

Policy measures for promotion of renewables in the CEE countries

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Agenda

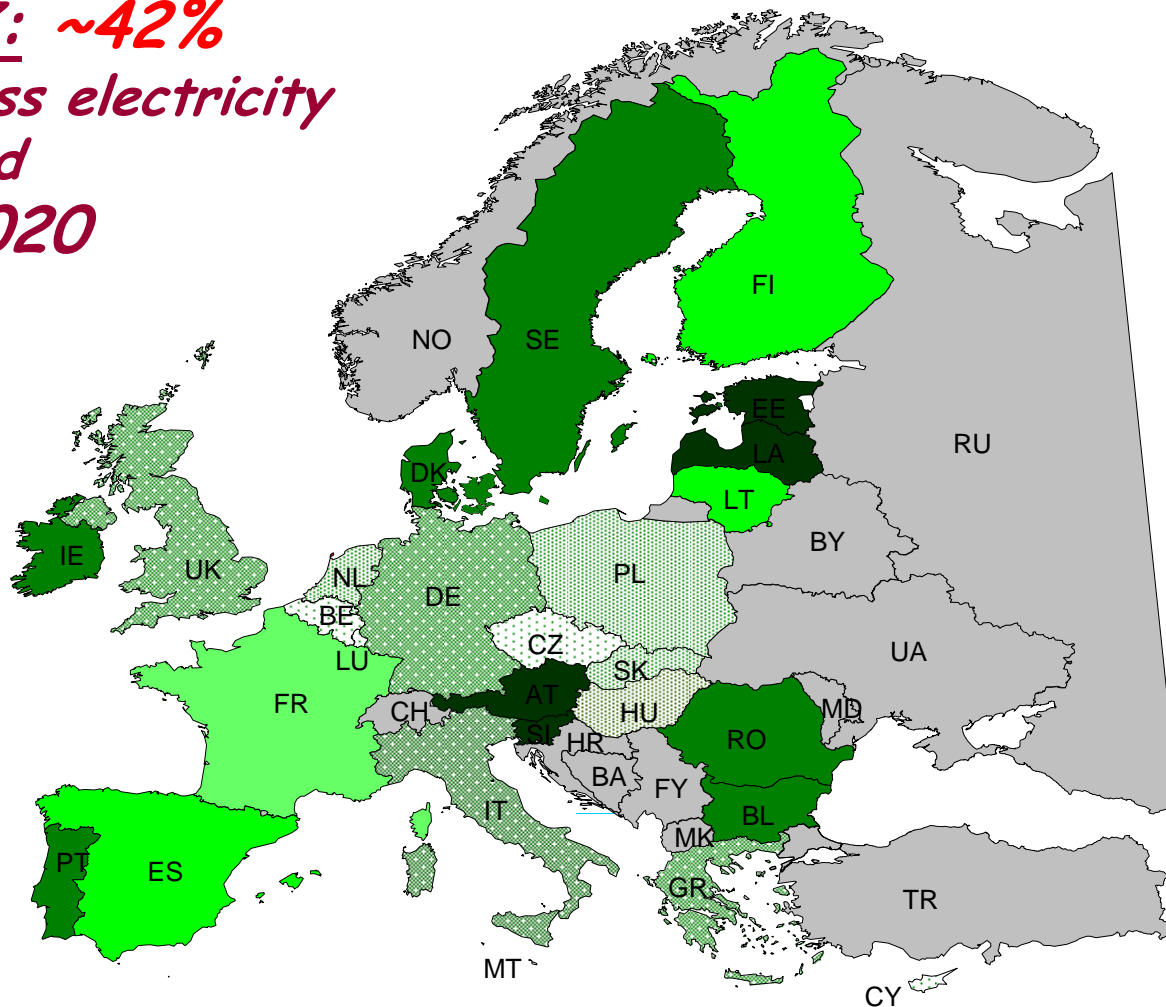
- EU policy
- Targets set by the Directive 2001/77/EC
- Support schemes
- Main barriers and possible solutions
- Guaranties of origin
- Directive 2003/30/EC to promote biofuels and its implementation

