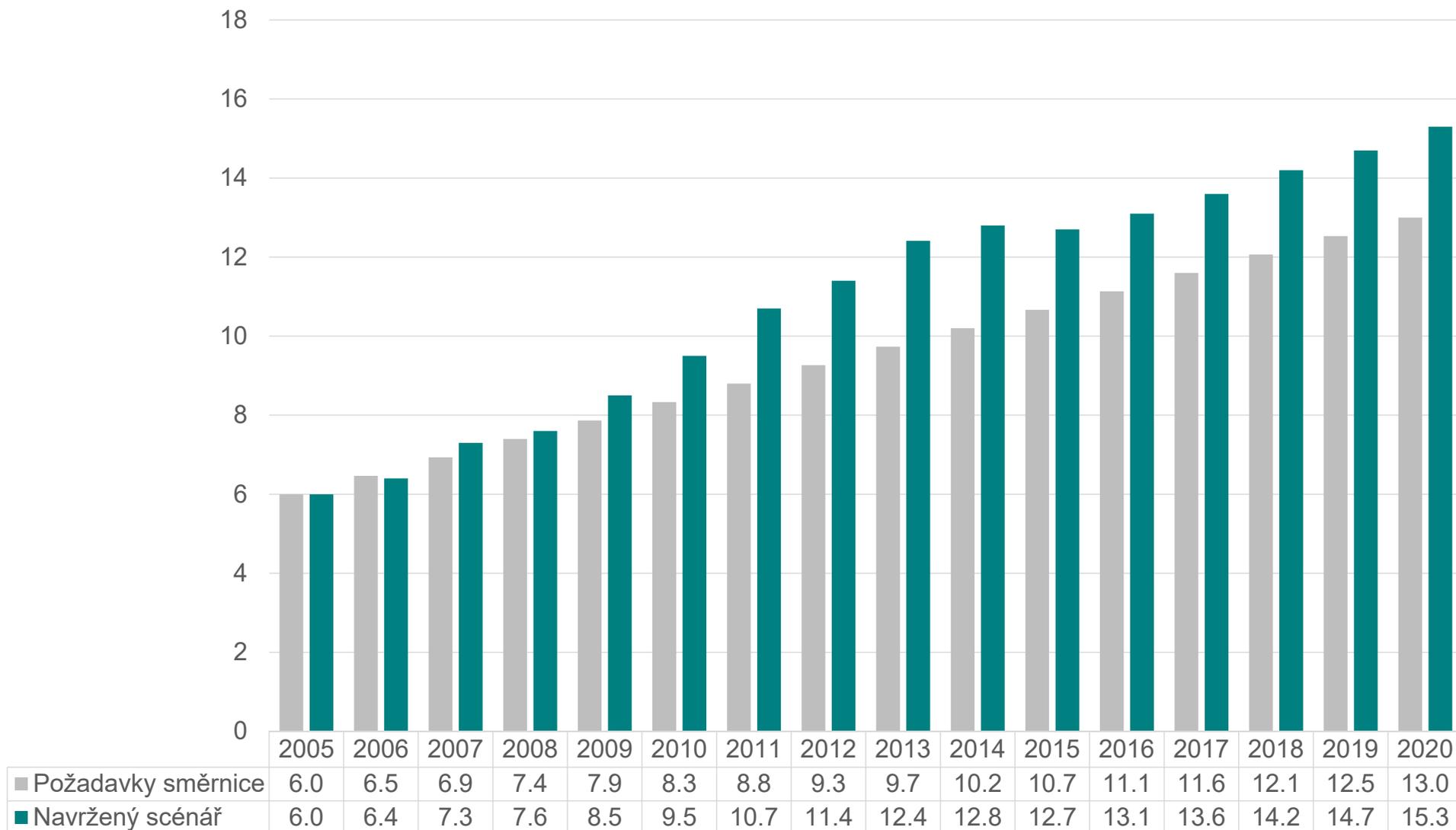
- ◆ National Renewable Energy Action Plan (2015)
  - ◆ Plan with activities to reach the national target of 13% RES share in final energy consumption
  - ◆ Expectation is that target up to 2020 will be slightly exceeded
  - ◆ Important role for RES heat

