



National and regional support for bioenergy development



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From strategies to activities – Good practice examples of regional bioenergy promotion"

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My presentation

- **Why to support bioenergy?**
- **Which bioenergy routes to support?**
- **How to support *sustainable* bioenergy production and use?**
- **Regional support: How to develop the region of *Latgale* as a “bioenergy region” ?**



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Why to support bioenergy?

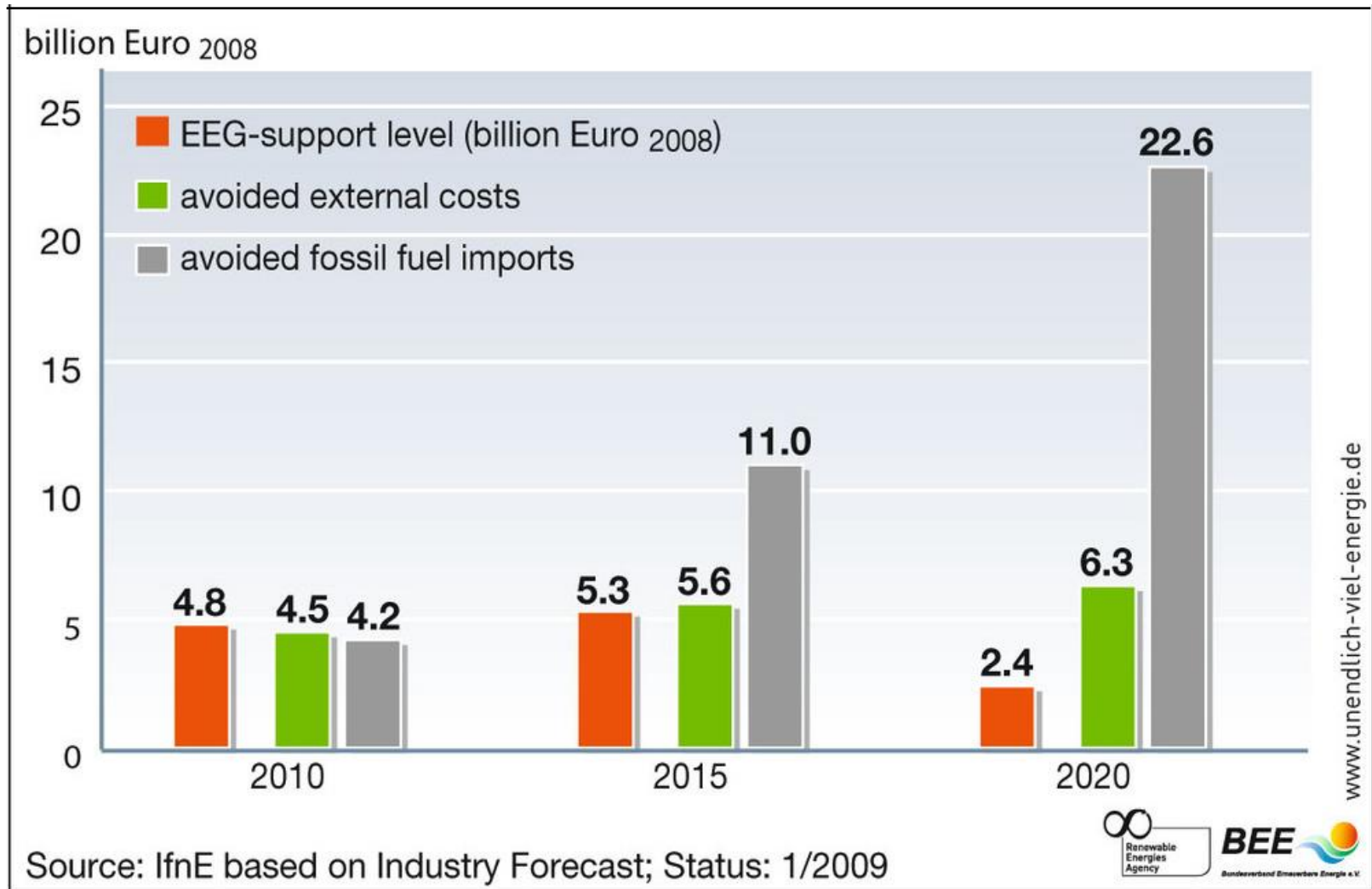
- GHG savings and other **environmental benefits**
- **Diversification** of the energy mix and improved **energy security**
- Mitigation of energy supply shortages and price shocks
- Contribution to stabilize energy prices
- Development of **entrepreneurship** and innovation
- Creation of **added value** and **employment** in the region
- Bioenergy is the **most versatile** renewable energy source
- Biomass is **storable** and bioenergy has a strategic role in the future energy mix as it can **balance** fluctuating RES (wind and solar power)