European policy background

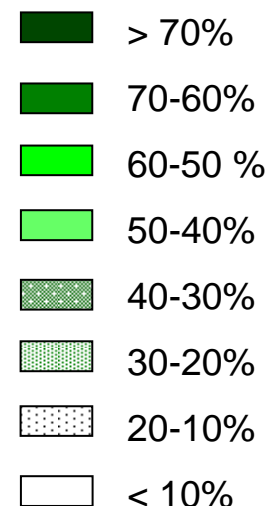
- **EC (1997): EC White Paper “Energy for the future”** set targets for renewable energy to contribute 12% of the total EU energy consumption by 2010
- **“Directive on the promotion of electricity from renewable energy sources“ (Directive 2001/77/EC)** requires the share of RES in gross electricity consumption in the EU-15 to be increased to 22 % (21% at EU-25) by 2010, Indicative targets for member states were set, member states are requested to apply national policy measures for the support of RES-E
- **EC (2005): “The support of electricity from renewable energy sources”**
The success of the different policy instruments which are implemented among EU Member states were assessed as required within the RES-E Directive
 - **Directive 2003/30/EC on the promotion of the use of biofuels or other renewable fuels for transport** sets targets for 2005 (2% biofuels) and 2010 (5.75% biofuels’ share of the market for petrol and diesel in transport)
 - **EC(2006): The 2006 Biofuels Progress Report** by the EU Commission concluded that the Member States are lagging behind their targets

Mid-term realisable potential for RES-E in EU-27

EU27: ~42%
*of gross electricity demand
by 2020*



Share of total RES-E potential on gross electricity consumption 2020 (BAU scenario-Energy and Transport Outlook)



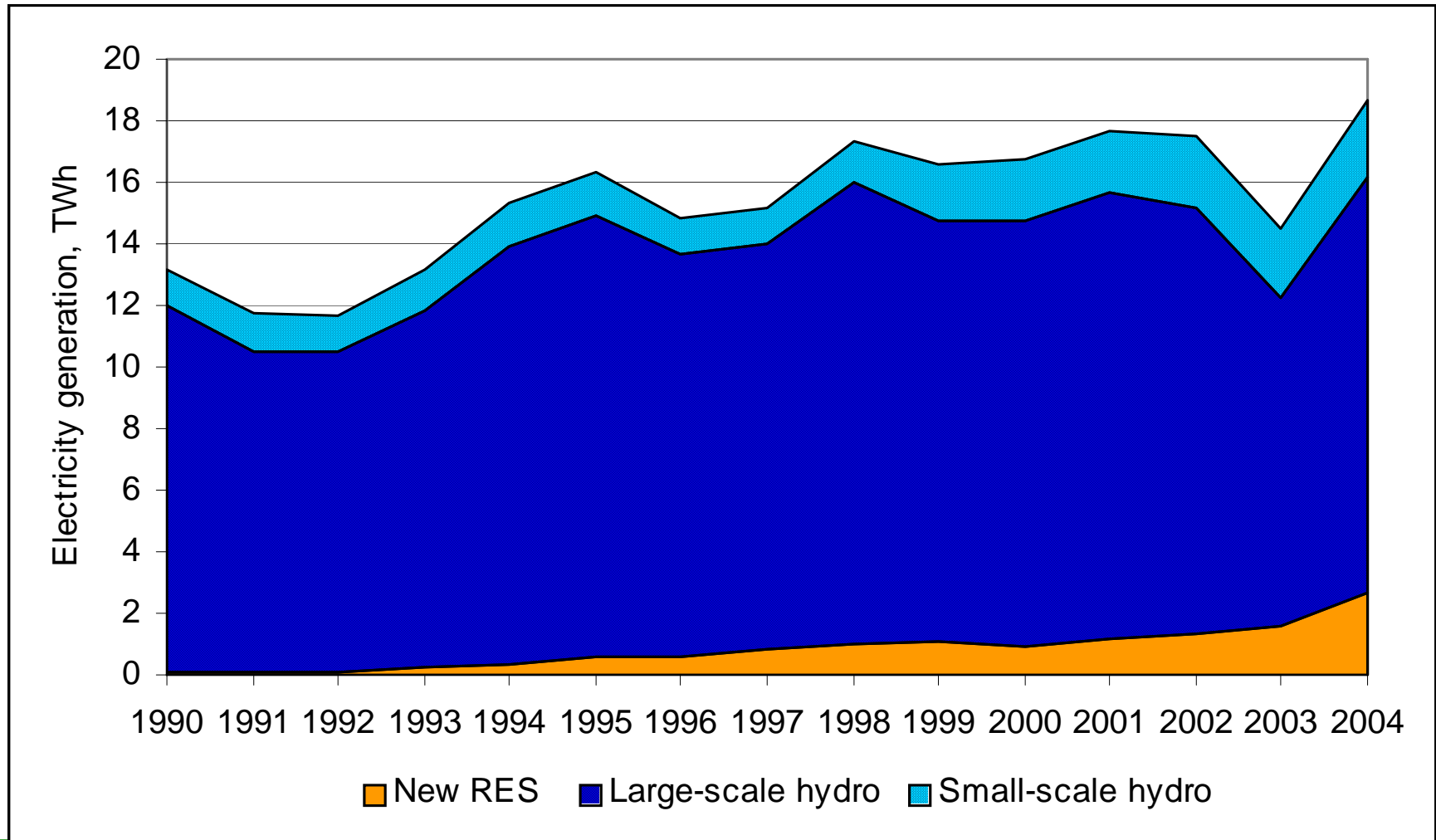
Promotion of RES-E through:

