

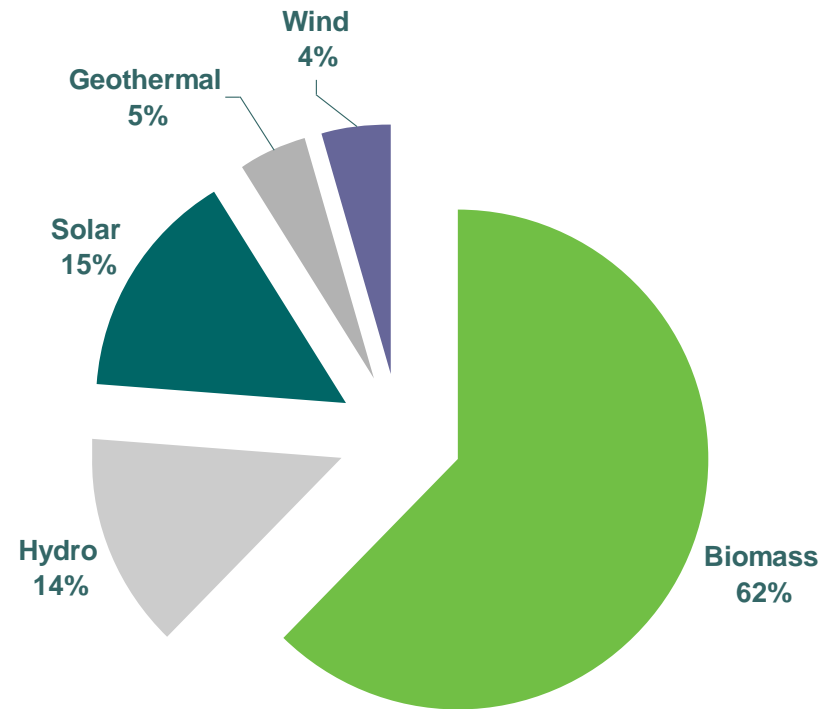


Investing in Renewable Energy Sources in Serbia

RES Technical Potential

Serbia's endowment of renewable energy resources is substantial
- realization of these potentials require Government action

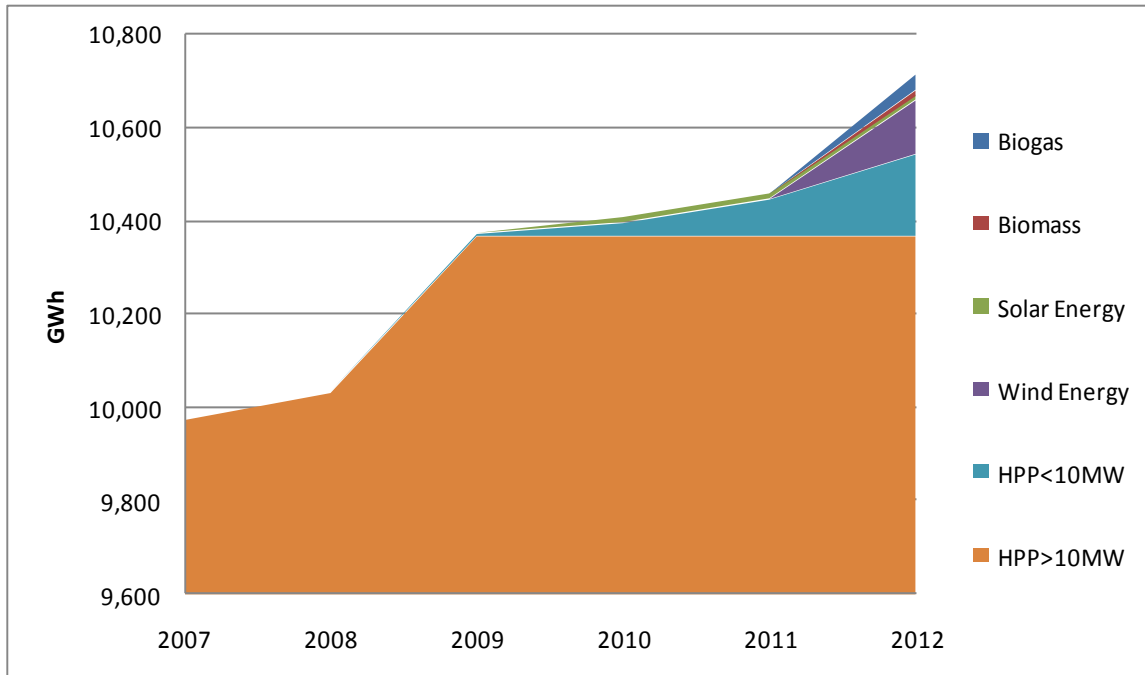
	Potentials (Mtoe)
<i>Biomass</i>	2.70
<i>Hydro</i>	0.60
<i>Solar</i>	0.60
<i>Geothermal</i>	0.20
<i>Wind</i>	0.20
TOTAL	4.30



Clear technical potential of renewable energy - insufficient information about the economic potential