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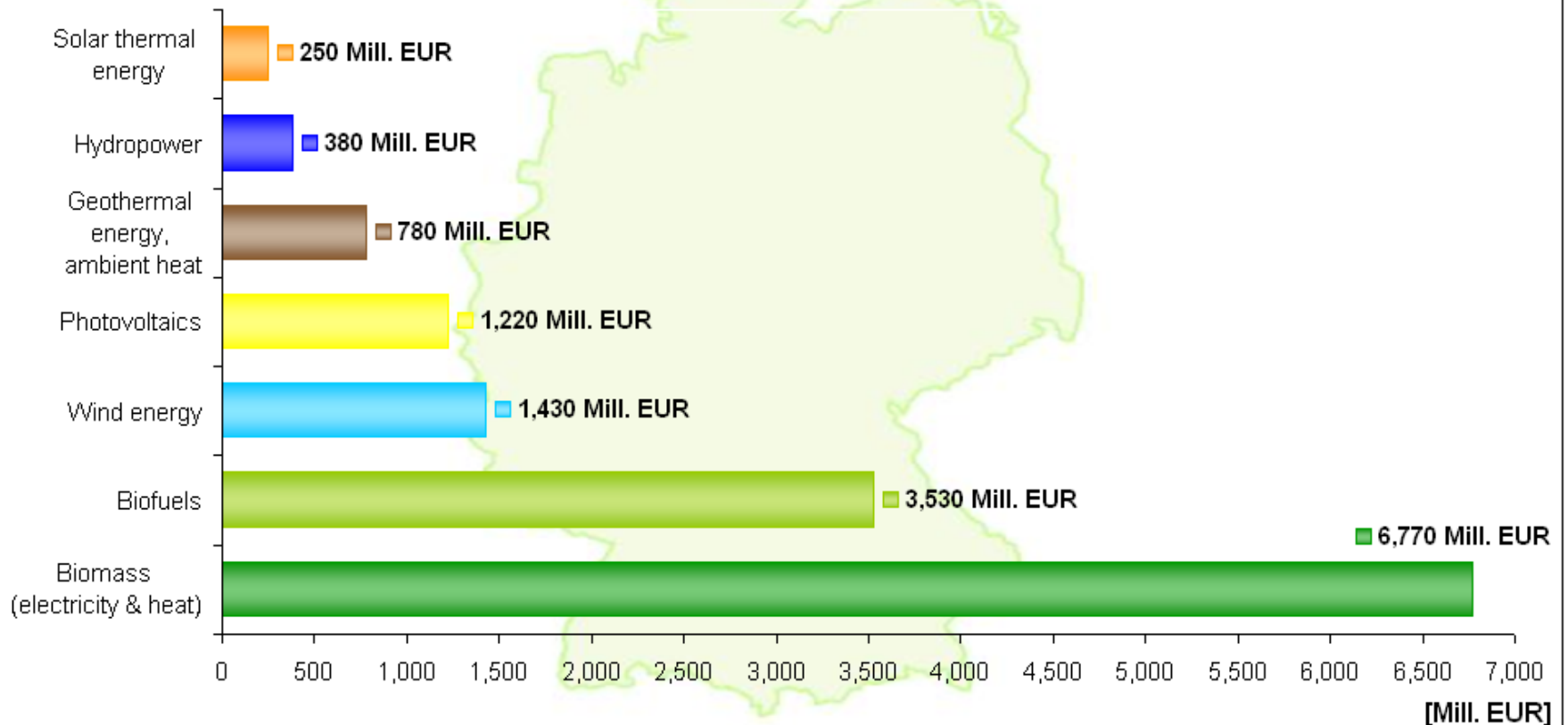