- Quantified national **targets** for consumption of RES-E
- National **support schemes**
- Simplification of national **administrative procedures** for authorisation
- Guaranteed **access** to transmission and distribution of RES-E

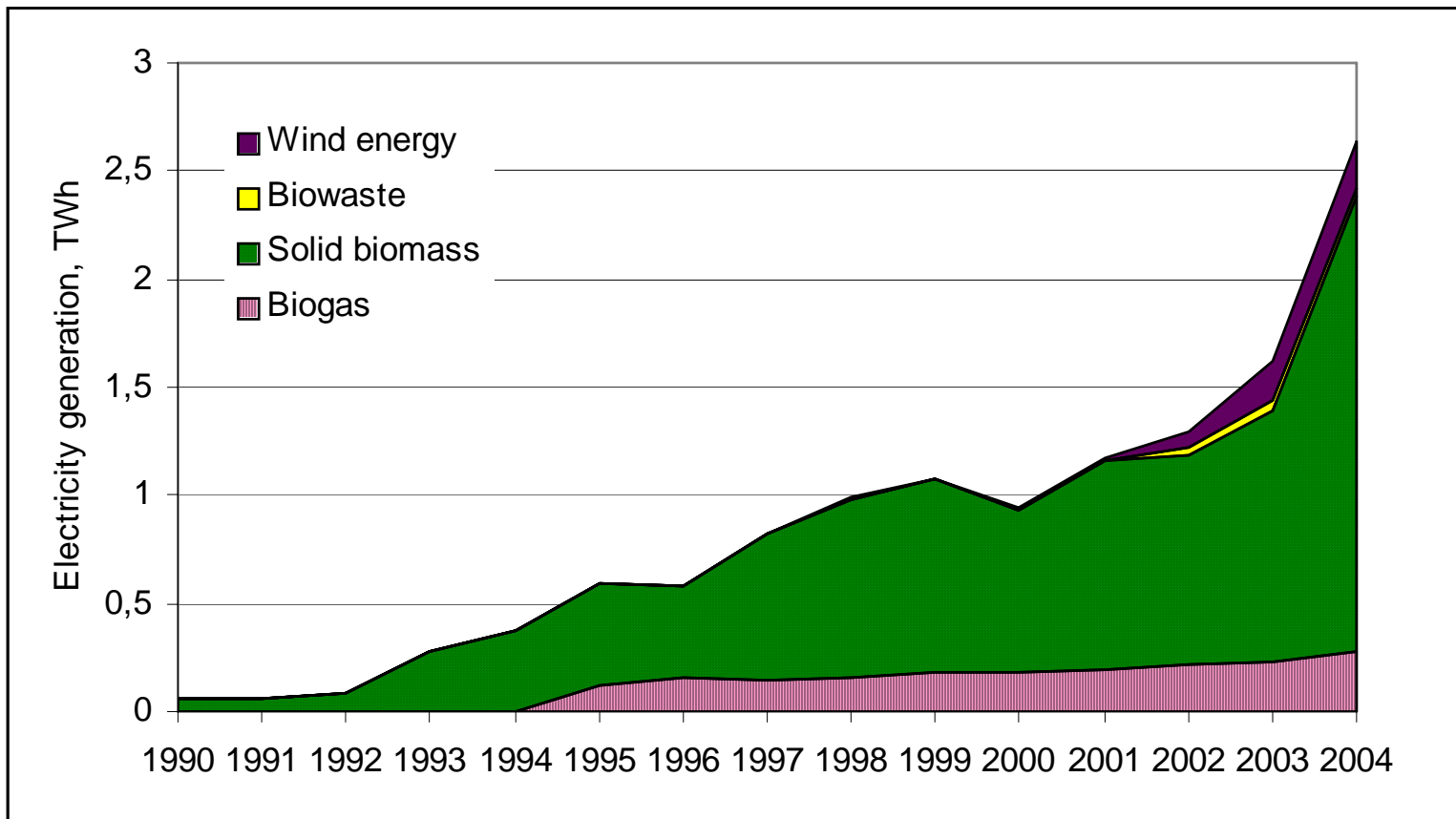
National indicative targets of EU new member states (NMS)