Targets

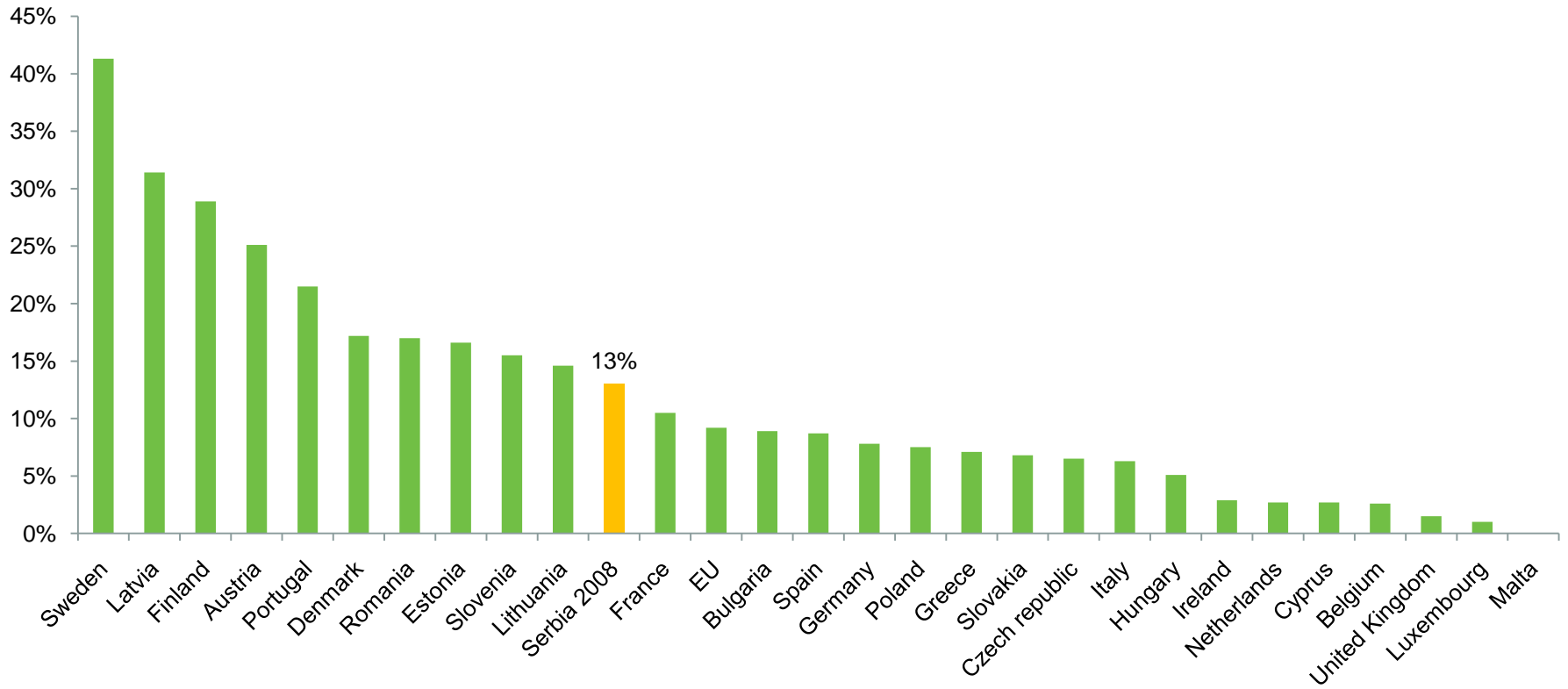
To increase RES-E production by 7.4% - from 9.974 GWh in 2007 to 10.713,1 GWh in 2012.



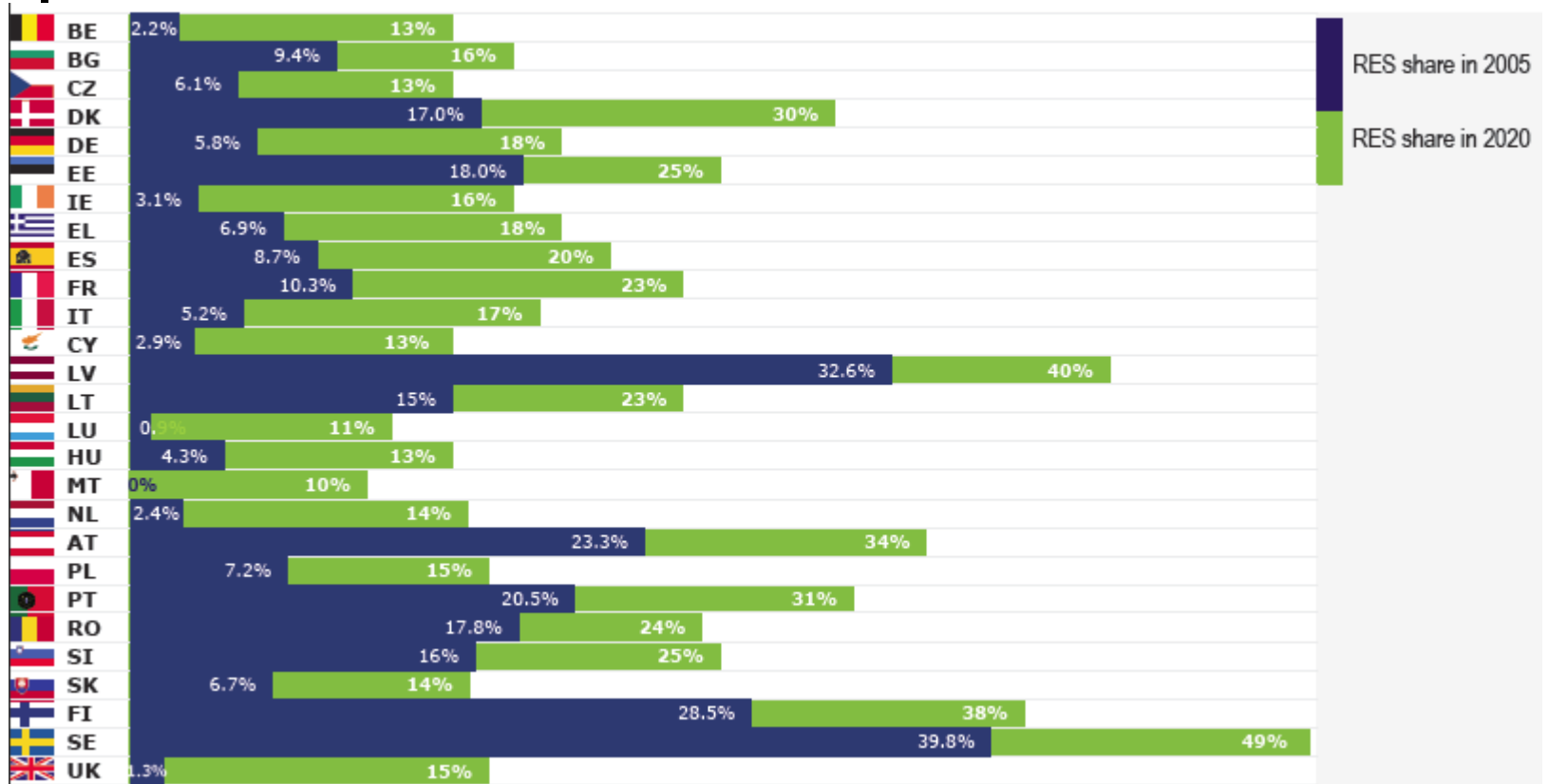
- More efficient use of available resources for production of energy
- Reduction of GHG emissions
- Reduction of import dependence
- Development of local industry
- Job creation

