



Local and national policies, and socio-economic aspects in the introduction of bioenergy. Experiences from Germany

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/// Financing the German contribution



Federal Ministry
of Food, Agriculture and
Consumer Protection



/// The Agency for Renewable Resources (FNR) was founded in 1993 by the German Federal Ministry of Food, Agriculture and Consumer Protection

/// Main responsibilities of FNR:

- /// to support R&D in the area of renewable resources
- /// to inform the public about current research results
- /// to give advice on a range of applications of renewable resources and organise and take part in scientific events

Our own field of work

/// Financing Regional Development

Research



Evaluation



Implementation



/// Two aspects

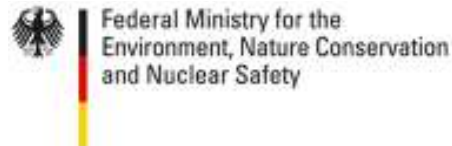
- /// Short overview of own experiences in the field of bioenergy projects
 - / on national level
(regulations, strategies and additional support mechanism)
 - / on regional level
(example: Model project Bioenergy-Regions)

Central questions: How have different policies influenced the bioenergy markets - and the other way around? What has functioned and what has not?

- /// How would you define the "perfect" local/regional/national bioenergy-politician

Framework Conditions

/// The national level - and we also have a federal one ...



/// In addition: downstreamed agencies, foundations etc.

National Biomass Action Plan for Germany

Biomass and Sustainable Energy Supply



Aktionsplan der Bundesregierung zur stofflichen Nutzung nachwachsender Rohstoffe



Your want to know more?

Energy: http://www.bmelv.de/cln_182/cae/servlet/contentblob/750066/publicationFile/41349/BiomassActionPlan.pdf

material use: http://www.fnr-server.de/cms35/fileadmin/fnr/pdf/Brosch_Aktionsplan_stoffliche_Nutzung_Brosch_Stand29_09_09.pdf

Framework Conditions

/// The national level: National Biomass Action Plan

- /// Increasing the share of renewable energy in electricity production to at least 30 percent by 2020
- /// Using biofuels to achieve a greater reduction in greenhouse gas emission in the transport sector
- /// Increasing the share of biofuels in overall fuel consumption to 7 percent of net greenhouse gas reduction by 2020 (equivalent to approximately 12 percent energy content)
- /// Increasing the share of renewable-generated heat from current 6.6 percent to 14 percent by 2020

Framework Conditions

/// The national level: National Biomass Action Plan

	2007		2020	
	Total Renewable Energy	Of which Bioenergy ²	Total Renewable Energy Meseberg ³ (EEG or EE-RL)*	Of which Bioenergy ⁴ as per Pilot Study 2008
Share of REN in overall primary energy consumption	6.7%	4.9%	16%	11%
Share of REN in overall end energy use ⁵	8.6%	6.2%	18%	10.9%
Share of REN in overall electricity consumption/ electricity supply ⁶	14.2%	3.9%	minimum 30%	8%
Share of REN in overall renewables use of heat	6.6%	6.1%	14%	9.7%