	RES-E 1997, %	RES-E 2010, %
Czech Republic	3.8	8.0
Estonia	0.2	5.1
Hungary	0.7	3.8
Latvia	42.4	49.3
Lithuania	3.3	7.0
Poland	1.6	7.5
Slovenia	29.9	33.6
Slovakia	17.9	31.0
<i>Total EU-10</i>	<i>5.6</i>	<i>11.0</i>

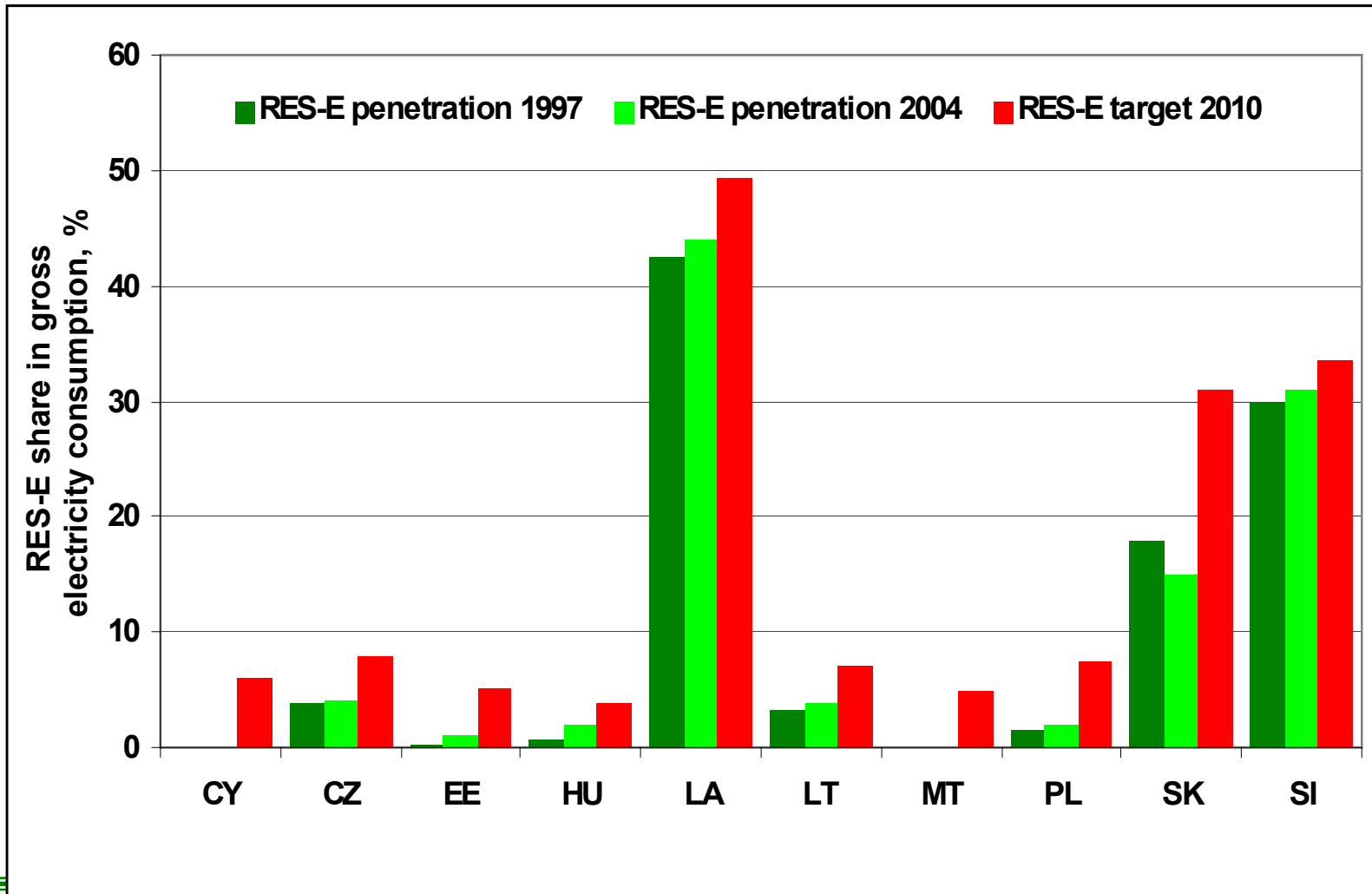
Electricity generation from RES in EU NMS