Targets

Share of Renewable Energy in Final Energy Consumption (2006)



EU Targets – Directive 2009/28/EC



Share of Renewables in transport – at least 10%
(biofuels, electric vehicles etc.)



Legislation

Energy Law (OJ RS 84/2004) provides the overall foundation for development of renewable energy sources and energy efficiency

Amendments to the Programme for Implementation of Energy Sector Development Strategy 2007-2012 (OJ 99/2009) elaborate Strategy in more details and define priorities for utilization of renewable energy sources.

Decree on the Requirements for obtaining the Status of the Privileged Power Producer and the Criteria for Assessing Fulfilment of these Requirements (OJ 72/2009) - defines procedure

Decree on incentive measures for electricity generation using renewable energy sources and combined heat and power (CHP) generation (OJ 99/2009) - defines feed-in tariffs for RES-E generation

Regulation on technical and other requirements of liquid biofuels (OJ Serbia and Montenegro 23/06) defines technical requirements for biodiesel and biofuels

Construction Law (OJ 72/2009) – defines procedure for obtaining construction permit – key law for investing

Law on Environmental Protection (OJ 72/2009)

Law on Strategic Environmental Assessment (OJ 135/2004)

Law on Environmental Impact Assessment (OJ 36/2009)

Integrated Pollution Prevention and Control Law (OJ 135/2004) -IPPC license needed for the biomass installations

Law on Waste Management(OJ 36/2009) – Use of residue materials for the production of biogas and biodiesel, landfills

Law on Air Quality(OJ 36/2009) – Limits emissions for the facilities that use biomass as a fuel

Law on ratification of Kyoto Protocol (OJ 88/2007 and 38/2009) - established DNA; Serbia is non-Annex I country, eligible for CDM projects

Permits & licenses for RES facilities – Issuing bodies

	Energy permit	Construction permit	Privileged Producer Status & Feed-in tariff	Energy License
<1 MW	N/A	Local Government / Municipality	Ministry of Mining and Energy and PPA with EPS	N/A
1-10 MW	Ministry of Mining and Energy	Local Government / Municipality	Ministry of Mining and Energy and PPA with EPS	Regulatory Energy Agency (AERS)
>10 MW	Ministry of Mining and Energy	Ministry of Environment and Spatial Planning	N/A	Regulatory Energy Agency (AERS)