* German Renewable Energy Sources Act or EU Renewable Energy Directive

1 Share of biofuel under EU Renewables Directive; 12 percent (2020)

2 Incl. biogenic solid fuels, biogas, sewage and landfill gas, liquid biomass and biogenic waste

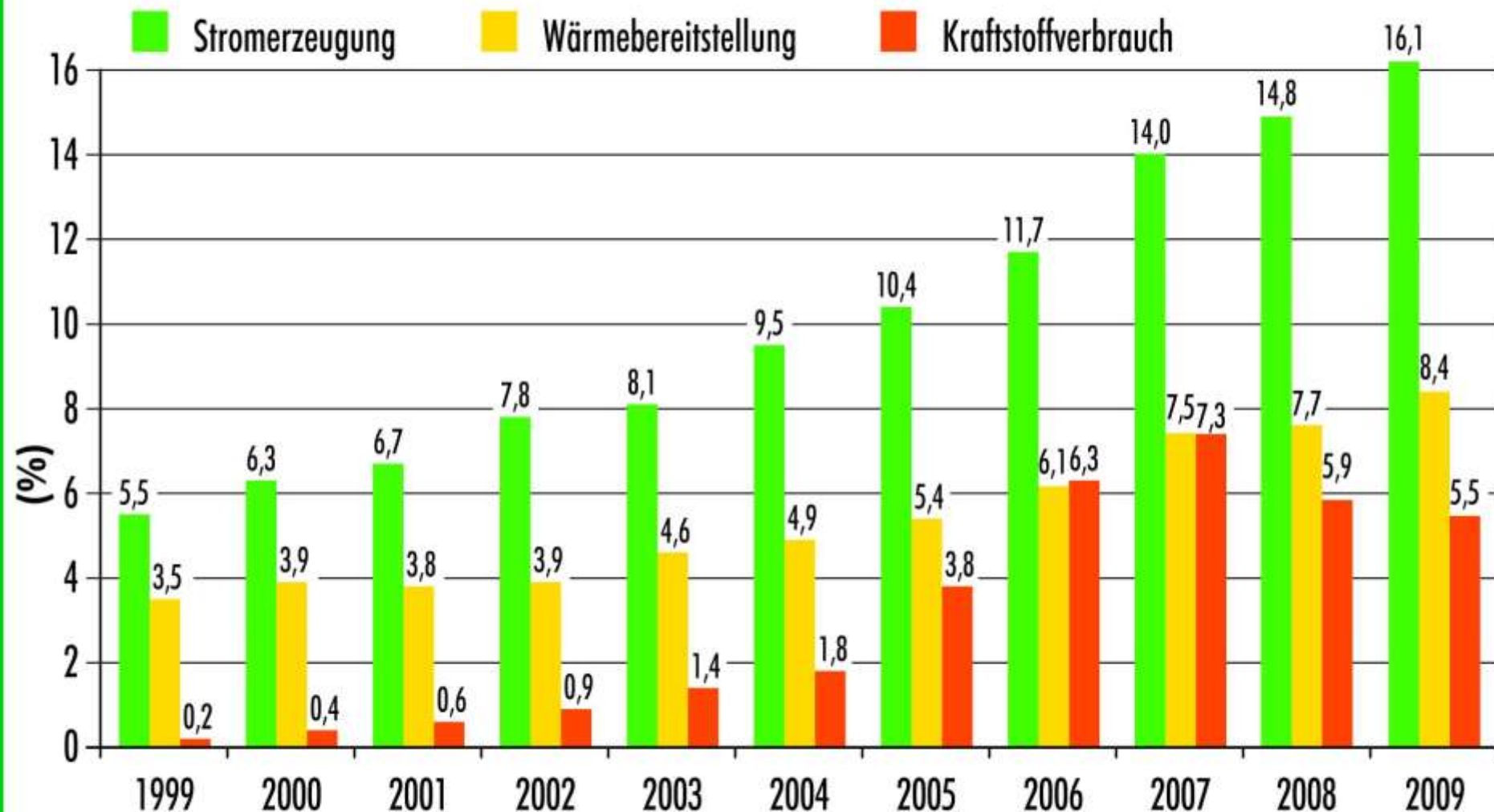
3 According to the Cabinet decision reached in Meseberg on 23 August 2007

