



Women in Europe for a Common Future | WECF

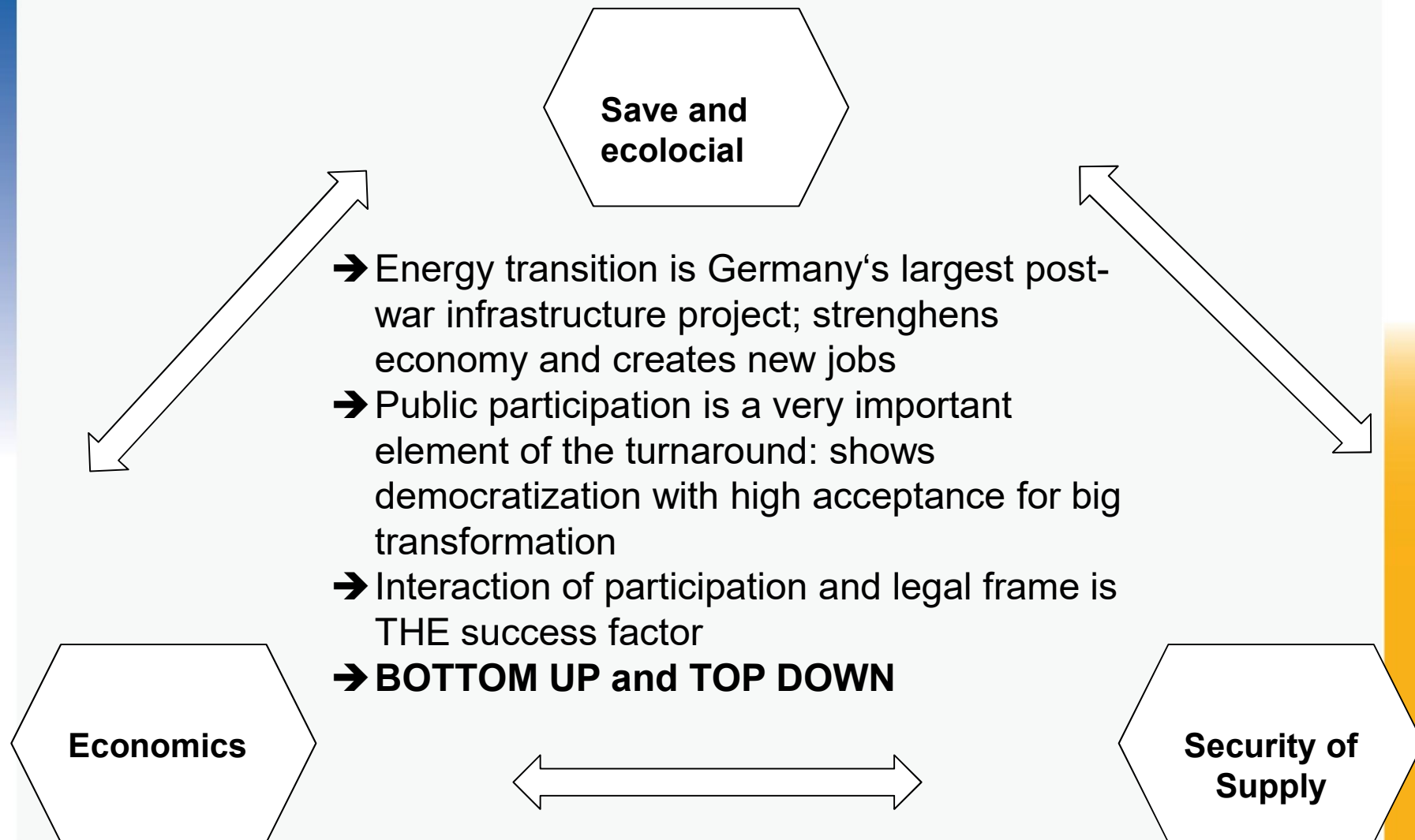
Energy Cooperatives And “Citizen’s Energy” For a Sustainable Future

Katharina Habersbrunner
WECF - Women in Europe for a Common Future
Bürgerenergiegenossenschaft BENG eG
Çanakkale, 10 May 2016