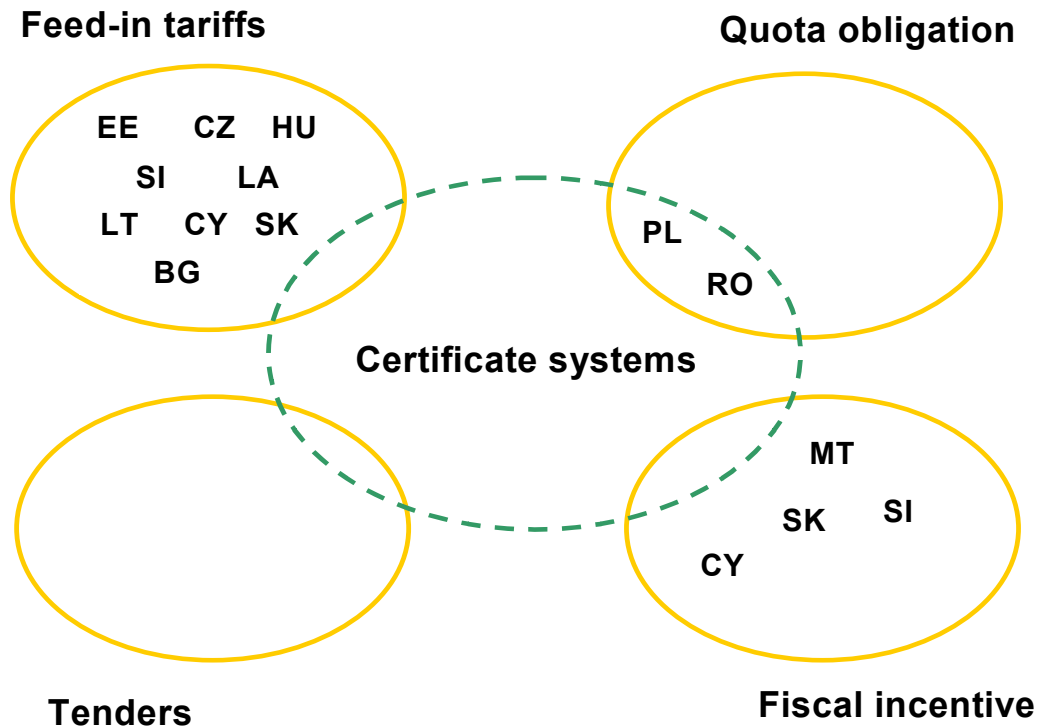
Electricity generation from 'new' RES in the EU NMS



Actual penetration of RES-E in 1997 and 2004 versus 2010 target



Main support policies for RES-E in the EU NMS



The choice of instrument has not been harmonized in EU, so each country has adopted its own unique set of promotion instrument.

Feed-in tariffs

Czech Republic

Estonia

Hungary

Latvia

Lithuania

Slovakia

Slovenia

Bulgaria

The guaranteed price per unit of produced electricity to be paid to the producer

Widely used in most of new MS

The biggest advantage – the long-term certainty regarding income, which lowers investment risks considerably

Feed-in tariffs

Hungary

Since 2005 a new regulation with technology specific feed-in tariffs has been adopted until green certificate system will be introduced

The duration of feed-in tariff not defined by law

Bulgaria

Feed-in tariffs (since 2003) with long-term contracts

Tariffs are fixed until the introduction of the green certificates system

Purchase of RES-E with installed capacity up to 10 MW is obligatory for the distribution company

Slovenia

Feed-in tariffs (since 2004) with long term guaranteed contracts

The network operator and producer sign a Purchase Agreement for a period of 10 years

Producers can choose between a fixed tariff or a premium tariff on top of the wholesale electricity price

Feed-in tariffs

Czech Republic

New RES Act (since 2005) allows producers to choose between having a feed-in tariff or a 'green bonus'. The 'green bonus' is paid on top of market price of electricity

The new tariff structure reduced uncertainty by providing the 15 year price guarantee

Slovakia

Differentiated feed-in tariffs (since 2005)