4 As per the BMU Pilot Study 2008 'Ausbau der erneuerbaren Energien' (Promoting Renewable Energy)

5 Electricity, heat and fuel

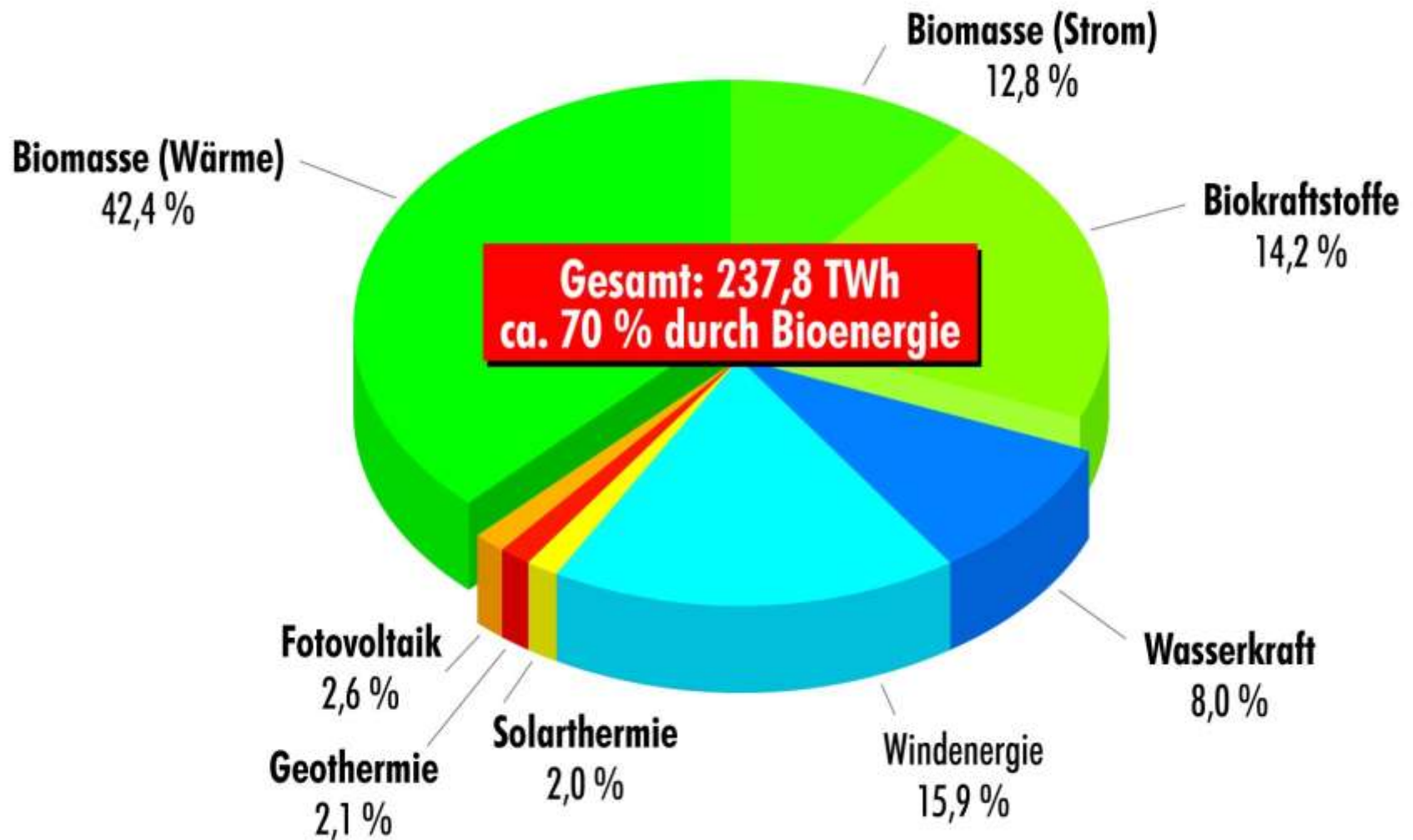
6 Reference: Gross electricity consumption