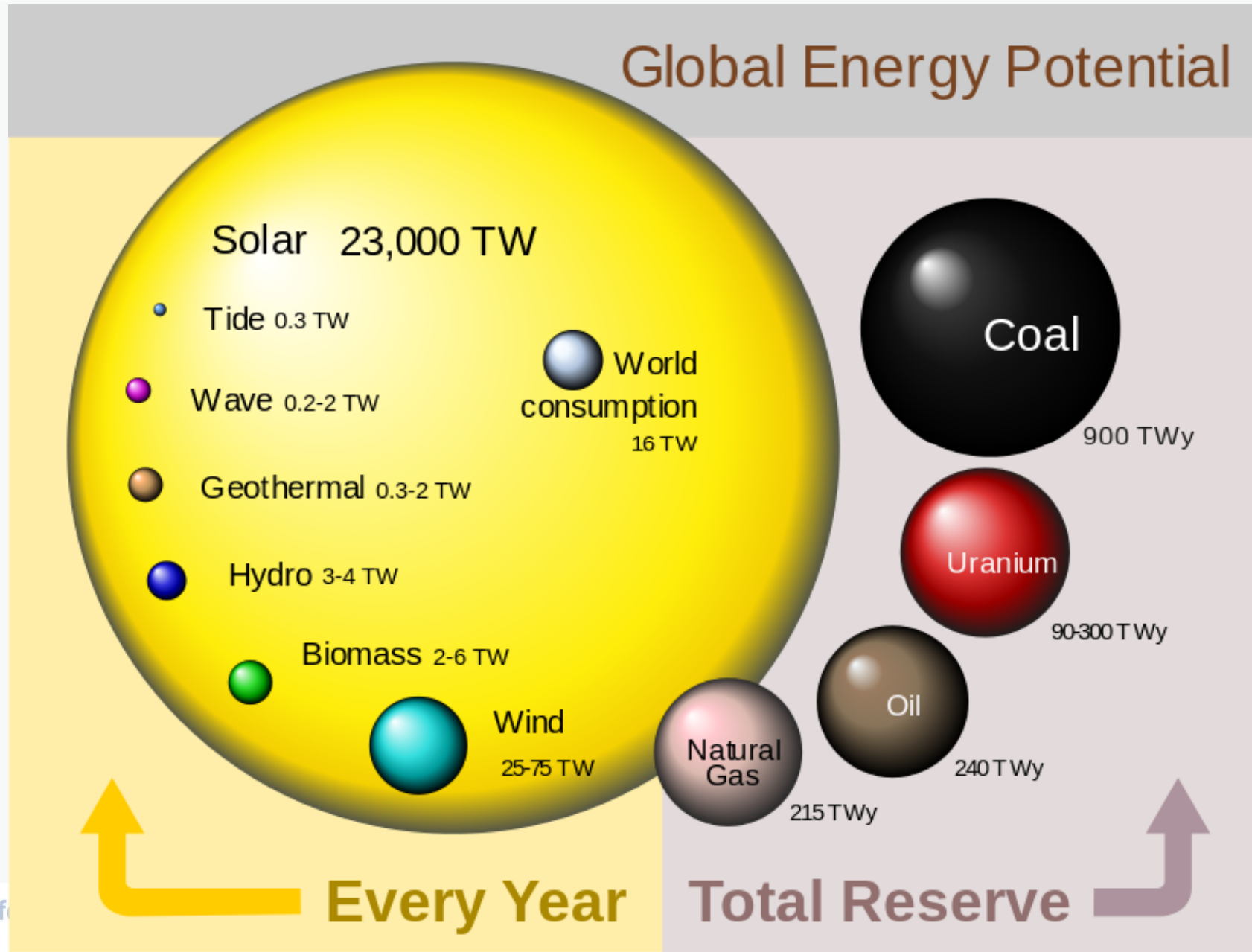
Energy Transition in Germany

- Broader than discussed:
 - Nuclear phase out,
 - Increase renewable energy and energy efficiency,
 - Reduction of CO₂,
 - Intelligent grid expansion
 - Energy storage
- Energy efficiency and energy saving: national action plan energy efficiency, 4.12.2014
- Economic: Added value and new jobs (400.000 jobs 2014)
- Legal framework: EEG, heating, mobility, fair cost allocation
- Technology: power to heat/gas/liquid, storage, photovoltaic
- Social/Public: is driven by citizens and communities
- Ecological: clean energy supply is possible and affordable
- Approx. 30% of electric energy production is renewable in 2015

Energy Transition



Do we have enough Energy?