Prices have been set so that a rate of return on the investment is 12 years

Feed-in tariffs in Estonia

- Feed-in tariffs system with purchase obligation (since 2003)
- RES-E was purchased for fixed price of 5.2 €ct/kWh (since 2005)
- In 2007 Electricity Market Act amended and 3 approaches to support RES-E approved
 - fixed tariff 7.35 ct/kWh
 - bonus 5.37 ct/kWh
 - Energy regulator sets the tariff
- RES-E producer may sell electricity to the supplier appointed by the TSO and receive compensation
- Supplier must buy paying 7.35 ct/kWh and may ask the TSO to cover additional expenses by paying 5.37 ct/kWh
- No differentiation among technologies

Latvia: feed-in tariffs, quotas, tenders

- A double final consumer's tariff (FCT) since 1995 with obligation to purchase small hydro and wind power production
- Since 2002 – capacity quotas
- Since 2005 no feed-in tariffs but quotas and some obligations
 - HPP < 2MW built before 2003 double FCT for 8 years of operation
 - Wind – licence received before 2001 double FCT for 8 years of operation; after – price set by the Regulator
- Since 2007 – tenders for construction of wind PP>250 kW, purchase price – according to the results of the tender
- Hydro <5MW and others (small wind, biogas and biomass) – formula relating purchase price with the consumers' gas tariff
- Prices are valid for 10 years

Feed-in tariffs in Lithuania

- Feed-in tariffs since 2002 (Law on Electricity)
- 10 years guaranties
- Switching to the green certificates system was planned for 2010, now postponed to 2020
- Different purchase prices
 - small hydro - 5.8 ct/kWh
 - biomass, biogas – 6.95 ct/kWh (since 2008)
 - wind – 8.7 ct/kWh (from 2009, before – 6.4 ct/kWh)
- TSO allocates the public service obligations to all suppliers according to amount of electricity supplied

Quota obligation

Poland

Renewable obligation, where minimum shares of renewables are imposed on suppliers or producers, together with penalties for non-compliance

Romania

Now used in 5 of EU-25 states

In line with requirements for market-conformity and competitive policies that provide strong incentive for short-term technology cost reductions

Quota obligation

Poland: Green power purchase obligation (since 2003) with target specified until 2010
In case of not complying, companies may pay a “compensation fee”
If the obliged company neither buys RES-E nor pays a fee, an administrative fine may be imposed, which is at least 30% higher than that fee.

Romania: Green power quota obligation (since 2004) with target specified until 2010
Tradable green certificates (TGC) are issued by the TSO
A minimum and maximum price for TGC is determined annually by the Energy Regulatory Authority (ANRE)
The supplier who fails to fulfill his quota has to pay the maximum price

Fiscal incentives

Slovakia

Such as tax exemption of CO₂, energy taxes, low interest loans

Slovenia

Now used in some EU countries in combination with other support schemes

Attractiveness – the direct message transmitted to final energy consumers about the added value of RE

Shortcoming – they do not provide a long-term certainty about investments

Feed-in tariffs in Armenia

С 1-го июня 2007 года на электроэнергию, произведенную на малых ГЭС в республике действуют следующие тарифы (без НДС):

- а) сооруженные на реках – 18, 274 драм/кВтч, (5.3 цент США /кВтч),**
- б) на оросительных водопроводах – 12, 182 драм/кВтч, (3.6 цент США /кВтч),**
- в) на питьевых водопроводах - 8, 122 драм/кВтч, (2.4 цент США /кВтч).**

Source: Armenian regulator

Market perception of support schemes in the EU NMS

Long-term framework

- important element of creating a stable environment for investments

Preference for feed-in tariff

- simple and transparent
- long-term security for investors
- the introduction of more market based instruments are premature

Additional investment support

- to stimulate new technologies and demonstration projects
- disadvantage is that objectivity of involved in a decision making process can't be always guaranteed

Main barriers in the EU NMS

Administrative

- high number of involved authorities
- lack of co-ordination between authorities
- the length of procedure to obtain permits is long and uncertain

Grid

- bottlenecks in the transmission grid
- the procedure of grid connection is not fully transparent (such problems exist in countries with strong monopolies)
- the length of procedure to obtain grid connection authorisation

Main barriers in the EU NMS

Financial

- lack of funding (lack of experience and low level of awareness with RES-E among bankers results into a relatively high reluctance towards RES-E investments)
- low predictability of capital subsidies and cash flows (hard to predict what kind of support and how much support the investor can expect)
- the support mechanisms are still relatively unattractive and uncertain
- the market potential of RES hasn't been fully assessed yet

Social

- low awareness of benefit of RES (clear example relates to environmental impact assessment)
- opposition from local public