Endenergieanteil der erneuerbaren Energien in Deutschland



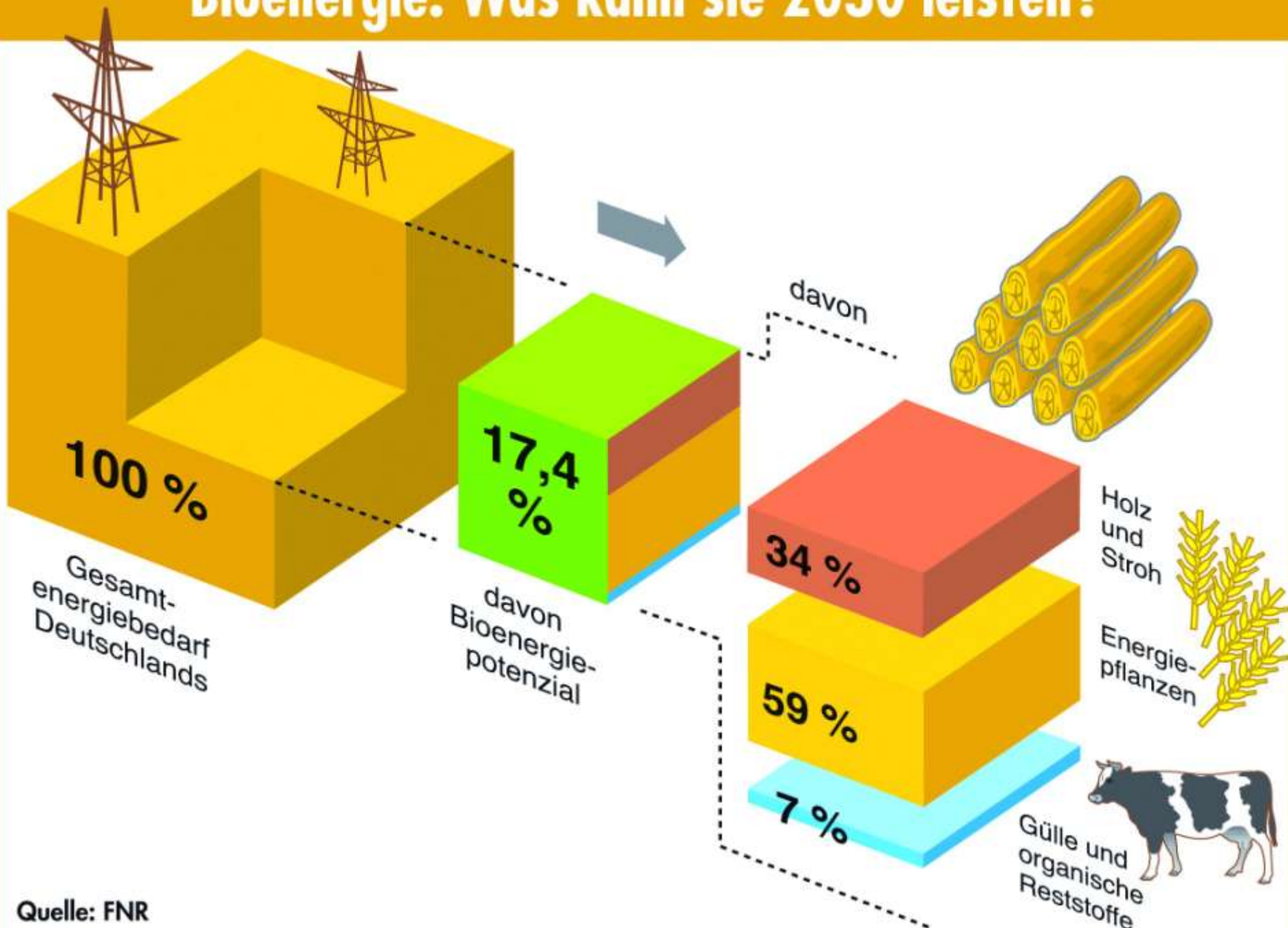
Quelle: BMU/AGEE-Stat, 2010

Die Bedeutung der Bioenergie innerhalb der erneuerbaren Energien 2009



Quelle: AGEE-Stat, 2010

Bioenergie: Was kann sie 2030 leisten?



Framework Conditions

/// The national level: Law and regulations

- /// Renewable Energy Sources Act (EEG) (April 2000, displacing the Act on the Sale of the Electricity to the Grid from 1991)
 - /// fixed payments for every kilowatt hour (feed in tariffs) feed into the national grid
 - /// different tariffs according to type of renewable energy source, technique and plant size
 - /// bonus payments: biomass bonus, heat and power bonus, innovation bonus

/// Energy Tax Act

/// Biofuel Quota Act

/// Renewable Energy Heat Act

/// Simplified biogas feed-in into the natural gas grid

/// reduced VAT for firewood and wood pellets

/// ...