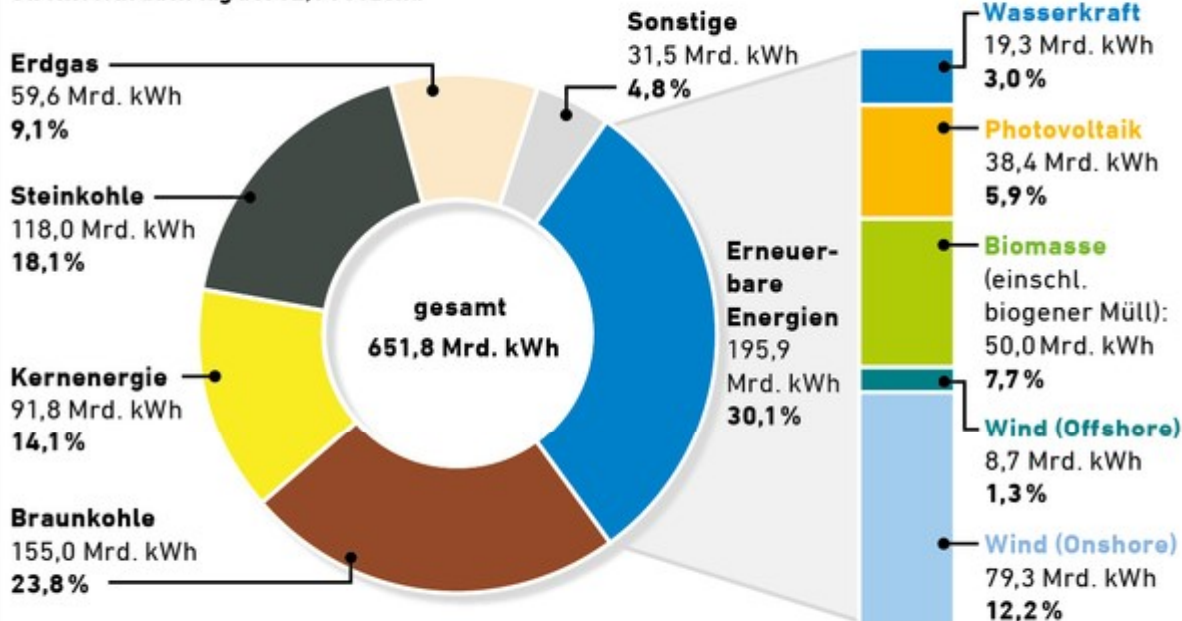
Climate and energy goals of Germany

	Klima	Erneuerbare Energien		Effizienz		
	THG-Ausstoß (vs. 1990)	Anteil Strom	Anteil gesamt	Primär- energie	Energie- produktivität	Gebäude- sanierung
2020	- 40 %	35%	18%	- 20%	steigern auf 2,1 % p.a.	Rate verdoppeln 1 % -> 2 % p.a.
2030	- 55 %	50%	30%			
2040	- 70 %	65%	45%			
2050	- 80 bis - 95 %	80%	60%	- 50%		

Electricity mix in Germany in 2014 / 2015

Der Strommix in Deutschland im Jahr 2015

Mit rund 196 Milliarden Kilowattstunden lieferten Erneuerbare Energien 30,1 Prozent der deutschen Bruttostromerzeugung und sind damit der wichtigste Energieträger zur Stromproduktion. Ihr Anteil am Stromverbrauch lag bei 32,6 Prozent.



Quelle: AGEE-Stat, AG Energiebilanzen
Stand: 2/2016

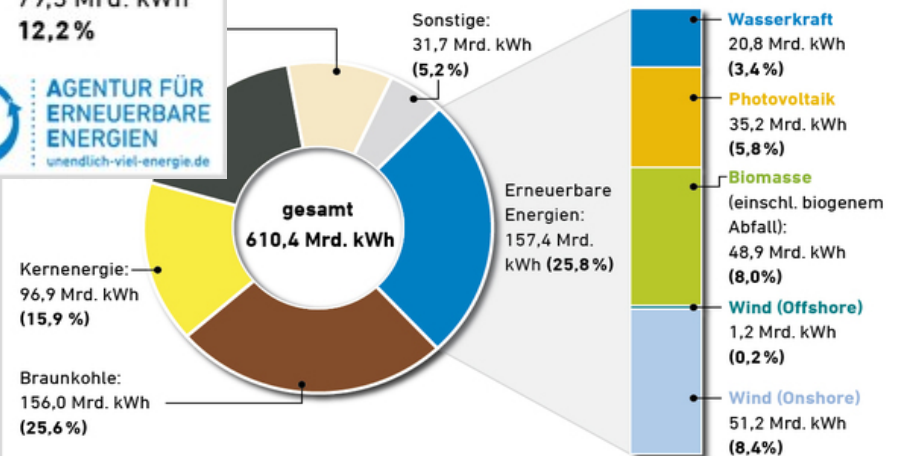
© 2016 Agentur für Erneuerbare Energien e.V.