Share on the total consumption:	2005	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020
Heating and cooling	9,3	12,9	13,4	14,5	15,8	16	15,7	16,2	16,9	17,7	18,2	18,9
Electricity production	3,4	7,5	10,6	11,6	12,7	13,7	13,6	13,9	14,1	14,7	15,1	15,2
Transport	0,1	4	5,2	5,2	5,2	5,7	6,5	7	7,5	8,2	8,9	10
Total share of RES	6	9,5	10,7	11,4	12,4	12,8	12,7	13,1	13,6	14,2	14,7	15,3

- ◆ Biomass Action Plan in the Czech Republic (2012 – 2020)
  - ◆ To define the measures and principles that will lead to efficient and effective utilization of the available biomass energy potential and help to fulfill the commitments of the Czech Republic for the production of energy from RES in 2020.

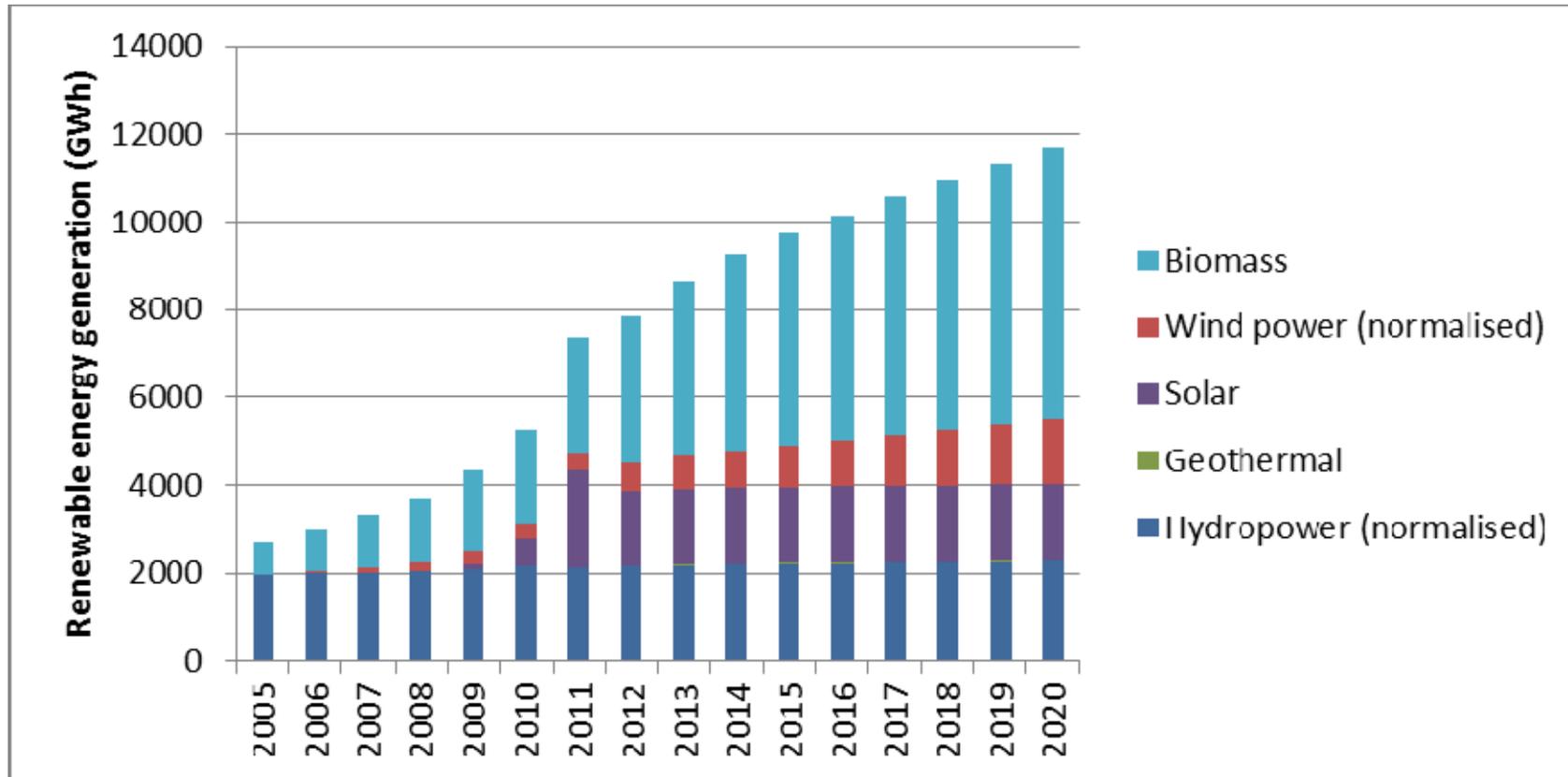


# Share of RES in final energy consumption in the Czech Republic





## Renewable electricity generation (2005-2011) and NREAP projection (2012-2020) (GWh)



Source: Eurostat (2013) and EEA (2013)

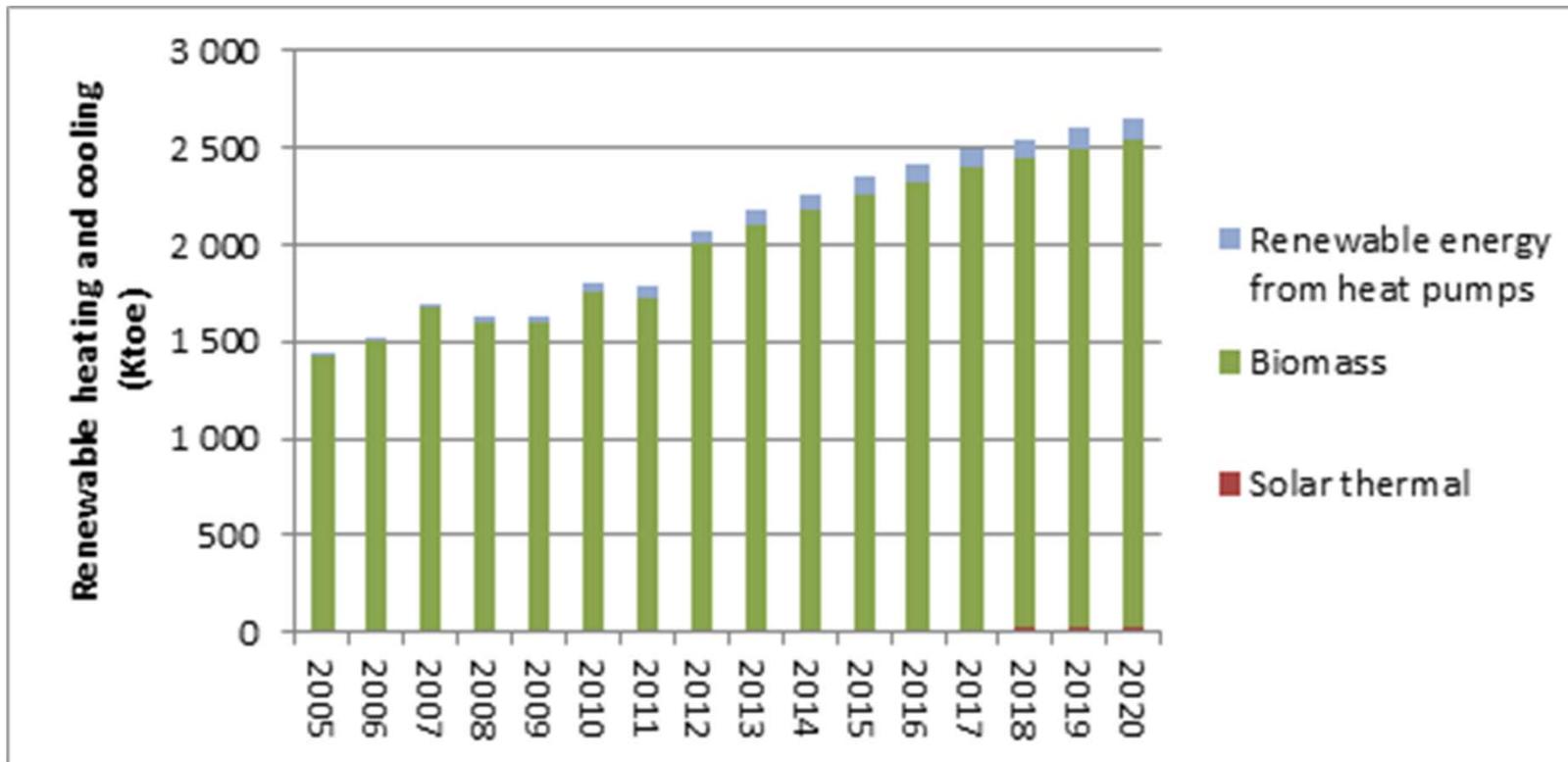
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## Renewable heating and cooling generation (2005-2011) and NREAP projection (2012-2020) (GWh)