ENVIRONMENTAL IMPACT STUDY

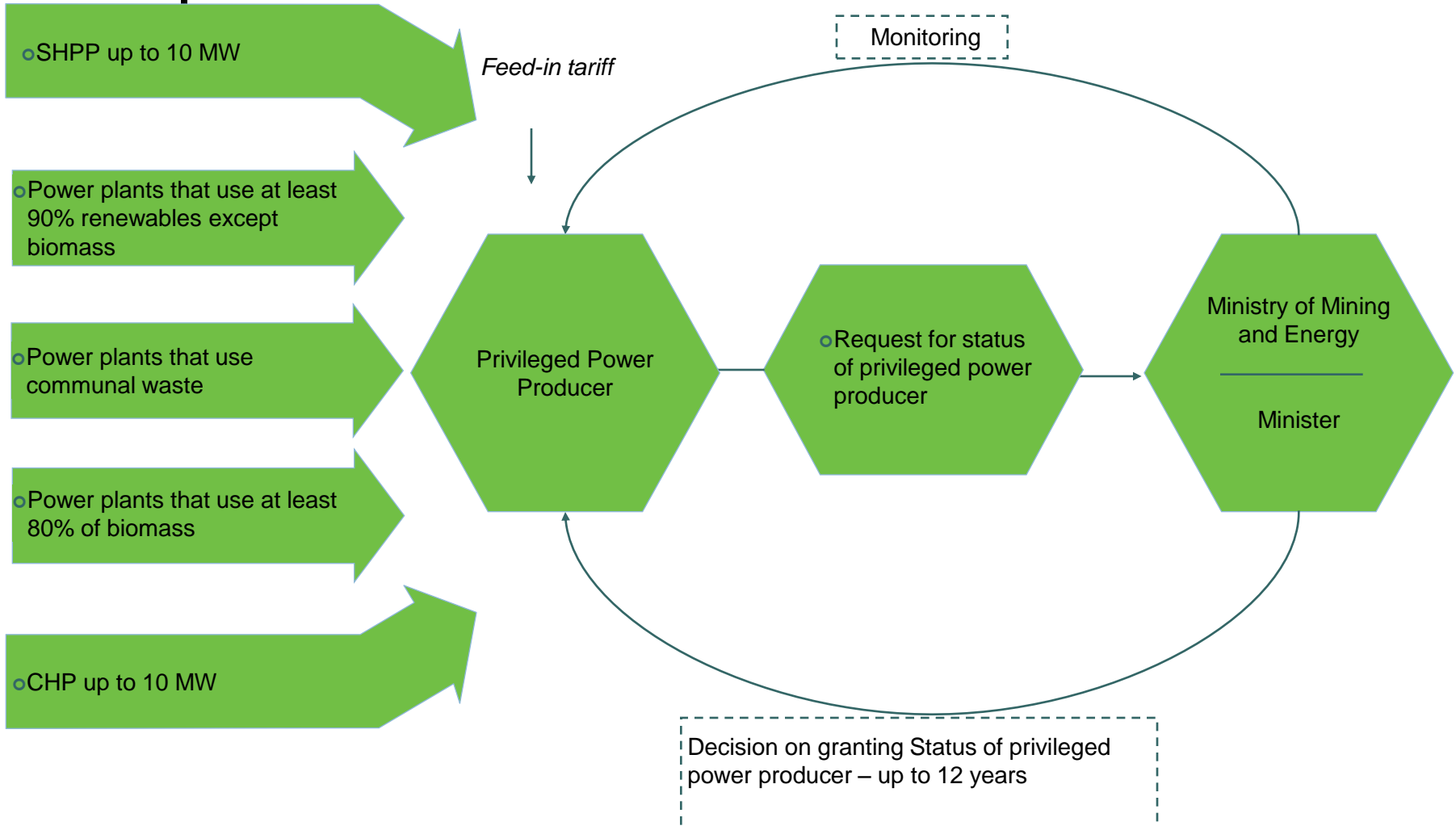
10-50 MW

Decision of the Ministry of Environment and Spatial Planning

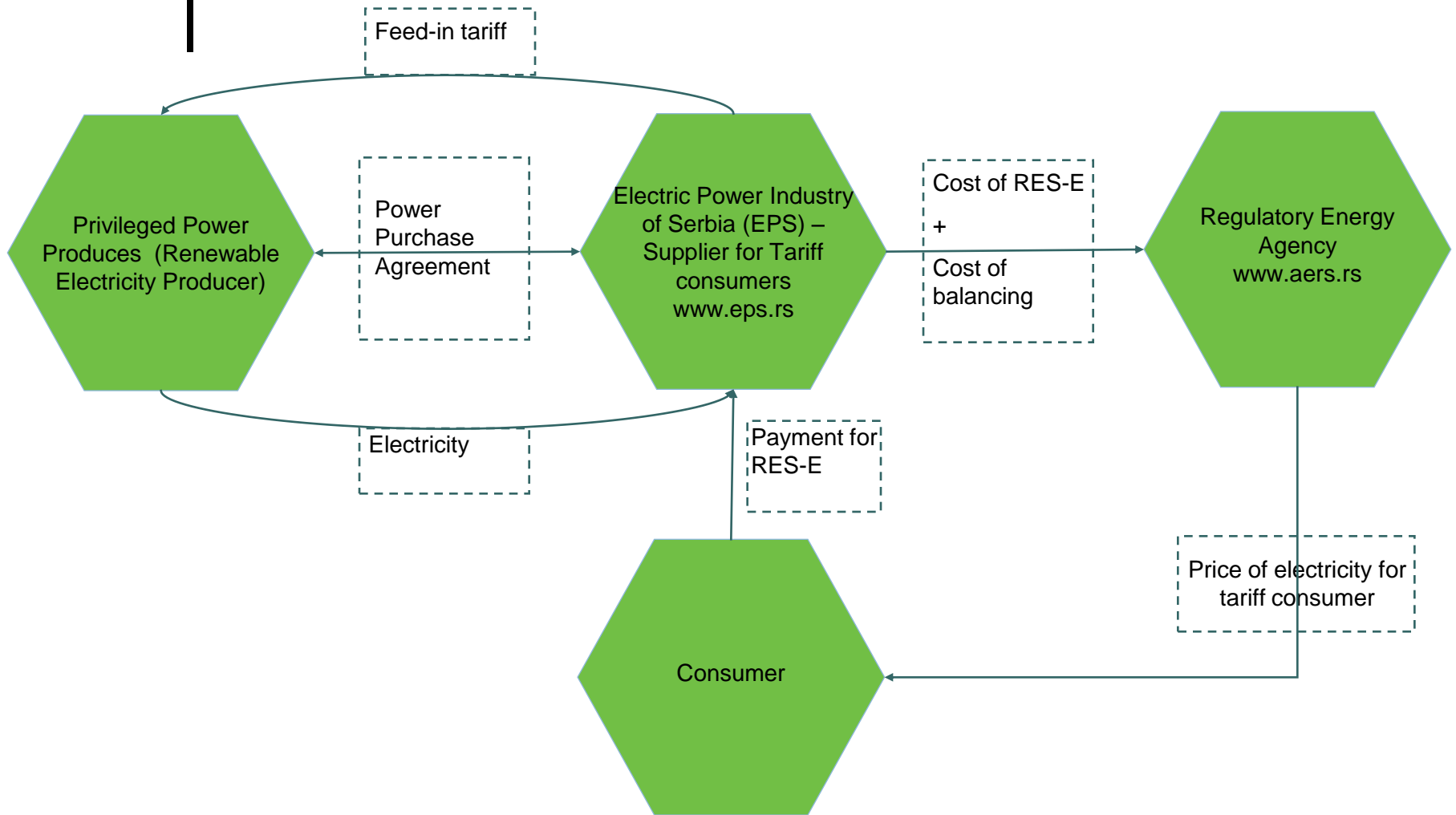