AGENTUR FÜR
ERNEUERBARE
ENERGIEN
unendlich-viel-energie.de

Strommix in Deutschland im Jahr 2014

Mit rund 196 Milliarden Kilowattstunden lieferten Erneuerbare Energien mehr als ein Viertel der deutschen Bruttostromerzeugung und sind damit der wichtigste Energieträger zur Stromproduktion. Ihr Anteil am Bruttostromverbrauch betrug 27,3%.



Quelle: BDEW; Stand: 12/2014



AGENTUR FÜR
ERNEUERBARE
ENERGIEN
unendlich-viel-energie.de

Safe and Sustainable Energy and Climate Protection for All

WHAT IS CITIZEN'S PARTICIPATION

Actors:

private, farmers, small companies

Type of participation:

Financial investment with equity mit votes to steer the project

Quote of participation:

More than 50% of the shares

Regional participation

GOOD REASONS FOR CITIZEN'S PARTICIPATION

Regional Value Added

Democratizing Energy Supply

Profit for all by common goods

The BOTTOM-UP energy revolution

Increasing of acceptance for local renewable powerplants

Citizen Participation

Citizens are the largest financial investors in the development of renewable energy!

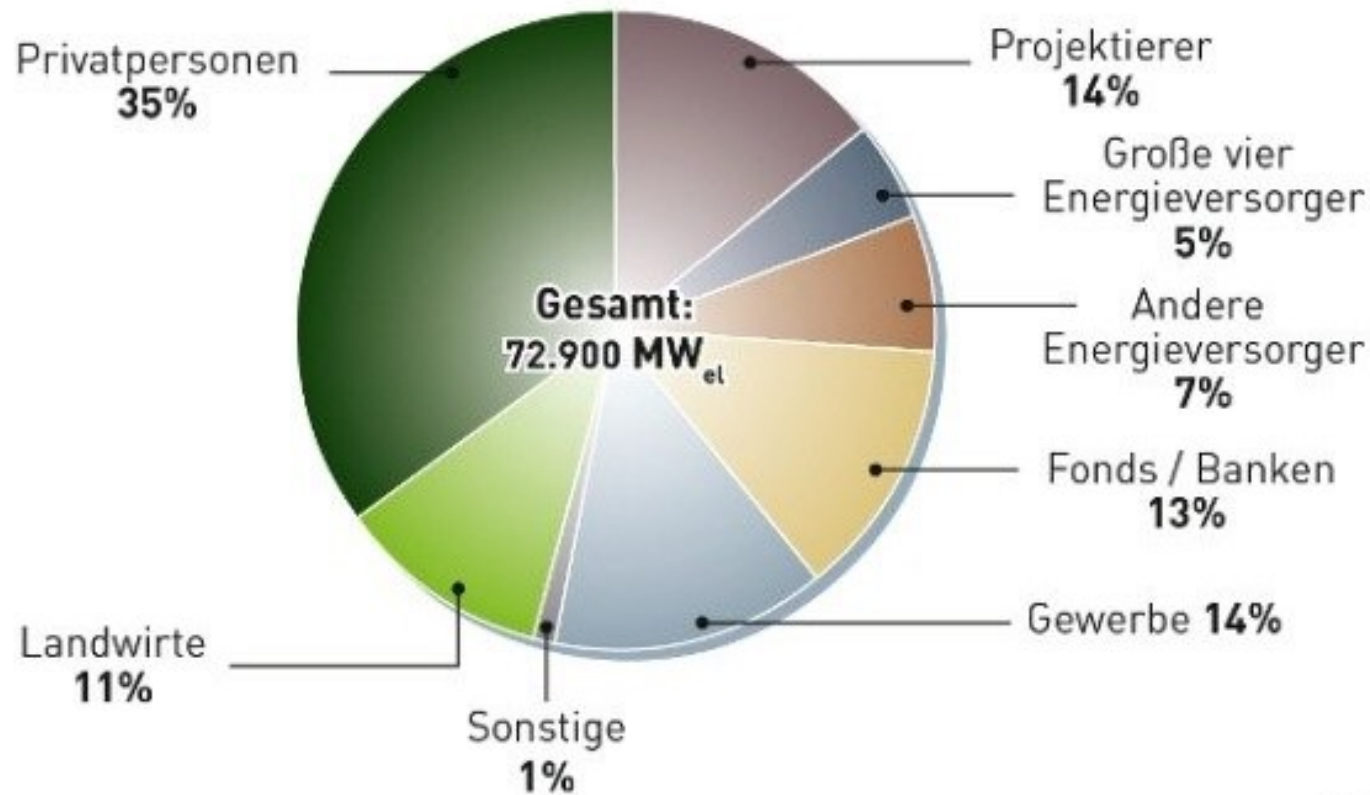
Currently, every German citizen transfers for energy imports more than € 1,130 p.a. for importing oil, natural gas and uranium export to large energy companies, which mainly invest abroad.

