



European Union Comenius Multilateral School Partnerships Project "Greener World"



France



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Slovakia



Turkey

**EU DIRECTIVES ON RENEWABLE
SOURCES OF ENERGY INCORPORATED
IN SLOVAK LAW**

Meeting in PARMA, ITALY May 2014

Energy Resources

- Slovakia's National Renewable Energy Action Plan calls for **14% of the country's final energy consumption to come from alternative energy sources within 2020.**

Resource	Value	Units	Rank
Wind Potential	0	Area(km ²) Class 3-7 Wind at 50m	174
Solar Potential	93,612,072	MWh/year	133
Coal Reserves	288.81	Million Short Tons	43
Natural Gas Reserves	14,160,000,000	Cubic Meters	78
Oil Reserves	9,000,000	Barrels	91

309/2009 Law

§1

Energy from renewable sources is energy from renewable non-fossil sources:

- Windy
- Sunny
- Aerothermal
- Geothermal
- Hydrothermal
- Energy of ocean
- Energy of water
- Biomass
- Landfill gas
- Gas from sewage treatment plant
- Biogas
- District heating or district cooling
- Bioliquids
- Biofuels



§2

National overall targets and measures for the use of energy from renewable energy sources

- 1. Member States may reach the targets using the following steps:
 - a) **support systems**
 - b) measures of **cooperation** between different member states and with third countries **for achieving** their national targets
- 2. Each Member State shall ensure **the share of energy from renewable sources in all forms of transport in 2020 is at least 10% of final energy consumption in transport in that member state.**

The EU's legal base and national target:

The legal base for nation *renewable energy sources* /*RES*/ target stems from the Directive 2009/28/EC on the promotion of use of energy from RES.

This directive sets:

- a) mandatory national targets for the overall share of RES among *total primary energy sources/TPES*/ as well as the target in transport sector
- b) rules related to statistical transfers among EU states
- c) biofuels and bioliquids standards

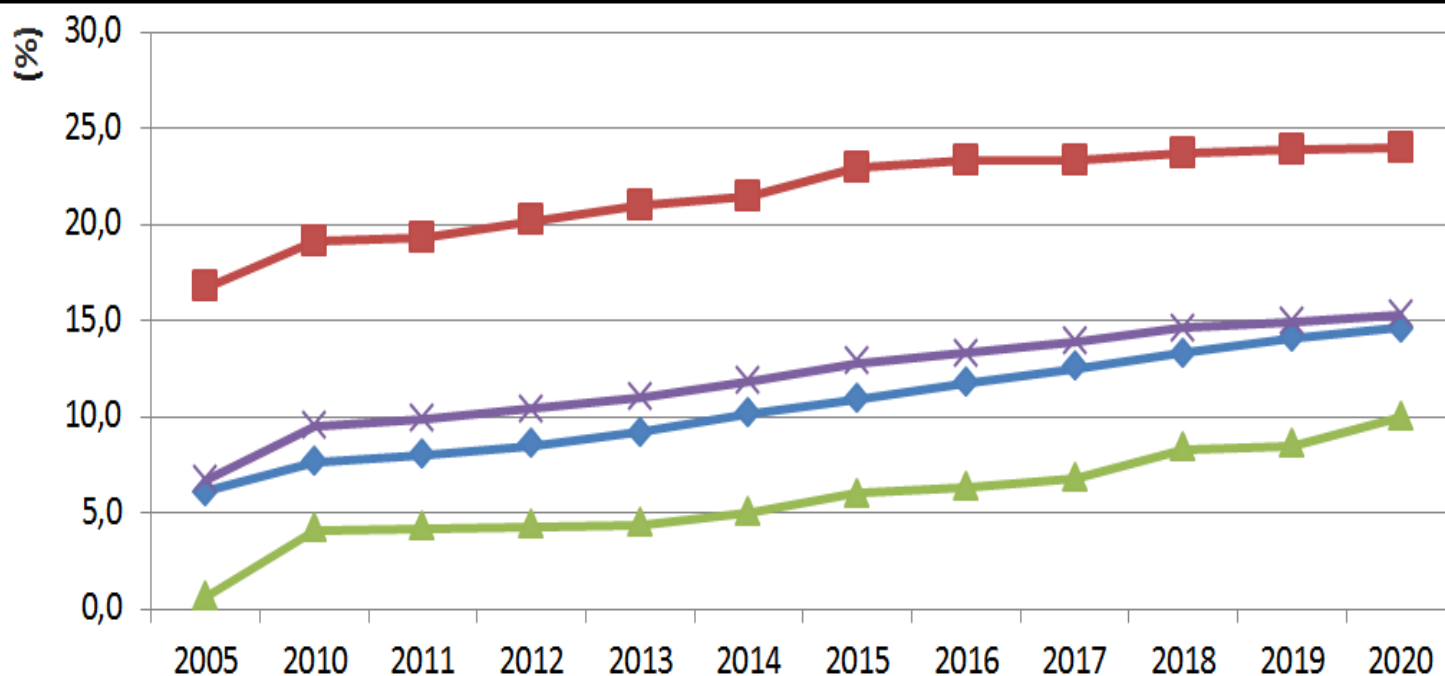
Renewable Energy Sources target

The national targets for 2020 were set 5.5 % increased share of RES among TPES in comparison with the state in 2005.