Market perception of barriers: administrative

- Long lead times to obtain necessary permits
 - Exact length of procedure not known up-front: clear guidelines and obligatory response periods for authorities needed
 - Especially spatial planning related permits can take many years (wind, biomass)
- RES insufficiently taken into account in spatial planning
 - Authorities should anticipate future RES developments

Market perception of barriers: grid

- Insufficient grid capacity available
 - Limited capacity
 - Originally designed for conventional centralised power plants
- Grid connection procedure not fully transparent
 - Data (grid availability, costs, technical) presented by DSO cannot be verified
- Objectiveness not fully guaranteed
 - DSO strongly related to conventional electricity generator

Market perception of barriers: grid

- Costs of grid connection
 - Costs often completely to be paid by the RES-E project developer
 - Costs sometimes exaggerated by DSO
- Long lead times for grid connection
 - DSO sometimes reluctant to give authorisation

Market perception of barriers: social

- Opposition from local public and local authorities (NIMBY)
 - Clear information
 - Early participation in decision making process
 - (Financial) involvement of local partners
- Low awareness of benefits of RES
 - Disclosure of origin of electricity
 - Information and education

How to tackle barriers?

Recommendations by the EC (2005)

- One-stop authorisation agencies for processing authorisation applications and providing assistance to applicants
- Clear guidelines for authorisation procedures with a clear attribution of responsibilities
- Establishment of pre-planning mechanisms in which regions and municipalities are required to assign locations for the different renewable energies
- Lighter procedures for small projects
- Further grid infrastructure developments needed to accommodate RES
- Costs of grid infrastructure development should be covered *by grid operators*

Guarantees of origin for renewable electricity

- Article 5 of Directive 2001/77/EC requires Member States to implement a Guarantee of Origin system
- The main objectives of such a system are
 - to facilitate trade in electricity from renewable energy sources and
 - to increase consumer transparency by distinguishing between electricity from renewable and non-renewable energy sources
- Guaranties of origin system is under construction in NMS

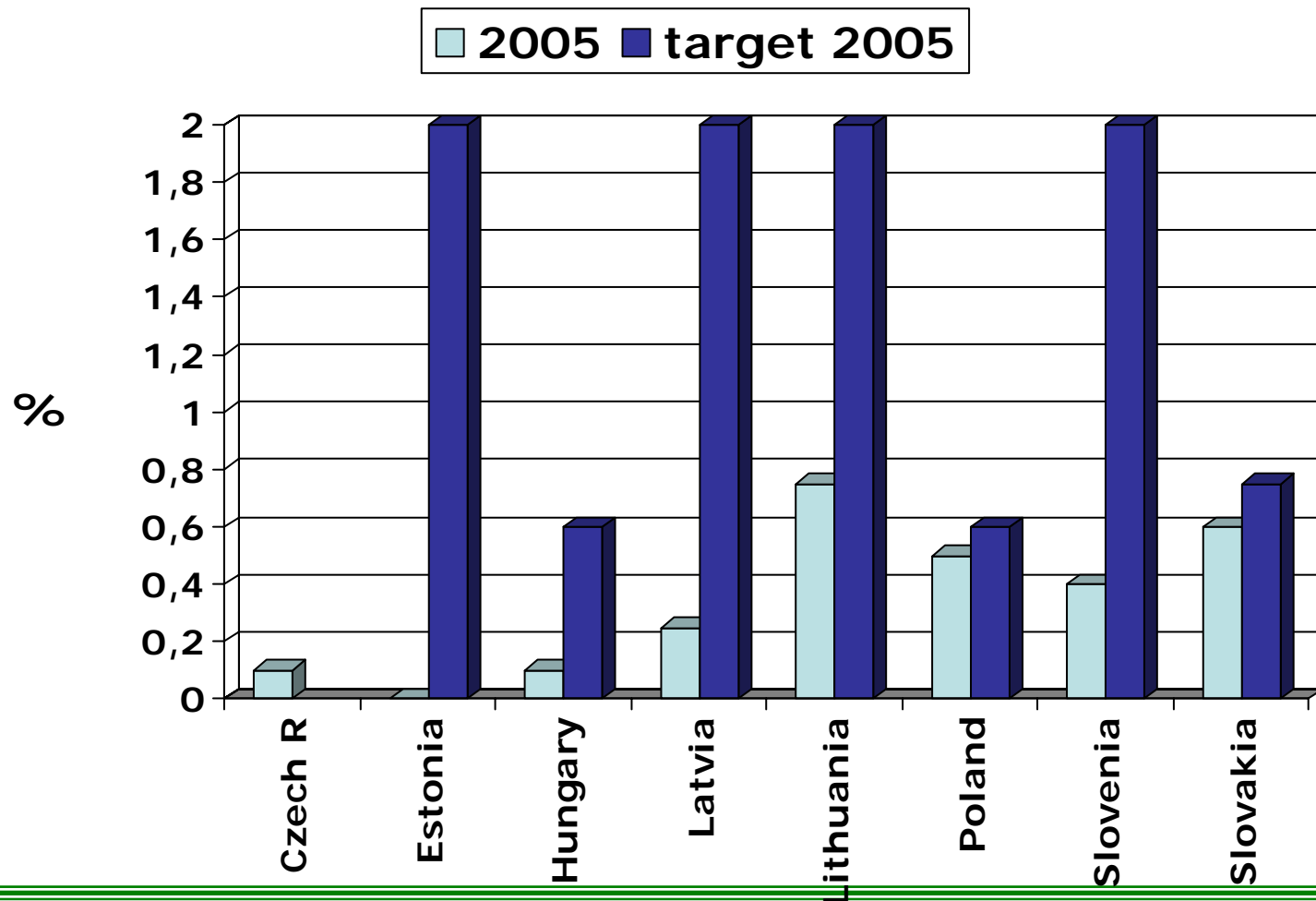
Implementing guaranties of origin system in some NMS