Influencing the markets

/// Some examples

/// Renewable Energy Sources Act (EEG) by

- / Investment protection through guaranteed feed-in tariff and connection obligation (20 years)
- / Innovation through falling compensation
- / Financed by the consumers not by state money

/// Effects (examples)

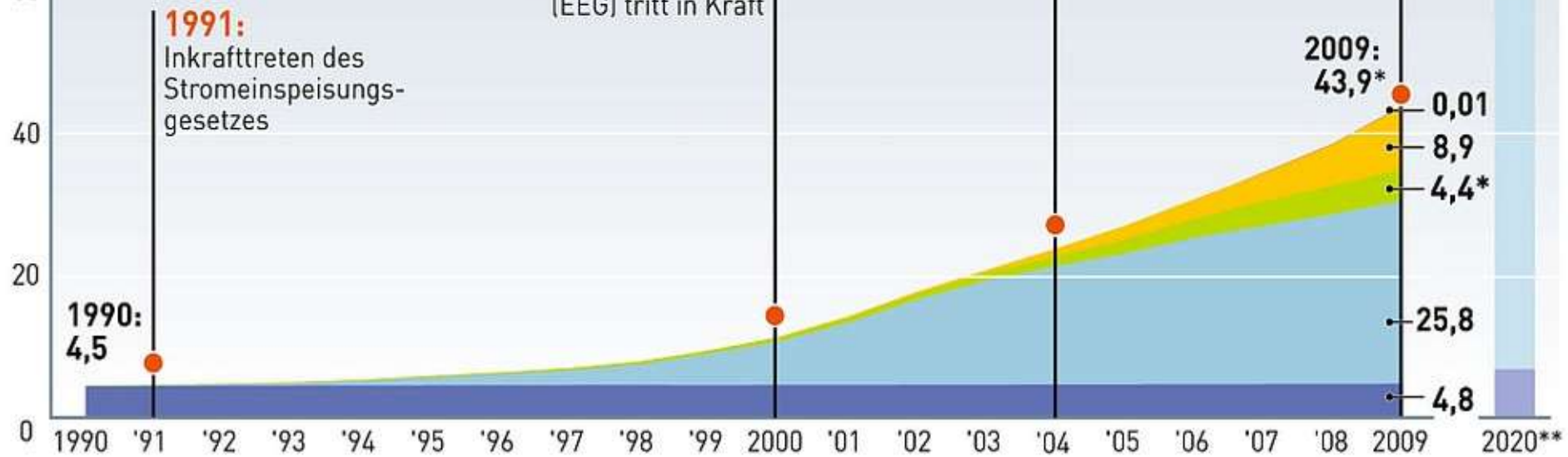
- / The principles of EEG were „copied“ in 45 countries world wide, 19 in EU
- / EEG revision 2004 increases the production of bioenergy creating new jobs and added value
- / ...