National target for Slovakia is following:

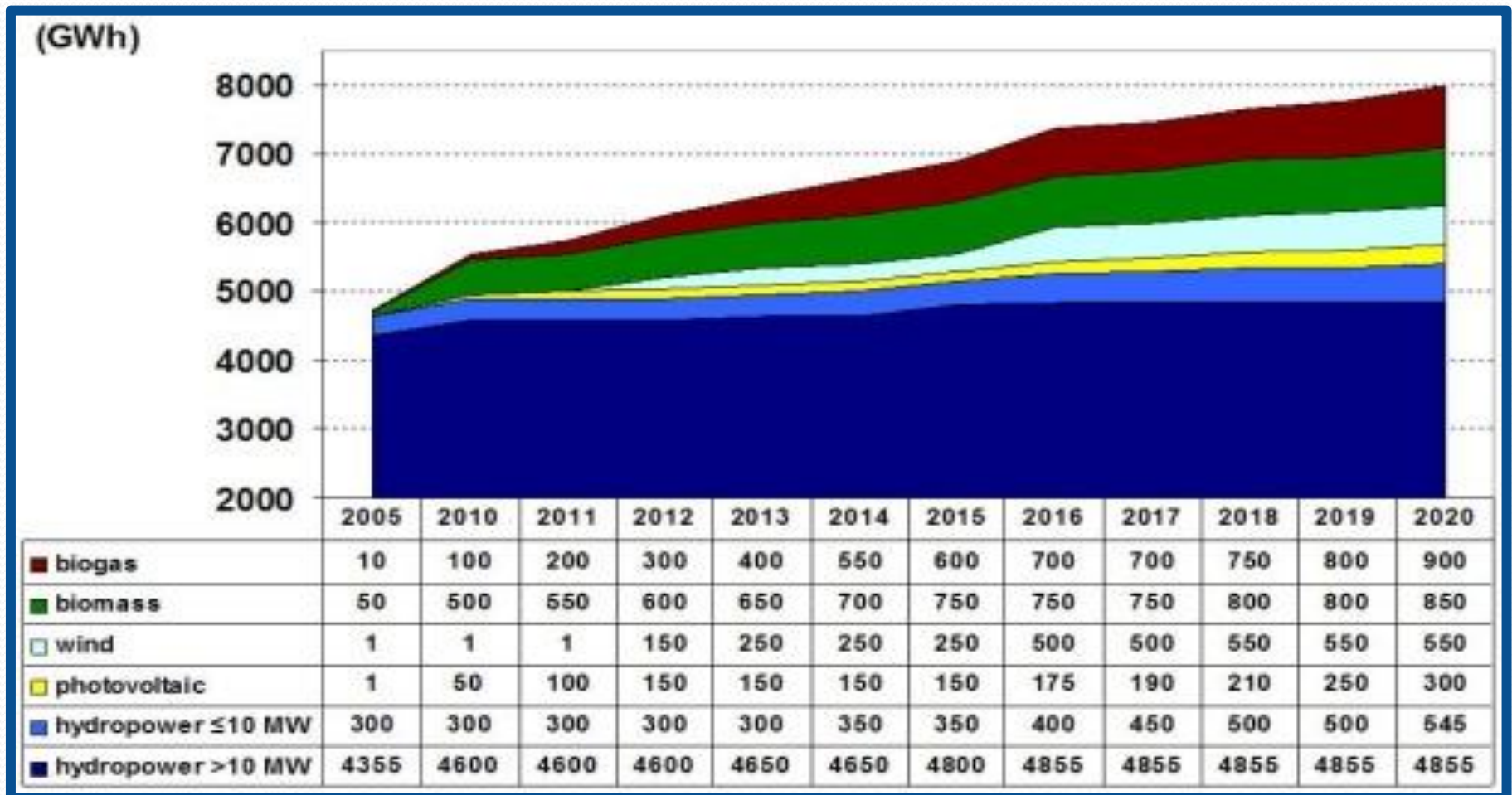
1. 14 % share of RES among TPES (total final energy consumption)
2. 10 % share of RES in transport sector