>50 MW

Obligatory

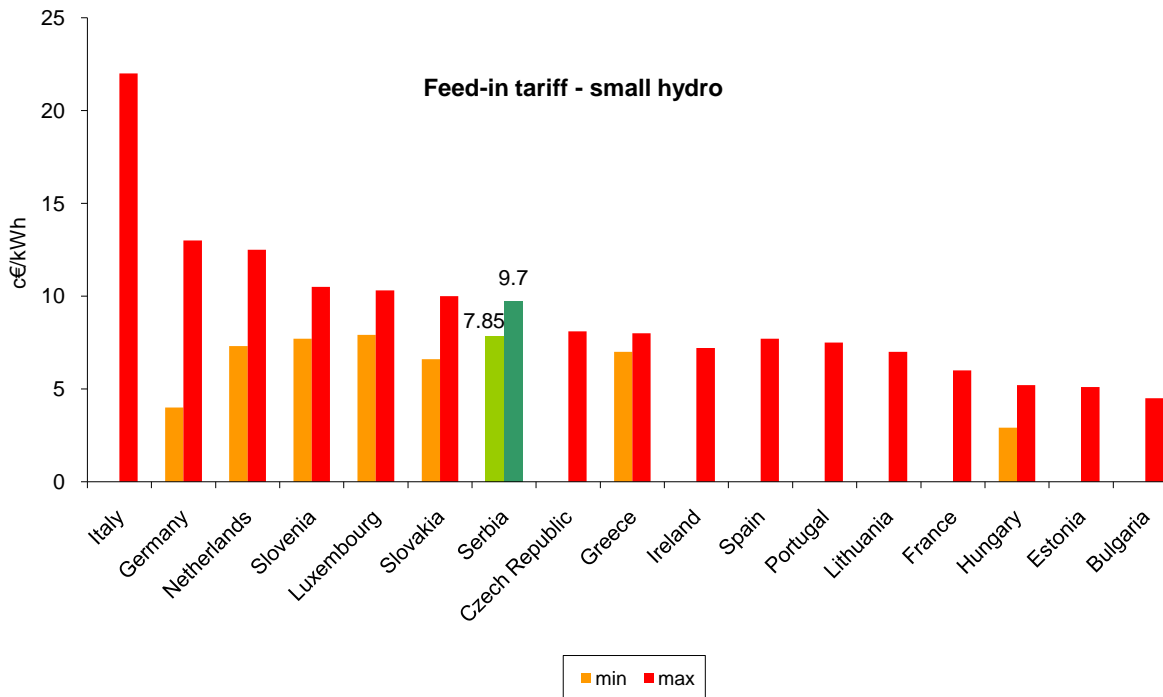
Legal Regulation–
Decree on conditions for acquiring status of Privileged Power Producer