Positive economic effects of increased deployment of RES



Revenues from the operation of renewable energy installations in Germany in 2012

Total revenue approx. 14.4 Bill. EUR

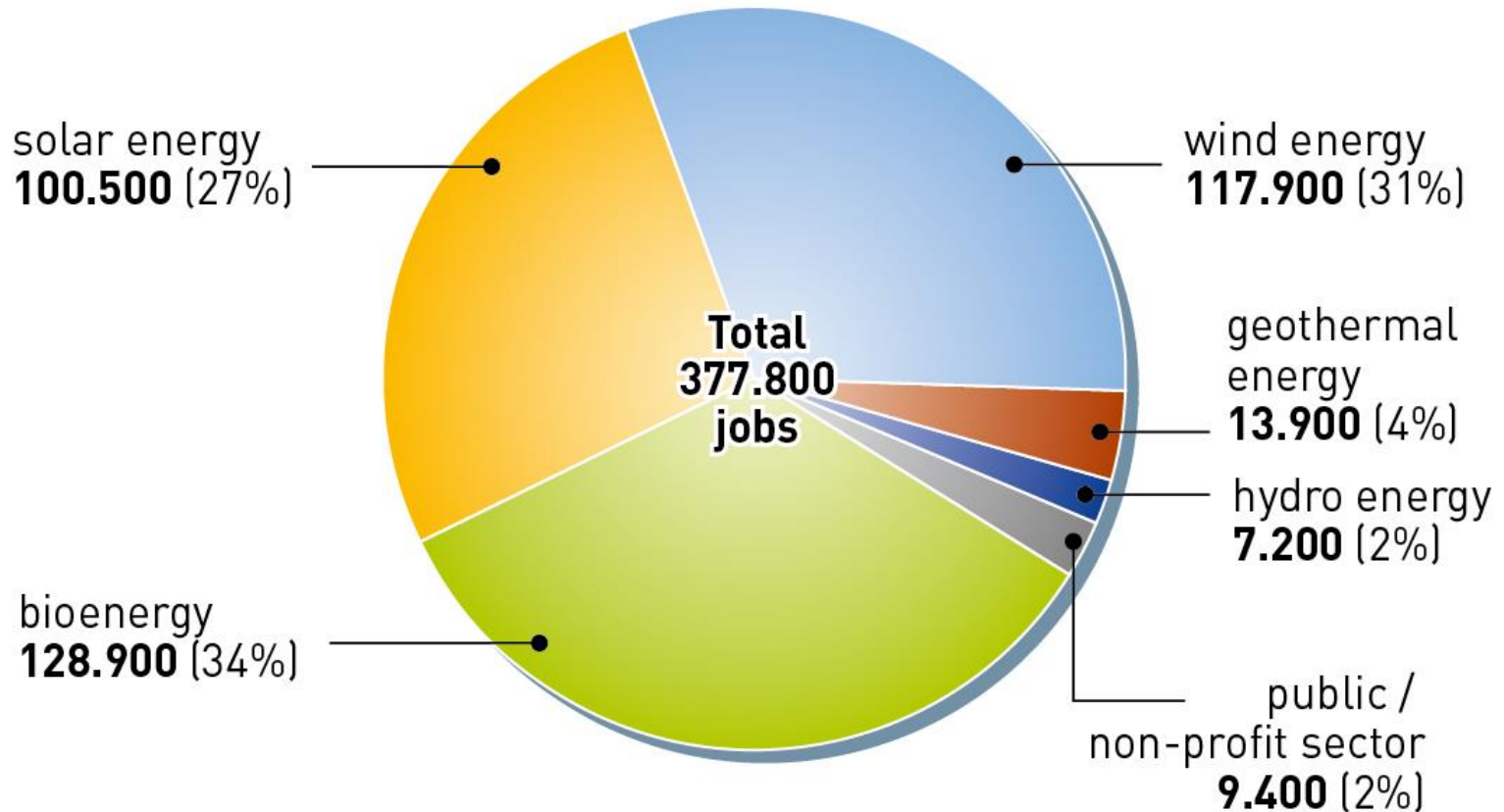


Deviations in the totals are due to rounding;