Concrete national targets /in %/for 2020 set in Plan are:

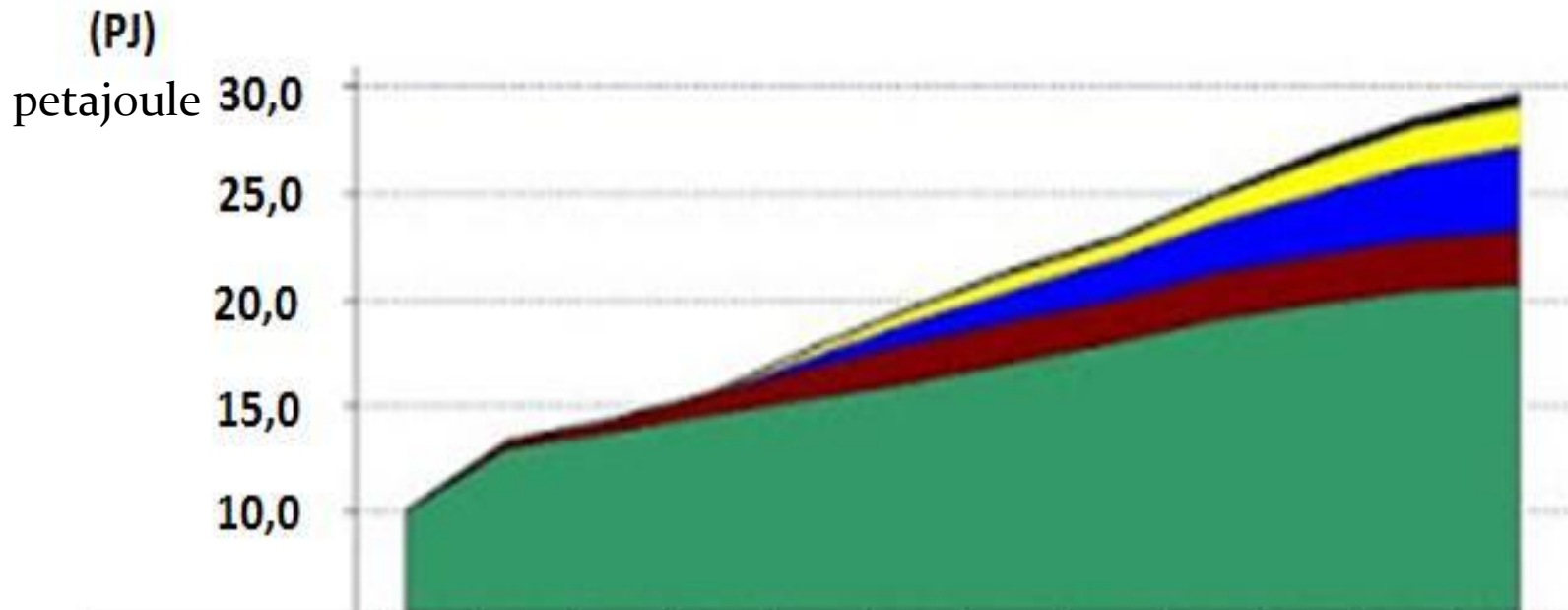


◆ Produced heat and cold	6,1	7,6	8,0	8,5	9,2	10,2	10,9	11,7	12,5	13,3	14,1	14,6
■ Produces electricity	16,7	19,1	19,3	20,2	21,0	21,5	23,0	23,3	23,3	23,7	23,9	24,0
▲ Transport	0,6	4,1	4,2	4,3	4,4	5,0	6,0	6,3	6,8	8,3	8,5	10,0
✕ Overall share of RES	6,7	9,5	9,9	10,4	11,0	11,8	12,8	13,3	13,9	14,6	14,9	15,3

On field of electricity production, National Action Plan estimates this scenario:



When it comes to heat, the prognosis is following:



	2005	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020
heat pumps	0,1	0,1	0,1	0,1	0,1	0,1	0,2	0,2	0,3	0,4	0,5	0,7
solar	0	0	0	0	0,3	0,5	0,8	0,8	1	1,5	1,7	1,8
geothermal	0	0	0	0	0,5	1	1,5	2	2,5	3	3,6	4
biogas	0	0,3	0,5	1	1,5	2	2	2	2,2	2,3	2,4	2,5
biomass	15	18	18,8	19,5	20,3	21	22	23	24	24,8	25,4	25,8

SUBSIDY II

(Programme for the Higher Use of Biomass and Solar Energy in Households)

Investment support for the use of solar energy and biomass for heating and hot water for apartments and houses is available for individuals in the form of subsidies for:

- Biomass boilers
- Solar thermal systems

The duration of the scheme is from 2008 to 2015.