10 Jahre EEG – Installierte Leistung zur Stromerzeugung aus Erneuerbaren Energien

Gigawatt

2020:
111**

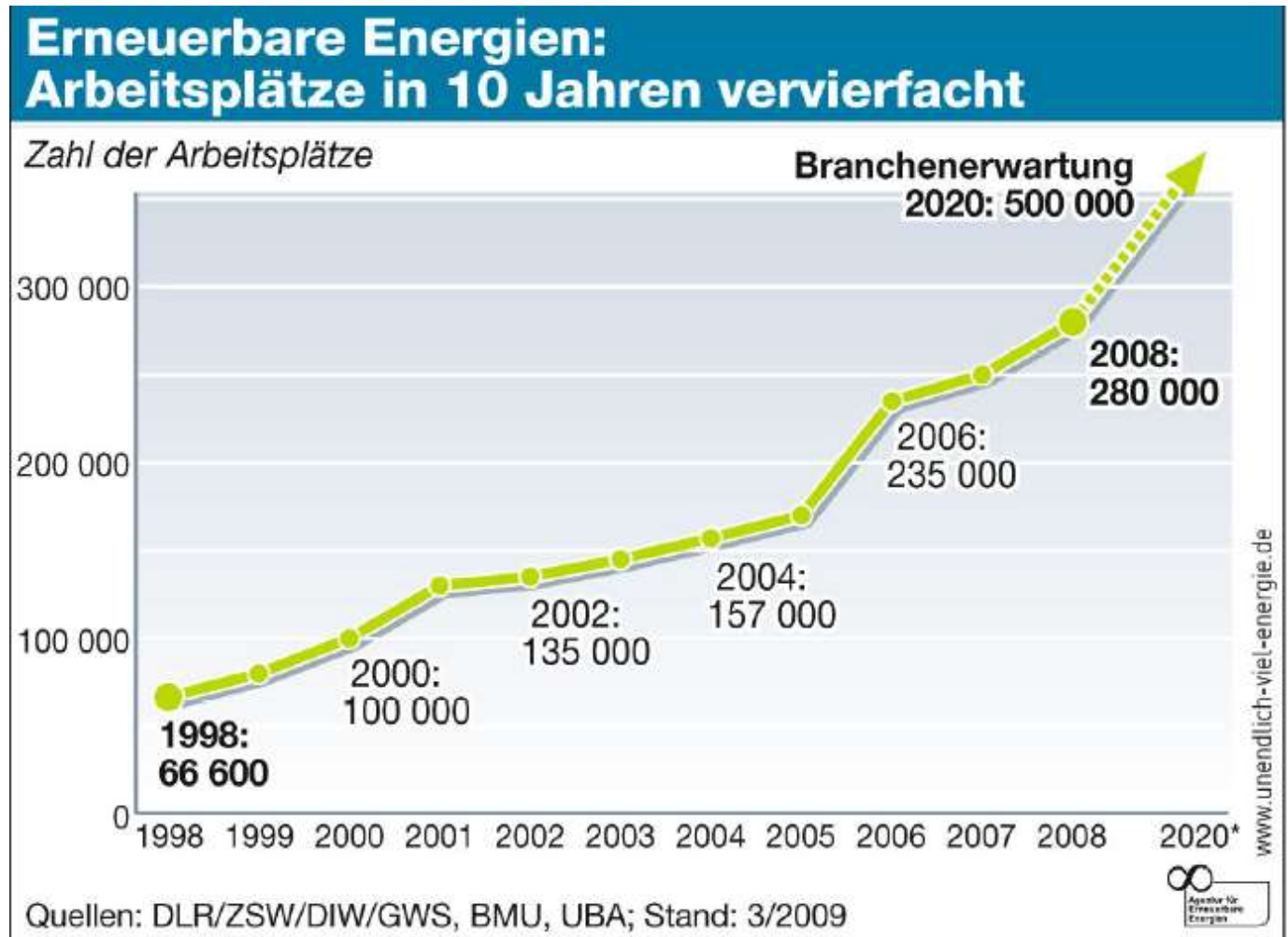
- Geothermie
- Photovoltaik
- Bioenergie
- Windenergie
- Wasserkraft