Source: Centre for Solar Energy and Hydrogen Research Baden-Wuerttemberg (ZSW); as at: February 2013; all figures provisional

Renewable energies: 378.000 Jobs in 2012

Number of jobs according to sector

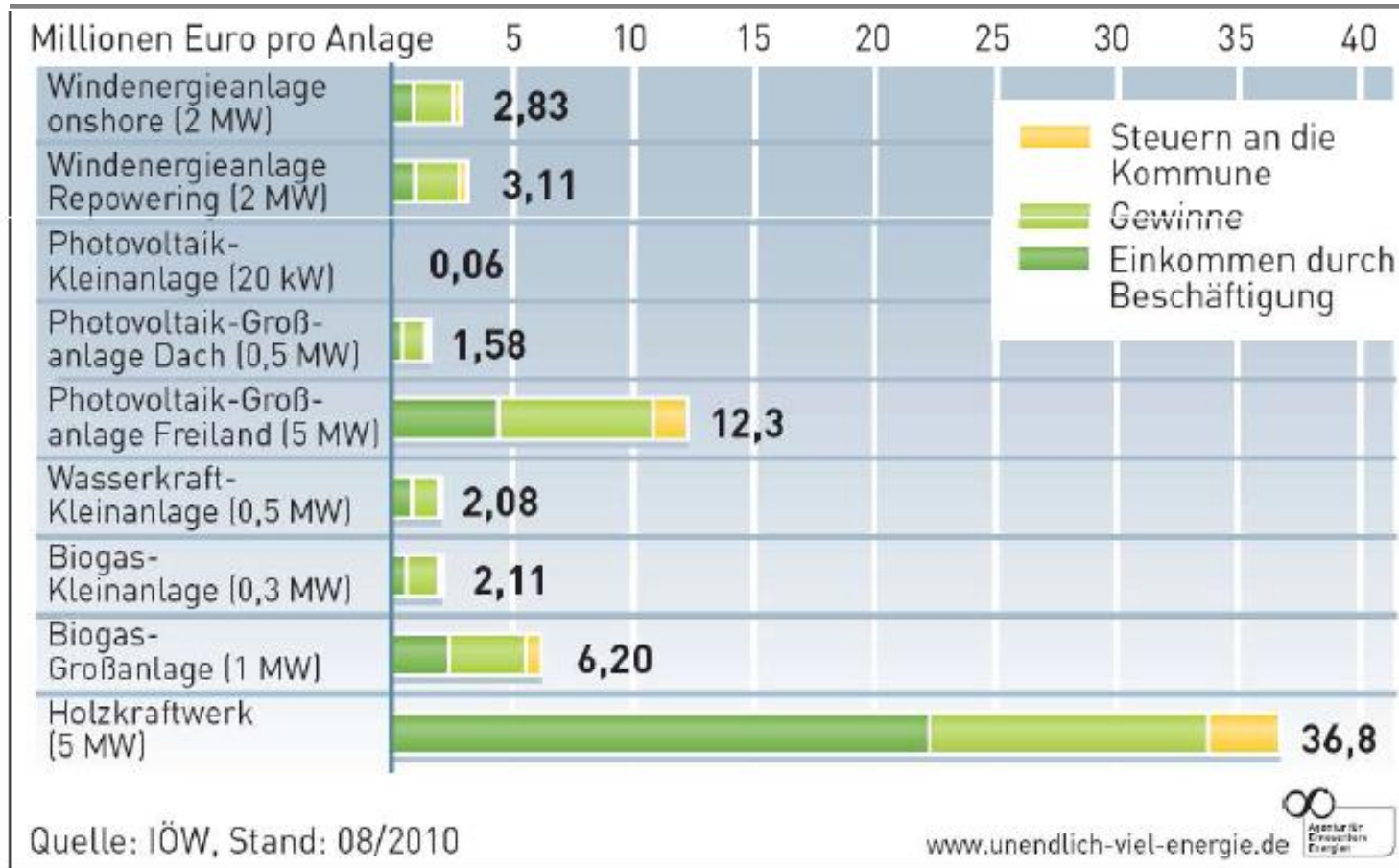


Sources: DLR/DIW/ZSW/GWS/Prognos,
as of: 3/2013

www.renewables-in-germany.de



Added value impact of selected RES-E plants (mln. EUR)





Which types of bioenergy to support?

- Biomass is a renewable but limited resource, therefore only **energy efficient** and **resource efficient** pathways should be promoted.
- The EU is committed to **reduce GHG emissions by 80-95%** by 2050 compared to 1990 levels. Therefore **ambitious GHG saving targets** for bioenergy should be achieved.



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Which types of bioenergy to support?

- Locally available **residues** from forestry and agriculture, **processed residues**, as well as **biogenic waste**;
- Local uses of biomass in **highly efficient conversion processes** (e.g. CHP combined with DH/C);
- **Multiple uses** of biomass, multi-functional and integrated bioenergy systems, cascading systems, industrial and agricultural symbiosis systems;
- **Avoid inefficient uses** of biomass (e.g. co-firing of pellets in electricity only plants, biogas production without surplus heat utilization);
- Promote the use of **perennial energy crops** which offer more environmental benefits than food crops



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How to support? The case of bio-electricity

- Different support instruments are suitable for different markets and technologies .
- Generally, the **design** of support system is more important than the type.
- **Feed in tariff (FIT)** and **feed in premium (FIP) systems** are the most frequently implemented support schemes in the EU.
- General transition from **FIT** to **FIP** and more **market orientation** and **demand oriented production**.
- EU COM to develop **guidance** encouraging greater **predictability** and **cost-effectiveness**, by avoiding over-compensation and developing greater consistency.