Subsidy III

(Operational Programme Bratislava Region)

Measure 2.1. "Innovation and technology transfer" is a sub-programme of the Operational Programme Bratislava Region, where **energy certification is required for public buildings with a total floor area /TFA /of more than 250 m², newly constructed or renovated buildings as well as all other buildings that are sold or rented to a new tenant.**

Summary of support schemes

Tax regulation mechanism

- In Slovakia, petrol and diesel from a legally defined minimum content of biogenic material are subject to a lower mineral oil tax

Biofuels quota

- In Slovakia, there is an obligatory biofuel share for petrol and diesel fuel introduced on the Slovak market. The minimum content of biofuels has been legally defined for the years 2011 to 2020.



Trends In The Support Of Renewable Energy In Slovakia: Biomass Currently Favoured



Following the introduction of a new Renewable Energy Act in September 2009, the Slovak renewable energy sources ("RES") caused the interest in building new solar and wind power plants. New law slowed down development in the solar and wind power sector.

- **The new draft states, that:** the "additional payment" will only be provided as a form of support for solar power if the relevant power plants are located on buildings and have a total output of no more than 100 kW;
- electricity prices for solar power will be determined by the Slovak Regulation Office for Network Industries /RONI/.

They say that the electricity price for solar and wind plants determined by RONI may vary by more than 10% for each particular regulatory period

The Slovak government adopted a **National Action Plan for energy**.

According to this plan the use of renewable energy resources in relation to the final energy consumption will increase **from 6.7% in 2005 to 14% in 2020**. The plan also provides that energy from biomass should be given preference.



The Renewable Energy Act

stipulates that producers of electricity from biomass have the right:

- to priority connection;
- to priority access to the transmission and distribution grids, and to offtake of electricity;
- the right to sell electricity for the "electricity price on loss,,,";
- to an "additional payment" to be paid by the regional distribution grid operator;
- to have the liability for divergence taken over by the regional distribution grid operator in case of facilities with the total output up to 4 MW

The price of electricity produced from biomass is regulated by RONI.

Future energy consumption

could stay on present levels what means for Slovakia:

- 250 PJ for heat (heating + warm water preparation) and
- 28 TWh of electricity production in 2050.

HYDRO

Total hydro potential for power production – 6,61TWh/yr.

Recent hydropower production is around 3,8 TWh/yr

WIND

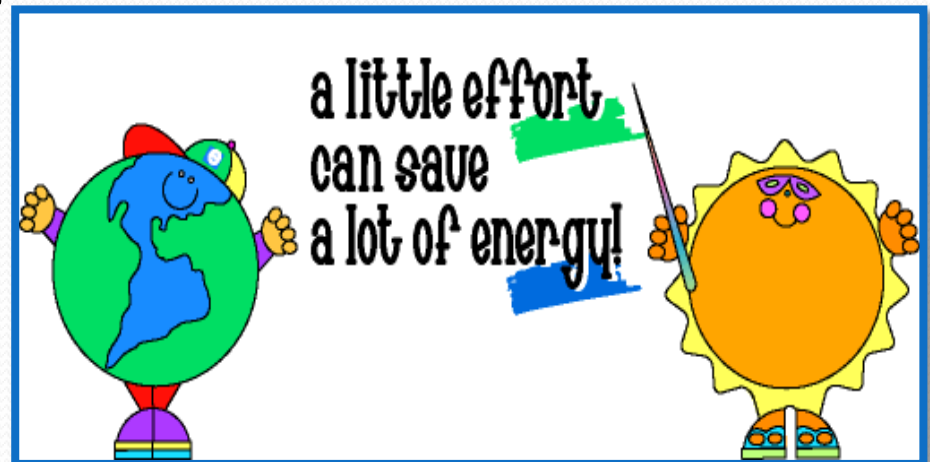
Only areas with average annual wind speeds more than 5-5.5 metres per second (m/sec) at a height of ten metres above ground are taken into account.

BIOMASS biogas utilisation and biofuels for transportation (biodiesel) are becoming more and more competitive on Slovak market.

Geothermal potential for the heat production - 22,68 PJ/year.

the most important source of electricity and **Photovoltaic** is supposed to cover large part of our power needs in 2050.

Total solar potential for power production – 15 TWh/yr.



FOSSIL FREE FUTURE IN 2050

Total potential of RE in Slovakia.

Annual power production in TWh Annual heat production in PJ:

Hydro 6,61

Wind 6,4

Biomass

Wood, straw, energy plantation 167,1

Biogas 0,49 3,3

Geothermal 22,7

Solar thermal 63,0

PV 15,0

TOTAL 28,5 256,1



Thank you for your attention