	Legislation	Issuing body	Status
Czech Republic	Passed	Government organisation	In process
Estonia	passed	Not appointed	Not started
Lithuania	passed	TSO	In process
Poland	passed	Regulator	In process
Slovakia	passed	Regulator	In process
Slovenia	In process	Regulator	In process

Directive 2003/30/EC

- *promote the use of biofuels... in each Member State, with a view to contributing to objectives such as meeting climate change commitments, environmentally friendly security of supply and promoting renewable energy sources*
- target for 2005 – 2% share of the market for petrol and diesel in transport
- target for 2010 – 5.75%
- requires that Member States set indicative targets for 2005, taking this reference value into account
- these national indicative targets are not mandatory, albeit they constitute a moral commitment
- NMS (except of Malta and Cyprus) set their own targets

Biofuels progress report (2006) has shown that NMS are far behind



Biofuels support measures

- promoting measures were only introduced in six out of the ten new Member States in 2004 or later
- the main type of support that exists in all the ten countries is tax support for consumption, i.e. a partial or total exemption from excise tax
- besides consumption subsidies, financial aid for producers by means of investment grants, price rebates for oil rape, or support for energy crop production also exists in the Czech Republic, Estonia, Latvia, Lithuania, Poland

Tax exemptions for biofuels in NMS (2005)

Country	Tax exemption on the biomass content	Limits and categories
Estonia	Exemption proportional to the share of biofuel added	
Slovakia	-”-	for esters up to 5%, for ETBE up to 15%
Lithuania	-”-	
Hungary	Exemption proportional to the share of biofuel added, but there is a limit depending on total sales	bioethanol up to 15%, biodiesel up to 5%
Latvia	Reduced rate, and in case of a 100% biofuel, full tax exemption	
Poland	Different excise duty reliefs, where the system makes higher blends more attractive	

Support for biofuels in Lithuania

- Law on Biofuel, Biofuels for Transport and Bio-Oils (2004)
- Excise tax exemption (% proportional) is applicable to bioethanol, biodiesel, bio-ETBE and pure vegetable oil
- Natural and legal entities polluting through vehicles using biofuels from 2005 are exempt from pollution tax
- Mandatory mixing:
 - 95 RON motor petrol must be produced using the additive “bio-ETBE”, while 95 RON motor oil, imported or brought in and sold or consumed in the country but produced without using ETBE, must contain 3% or 5% of bioethanol
 - diesel fuel must contain 3% or 5% of fatty acid methyl ester (FAME) produced from vegetable oils or fats of animal origin
- Producers of biofuels may claim for payments for cereals that are used for production of biofuel: refunds of EUR 46.34 per t of rape grain and EUR 17.38/t of cereal grain

An aerial photograph of a town situated in a valley. A wide river flows through the center of the town, curving to the left. The town is densely packed with buildings, including a prominent church with a tall steeple. The surrounding landscape is a mix of green fields and brownish-yellow grass. In the background, a range of mountains stretches across the horizon under a blue sky with light clouds. The text "Thank you for your attention" is overlaid in the center of the image in a purple font.

Thank you for your attention