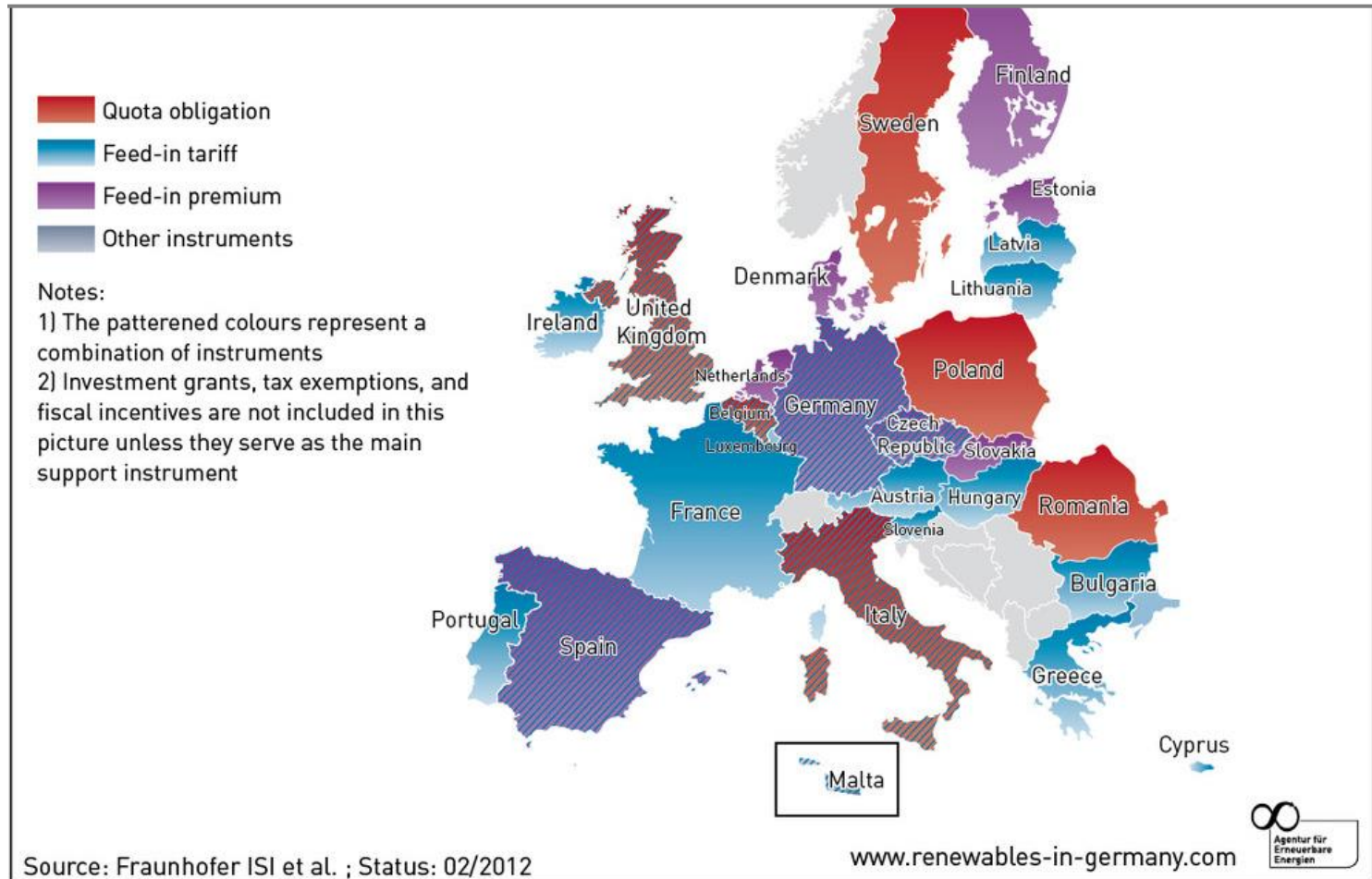


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Overview of support instruments for RES-E in EU Member States (Feb/2012)



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How to support? The case of bio-electricity

- Ensure that policy framework are **predictable** over the whole support duration and avoid **non-transparent, sudden** or **retrospective** changes.
- Provide flexibility and ensure that **learning effects** are taken into account (e.g. digression of FIT rates, regular revisions).
- Ensure that support is **cost effective**, but not **disruptive**.
- Ensure a fair and balanced distribution of RES induced surcharges among the electricity customers.
- Promote regional co-operation networks: *“Networking must be the organisational answer to the complexity of the supply chain of bioenergy”*
- Consider **full life-cycle impacts** as well as direct and preferably indirect effects. Integrate **sustainability considerations** into support schemes.



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Policy measures supporting sustainable bioenergy production and use in the BSR

- Most countries rely on **cross-sector** legislation
- Integration of sustainability considerations into **support schemes**
 - *Special boni for using **environmentally beneficial material** (DE, LV)*
 - *Differentiation of **financial support** in favour of highly efficient cogeneration plants (e.g. CHP bonus **DE**, heat premium **FIN**)*
 - *Minimum **energy efficiency requirements** for bioenergy plants (DE, LV, LT)*
- **Negotiated agreements** on sustainable biomass procurement (**DE**)
- **Guidelines** for wood energy harvesting (**FIN, SE**)
- **Institutional support** (**DK**)
- **R&D** programmes



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Developing *Latgale* as a bioenergy region ?— some inspiration from *Bioenergy promotion*

- Create a **vision** for the future energy system and the role of bioenergy;
- Optimize the institutional support structure (e.g. regional energy agency);
- Promote **regional potential analyses**;
- Enable **networking** of municipalities and **networking of key stakeholders**;
- Help to set up **effective supply chains** and **logistics**;
- Visualize and disseminate “**good practices**” (e.g. projects, technologies, support, biomass supply chains and logistics, business models);
- Promote the development of SEAPs and link bioenergy/RES to existing planning frameworks and programmes (e.g. spatial planning, business development, tourism development etc.);
- Promote the creation of “bioenergy villages” in Latgale



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Paldies par Jūsu uzmanību!