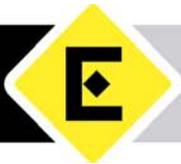


Source: Eurostat (2013) and EEA (2013)



## Utilization of biomass on energy

	Energy in fuel for heat production (GJ)	Energy in fuel for electricity production (GJ)	total (GJ)
<b>Biomass (except households)</b>	21 858 708	16 503 574	38 362 282
<b>Biomass (households)</b>	47 751 951	0	47 751 951
<b>Biogas</b>	4 756 601	10 941 555	15 698 156
<b>Biologically degradable CSW</b>	2 710 731	793 197	3 503 928
<b>Biologically degradable industrial waste and alternative fuels</b>	982 823	0	982 823
<b>Total</b>	78 060 814	28 238 326	106 299 140

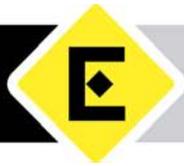


# Biogas installations in the Czech Republic



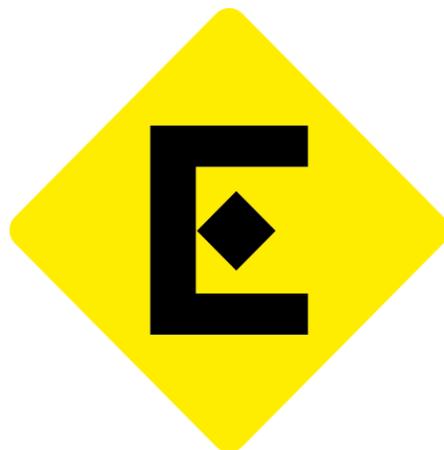
- BPS komunální
- BPS průmyslové
- BPS zemědělské
- Skládkový bioplyn
- ČOV

Bioplyn v ČR k 31. 12. 2016    Počet stanic: 567    Instalovaný výkon: 360 MW    Výroba elektřiny: 83289 GWh    Podíl bioplynu na OZE: 24.8%



## Summary

- ◆ RES directive of 2009 does for the first time include binding targets for RES shares for Member States. Targets include RES from electricity, heat and transport
- ◆ Most Member States (19 from 27) are on track to reach their target
- ◆ Biomass/biogas plays important role in reaching the 2020 target
- ◆ More attention for sustainability criteria for biomass
  
- ◆ Czech Republic adopted EU energy legislation in field of RES
- ◆ Feed-in tariffs (FIT) for RES electricity introduced in 2005
- ◆ FIT gradually removed as RES share increased (... *and costs increased*)
- ◆ Continuous support for RES heat and biomass **with heat utilization** only



# Thank you for your attention!

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