Market Model for RES-E

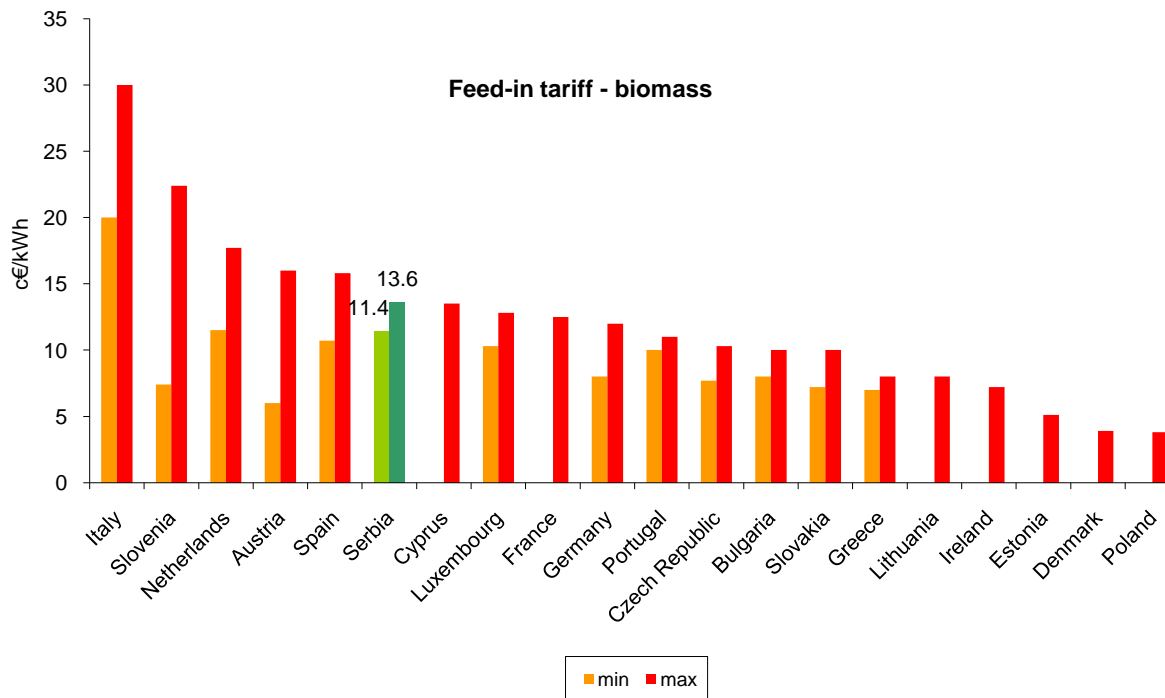


Feed-in tariff – small hydro (up to 10 MW)



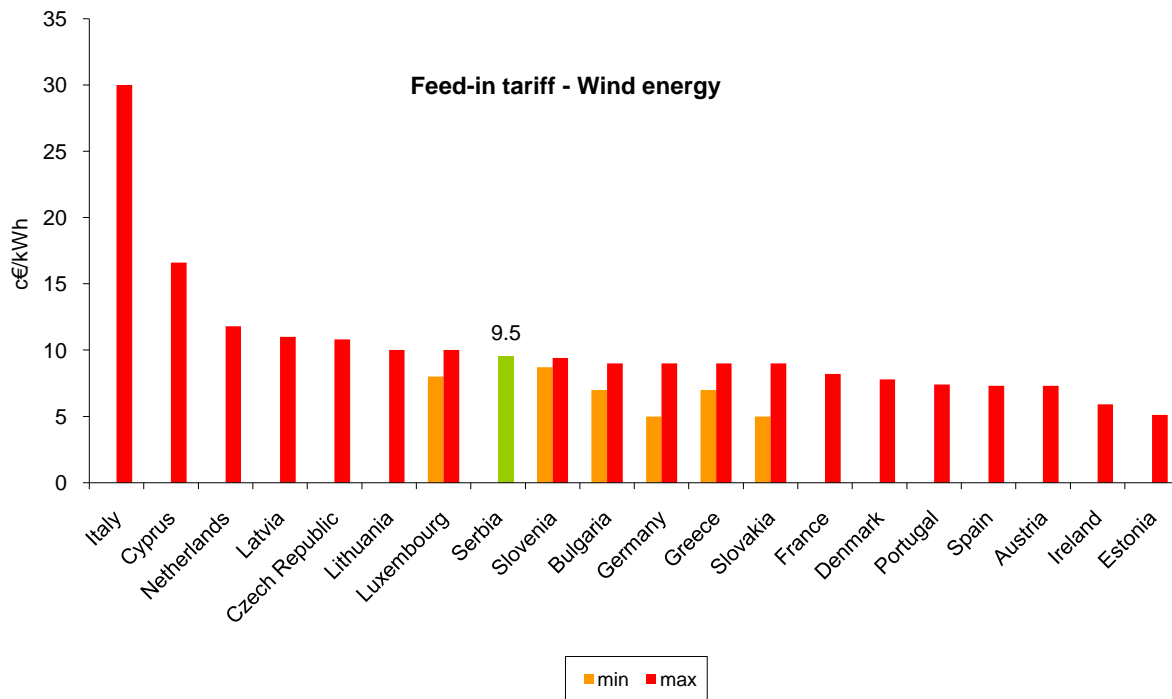
Power Plant Type	Installed Capacity (kW)	Feed-in tariff (c€/kWh)
Small Hydro Power Plants (up to 10 MW)		
1.1	Up to 500 kW	9,7
1.2	500 kW - 2 MW	10,316 – 1,233*P
1.3	More than 2 MW	7,85
1.4	Existing infrastructure Up to 2 MW	7,35
1.5	2 MW – 10 MW	5,9

Feed-in tariff - biomass



Power Plant Type	Installed Capacity (kW)	Feed-in tariff (c€/kWh)
Biomass Power Plants		
2.1	Up to 500 kW	13,6
2.2	500 kW - 5 MW	13,845 – 0,489*P
2.3	More than 5 MW	11,4