Quellen: BMU, BEE, AEE
Stand: 03/10

* ohne biogenen Anteil des Abfalls
** Prognose BEE/AEE: Stromversorgung 2020

Some examples





	Support instrument	Support in ct/l or ct/kWh	Yield in l/ha or kWh/ha (fuel equivalent)	Support in €/ha	CO ₂ mitigation per hectare (in t CO ₂ eq.)	Support per tonne CO ₂ saved (€)	Support as a proportion of the turn-over or value-added
Biodiesel (oilseed rape)							
Pure biofuel	Energy Tax Act	28.75*	1,450	417	3.0	139	20–35 %
Biofuel mandate (Quota)	Biofuel Quota Act	20–50 (real)	1,450	290–725	3.0	97–242	20–60 %
Biofuel mandate (Quota)	Biofuel Quota Act	60 (max.)	1,450	870	3.0	290	50–80 %
Vegetable oil fuels (Oilseed rape)							
Pure oil	Energy Tax Act	28.89*	1,480	428	3.0	143	20–35 %
Bioethanol							
from cereals							
Pure bioethanol	Energy Tax Act	65.45	1,660	1,086	3.7	294	ca. 45 %
Biofuel mandate (Quota)	Biofuel Quota Act	60–85 (real)	1,660	996–1,411	3.7	269–381	50–85 %
Biofuel mandate (Quota)	Biofuel Quota Act	90 (max.)	1,660	1,494	3.7	404	70–90 %
from sugar beet							
Pure bioethanol	Energy Tax Act	65.45	4,054	2,653	9.4	282	ca. 45 %
Biofuel mandate (Quota)	Biofuel Quota Act	60–85 (real)	4,054	2,432–3,446	9.4	259–367	50–85 %
Biofuel mandate (Quota)	Biofuel Quota Act	90 (max.)	4,054	3,649	9.4	388	70–90 %
BtL	Energy Tax Act	65.45	3,910	2,559	10.0	256	n.a.
Biogas (Maize)**	EEG	5–16	20,000	1,000–3,200	7.4	135–432	40–80 %
Ground-mounted photovoltaic**	EEG	23–29	270,000	62,100–78,300	185.0	336–423	70–90 %

Sources: nova 2009, Schmitz et al, 2009. *After a reduction in the duty derogation, **before degression of payments from 1.1.2010

Framework Conditions

/// Model Project Bioenergy-Regions

/// Recap:

- /// Direct monetary incentives in particular due to EEG or Rural Development policies (EAFRD (eg Leader), GAK (eg district heating networks) or R&D
- /// Debate on climate change carries the topic bioenergy to all levels
- /// Competitions and initiatives such as Bioenergy Regions, Bioenergy-Villages or 100% renewable energy regions produce profiling as "sustainable" rural region (perspectives for young people, new job, future jobs)
- /// additional programmes e.g. "Action programme Energy for Tomorrow - Chances for Rural Areas"

/// Conflicts - just examples:

- /// land use competition: not stabilising but influencing market
 - /// prices and lease rates as well as mono cultures lead to
 - /// biodiversity decline
- not only added value for rural areas

Framework Conditions

/// Model Project Bioenergy-Regions

- /// Added value chains are "easier / shorter" than material use, can be localised and the technology is available on nearly every scale
- /// resources are available / mobilisable incl. Use of "residual" material (wood waste, landscape maintenance)
soon to be realised (monetary)
- /// Public actors as driving forces - private actors follow. Building up regional support networks is easier

Framework Conditions

/// Model Project Bioenergy-Regions



/// 25 regions
400.000€ for 3 years
(06/2009 till 05/2011)
for soft measures
(no direct investments)

/// aims:
creating bioenergy networks
and regional added value;
combating climate change

...