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Add on slides for the discussion



		DE	DK	EST	FIN	LT	LV	NO	PL	SE
Electricity	Feed in tariff	x			x	x	x			
	Feed in premium	x	x	x	x		(x)			
	Quota obligation							x	x	x
	Investment grants				x	x	x			
	Tax incentives	x		x					x	
Heat	Renewable heat obligation for new buildings	x				(x)				
	Investment grants	x		x	x	x	x		x	x
	Tax exemptions/reductions		x			x				x
Transport	Quota obligation	x	x	x	x		x	x		
	Tax exemptions/reductions	x	x		x	x	x	x	x	x
Cross-sector	Emissions Trading (EU ETS)	x	x	x	x	x	x	x	x	x
	Green Investment Schemes			x		x	x			
	CO ₂ taxes and levies		x	x	x			x		x



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Sustainable bioenergy: EU policy framework

Renewable Energy Directive 2009/28/EC

- Contains **binding** sustainability standards for **transport biofuels and bioliquids** to be met in order to count towards the mandatory RES targets and to benefit from financial support.

EU COM Biomass Sustainability Report COM 2010(11)

- Contains **recommendations** referring to **other energy uses of biomass** (biomass used in **electricity, heating and cooling**).
- **Recommends** that Member States that either have, or who introduce national sustainability schemes ensure that these schemes in **almost all respects** are the same as those in the RED for biofuels and bioliquids.



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Sustainable bioenergy: EU policy framework

Binding EU sustainability criteria for biofuels and bioliquids

- **Minimum lifecycle GHG savings** of **35%** (50% from 2017)
- Raw material not to be obtained from **land with high biodiversity value**
- Raw material not to be obtained from **land with high carbon stock**
- Agricultural raw material cultivated in the EC to comply with **Cross Compliance**

Recommended sustainability requirements for the use of solid and gaseous biomass in electricity, heating and cooling

- In principle **the same criteria** as for **biofuels/bioliquids**
- EU-wide **harmonised GHG emissions calculation methodology**
- GHG savings criterion not to be applied to wastes
- Support schemes in favour of plants with **high energy conversion efficiencies**
- Sustainability schemes shall apply only to **larger energy producers** (≥ 1 MWth or 1 MWe).





Selected amendments to the Renewable Energy Sources Act in Germany (2012)

- **Basic remuneration for 4 capacity based categories** (6 - 14.3 €/kWh)
- **Additional remuneration** depending on the **type of biomass**
 - **Input material category I:** renewable raw material like e.g. cereals, fodder beet, sugar beet, grass, maize, forest residues except root stock, leaves, needles, wood from short rotation plantations
 - **Input material category II:** ecologically beneficial material like e.g. buffer strips, wildflower growth, liquid manure, poultry manure, clover as catch crop from arable land, straw, landscape management material
- **Additional remuneration: 2.5 -6 €/kWh** for category I and **6-8 €/kWh** for category II
- **Preferential remuneration rates for biowaste fermentation plants** (14-16 €/kWh) and **small scale biogas plants** (up to 75 kWel) which use at least 80 per cent liquid manure (25 €/kWh).



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Selected amendments to the Renewable Energy Sources Act in Germany (2012)

- **Energy efficiency requirement:** Biogas plants only qualify for remuneration if at least 60 per cent of the heat produced is used, or the facility is operated using ≥ 60 per cent of manure, or if the electricity is sold directly.
 - 25 % of the produced heat is calculated for the fermenter heating.
 - In the first year the share of heat use has to be only 25 %.
 - Accepted heat uses are e.g. heating, cooling, hot water, wood drying, district heating, digestate processing and ORC; negative example: heating of non-insulated buildings.
- **Input restriction** for biogas plants: maximum share of maize and grain not to exceed 60 per cent (mass-related)



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