Feed-in tariff – wind energy



Power Plant Type

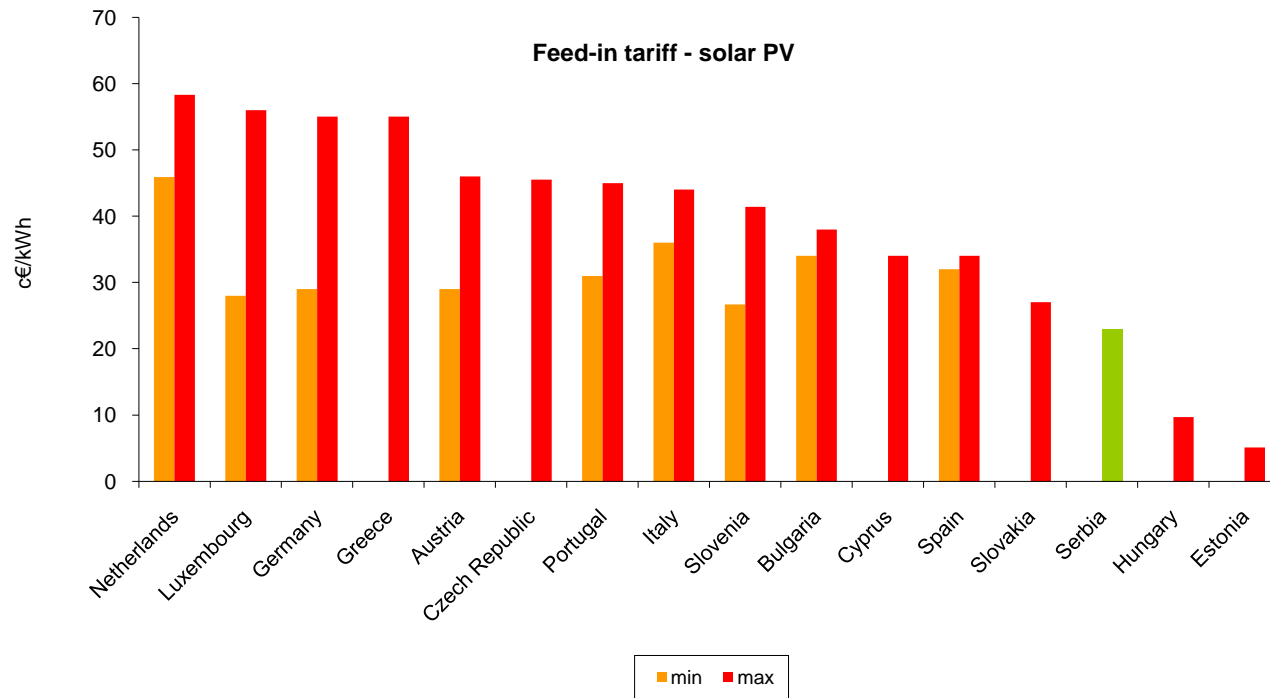
Wind

Feed-in tariff (c€/kWh)

9,5

Limit for total installed wind energy – 450 MW

Feed-in tariff – solar PV



Power Plant Type

Solar Photovoltaic

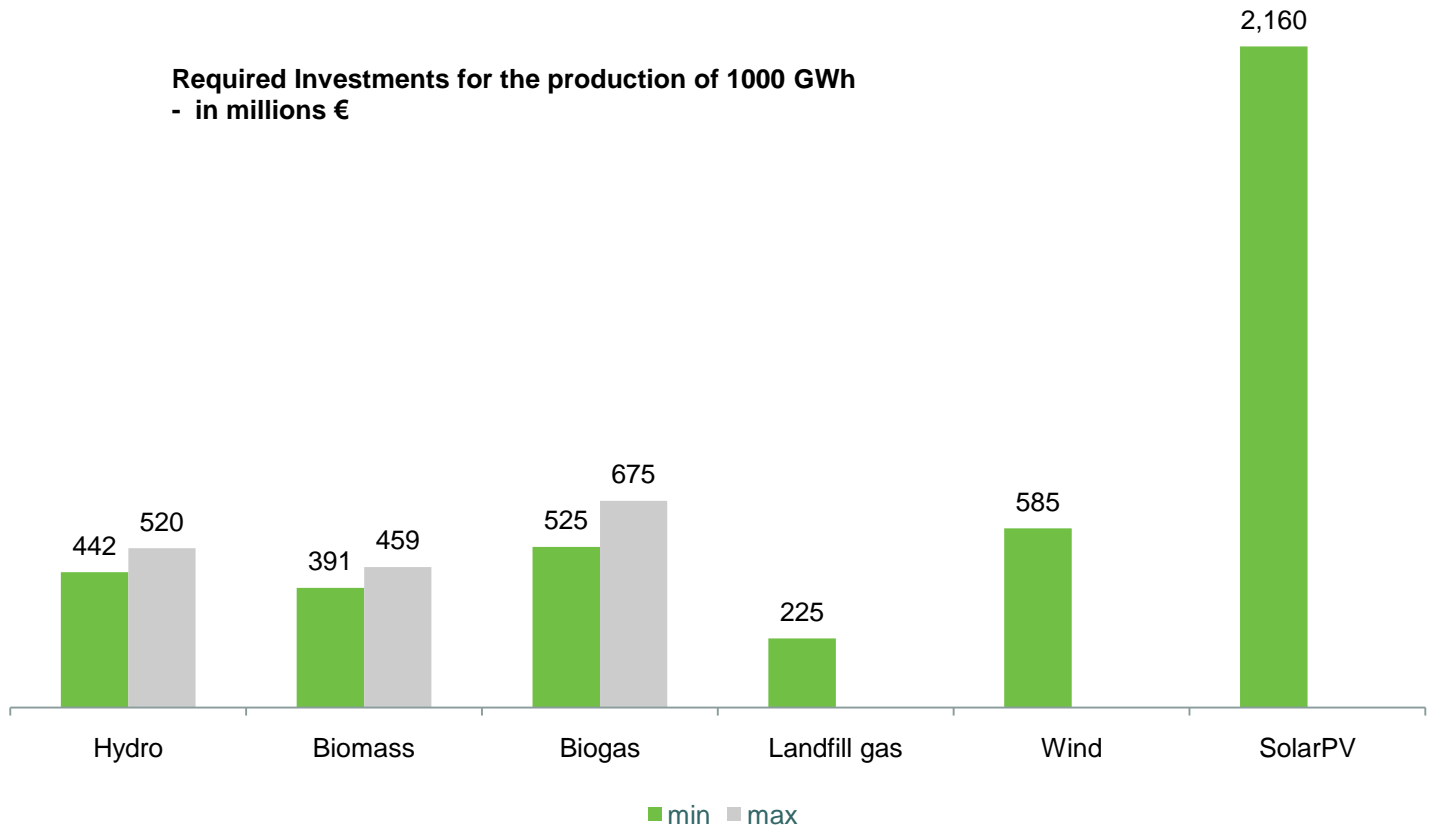
Feed-in tariff (c€/kWh)