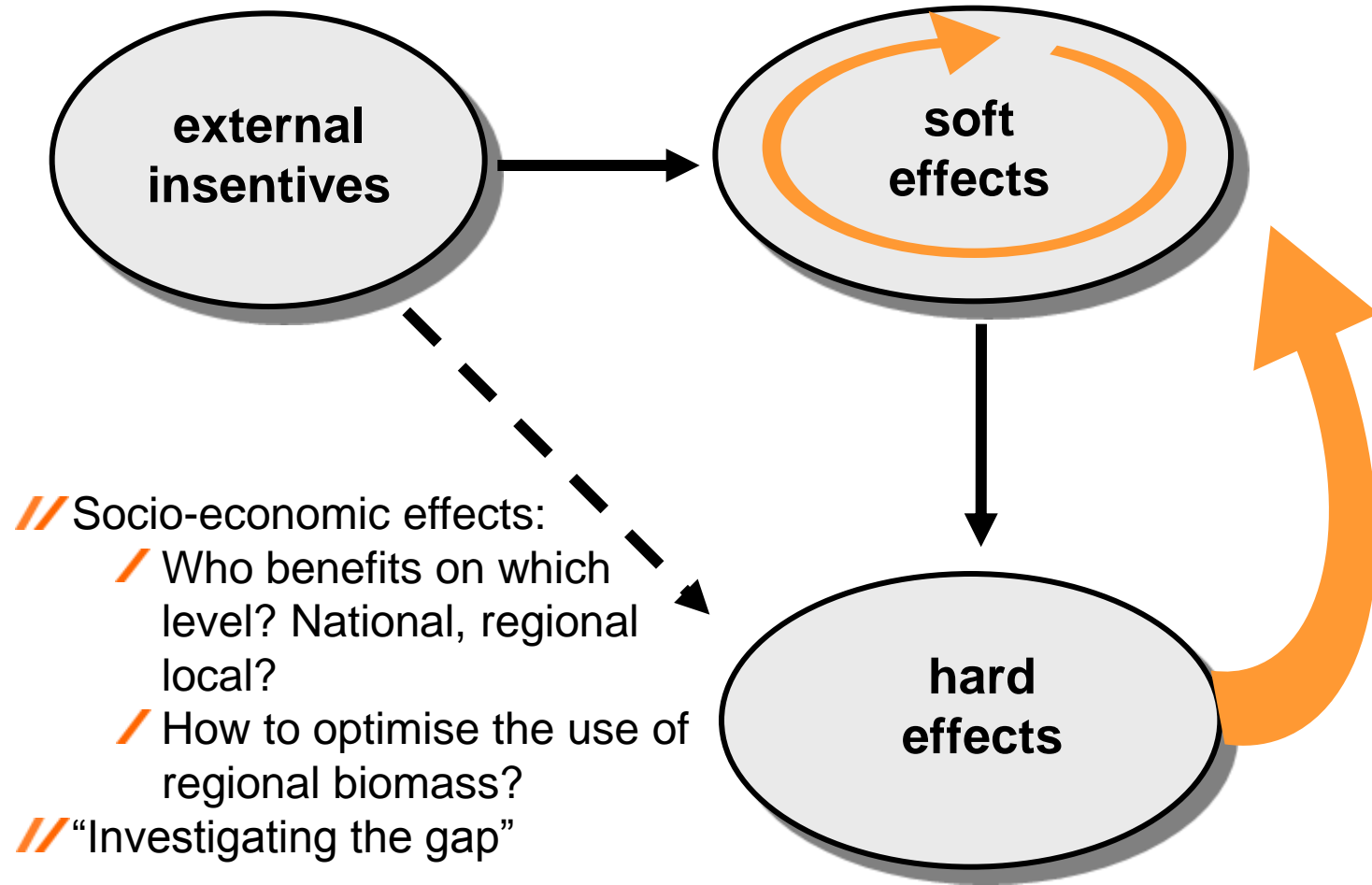
Framework Conditions

/// Model Project Bioenergy-Regions

- /// Accompanying research divided into two parts: Economic-technical (German Biomass Research Centre (DBFZ)) as well as social and political (nova-Institute and SPRINT). Our fields:
 - /// Regional networks - status and development
 - /// Durability - networks, management and projects
 - /// Knowledge management
 - /// Conflicts - how to solve
 - /// Regional value chains - methodological approach for regional development

Framework Conditions

/// Model Project Bioenergy-Regions



Perfect local/regional/national bioenergy-politician

/// A short definition

- /// Loves complexity and simple things (not only one instrument / technique is available: calculate and convince)**
- /// Friend of technical progress**
- /// Foresighted and thinking in mid and long term perspective: Avoiding conflicts through stakeholder involvement, coordinated action to get the best benefit and to avoid negative side effects**
- /// Follows an integrated approach: (Regional) Resource/Biomass policy/management instead of an isolated Bioenergy view: Food, Feed, Fibre, Energy**
- /// Advocate of the regional/local level: not only thinking in supply chains to optimise efficiency but also in regional/local value chains to optimise effectiveness through regional value chain partnerships**

**A Guideline
for the Management of
Regional Value Added Partnerships**

**A Guideline
for the Elaboration of a
Regional Concept**

Authors:
Dirk Schubert / Josef Bühler

Author:
Federal Office "Active Regions"



This operation is implemented through the CENTRAL EUROPE Programme co-financed by the European Regional Development Funds (ERDF)



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You want to know more?



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