23

Limit for total installed solar PV – 5 MW

Feed-in tariff

Required Investments for the production of 1000 GWh
- in millions €



Feed-in tariffs

Power Plant Type	Installed Capacity (kW)	Feed-in tariff (c€/kWh)
Biogas Power Plant	Up to 200 kW	16,0
	200 kW - 2 MW	16,444 – 2,222*P
	More than 2 MW	12,0
Power plants that use landfill and sewage gas		6,7
Geothermal energy		7,5
CHP on fossil fuels	Up to 0,2 MW	10,4
	0,2 MW to 2 MW	10,667 – 1,333*P
	2 MW to 10 MW	8,2
Existing infrastructure	Up to 10 MW	7,6
Power plants that use communal waste	Up to 1 MW	9,2
	1 MW to 10 MW	8,5

Biofuels

Target – share of 2.2% of biofuels in transport sector through blending obligation for diesel fuels

Year	Necessary amounts of biodiesel for blending (t)	Minimum content of fatty acid methyl ester (FAME) in diesel fuels (v/v)	Biodiesel share in diesel fuels (energy content)	Biofuel share in transport sector (energy content)
2010.	22.047	1.10%	1.00%	0.76%
2011.	44.093	2.21%	2.00%	1.52%
2012.	66.140	3.31%	3.00%	2.28%
SRPS EN 590:2005*	99.873	5.00%	4.53%	3.44%

**According to the SRPS EN 590:2005 standard, the content of fatty acid methyl ester (FAME) biodiesel is limited to 5% v/v*

SUSTAINABILITY CRITERIA FOR BIOFUELS

New Directive on Renewable Energy sets down clear-cut figures for future greenhouse gas savings which biofuels will have to achieve compared to traditional fossil fuels, and stipulates that biofuels produced from land with "high biodiversity value" cannot be counted towards the target

Action plan for biomass – currently under public discussion

Labeling / certification scheme for biofuels – in line with sustainability criteria defined in new Directive



Biomass Action Plan

Identified problems / actions

SECURITY OF FEEDSTOCK SUPPLY AND DEMAND

- Lack of an official definition of the terms
- Lack of official estimates of biomass availability in accordance with internationally recognized methodology
- Lack of transparent market mechanism
- Lack of technical standards, including a list of raw materials and residues

LICENSES

- Lack of established licensing procedure
- Lack of obligation for certification of appliances and biofuels

TECHNOLOGY AND KNOWLEDGE

- Lack of demonstration projects for biomass utilization
- Lack of participation in international projects
- Diversity and complexity of technologies
- Lack of laboratories and equipment for R&D

FINANCIAL AND ECONOMIC ASPECTS

- Lack of competitive micro credits
- Lack of efficient support mechanism
- Lack of utilization of available funds and financial resources for development of the biomass sector

COMMUNICATION

- Lack of Public Awareness
- Lack of Professional Association for Biomass



Investment incentives applicable to RES projects

INVESTMENT INCENTIVES

In case of investments in production facility, Government approve grant between 2000 and 5000 Euros per new job creation, minimal investment value is within the range of 1 and 3 million Euros, whereas the minimal number of new jobs is 50

An investor that invests in fixed assets, i.e. in whose fixed assets other entity invests over 600 million RSD (6.8 million EUR), and uses these assets for conducting business in Serbia and during the investment period additionally recruit at least 100 people - shall be exempted from corporate profit tax payments for the period of 10 years proportionally with the investment made

TAX CREDITS

A tax payer that made profit in newly established business unit in an underdeveloped area will receive a corporate profit tax reduction in the duration of two years, proportional to the share of such made profit in total profit of the company

ACCELERATED DEPRECIATION OF FIXED ASSETS

This incentive is provided for fixed assets that are used for the prevention of air pollution, water and soil pollution, noise reduction, energy savings, forestation, and collection and utilization of waste for industrial raw materials and fuels

FOREIGN INVESTMENTS INCENTIVES

The law on foreign investments stipulates free import of goods that are the foreign investor's nominal capital (founding capital) – providing it fulfils acts regulating environment protection. Import of equipment as the founding capital of a foreign investor, except for passenger motor vehicles and game & gambling machines, is free from customs and other duties. Besides, a foreign investor and a company with foreign founding capital are entitled to tax and customs related deductions in line with the law



THANK YOU FOR YOUR ATTENTION!

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