Citizens energy companies in Germany produce about half of the electricity from renewable energy sources.

Renewables in citizens ownership

Erneuerbare Energien in Bürgerhand

Verteilung der Eigentümer an der bundesweit installierten Leistung zur Stromerzeugung aus Erneuerbaren-Energien-Anlagen 2012 (72.900 MW).

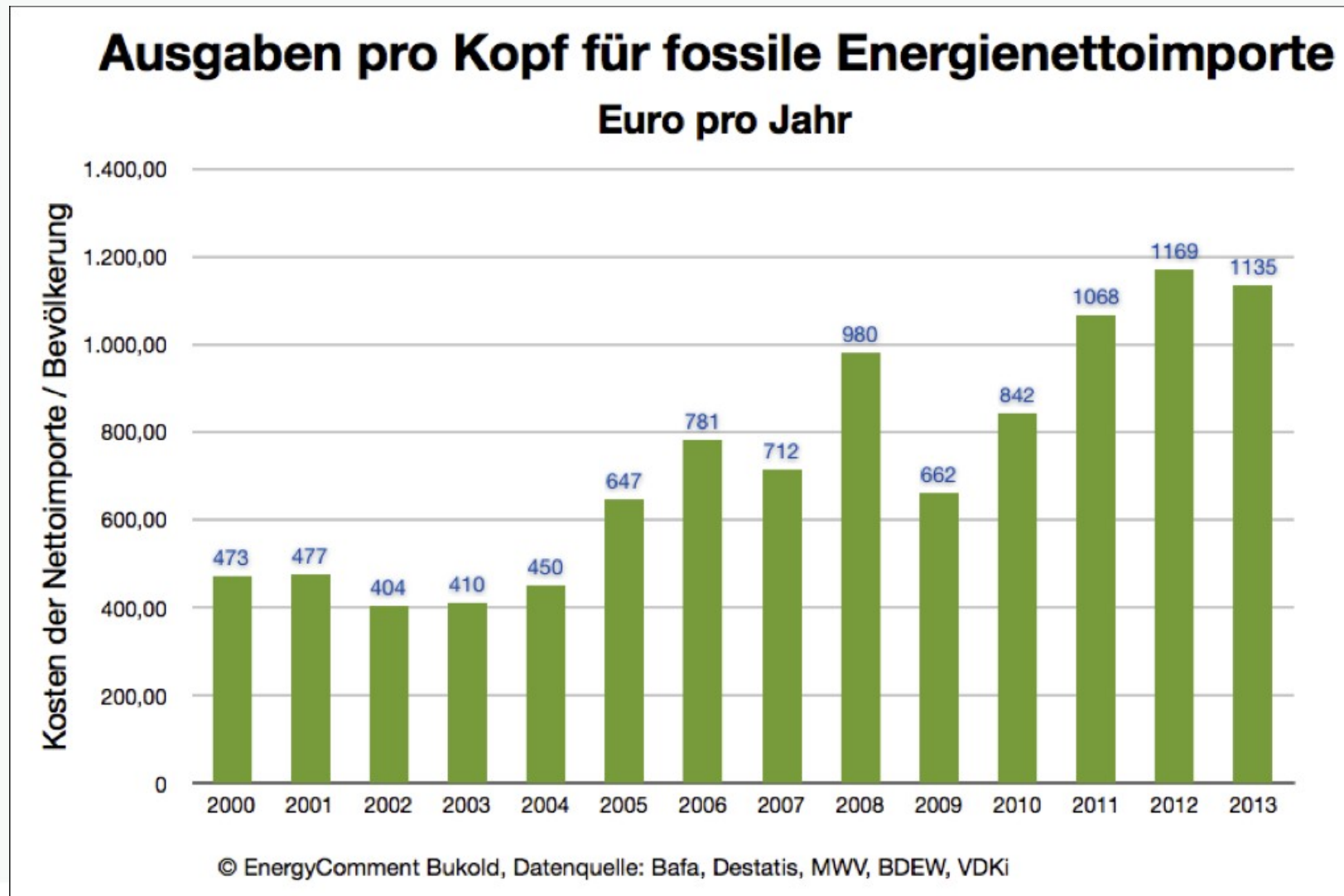


Quelle: trend research; Stand: 04/2013

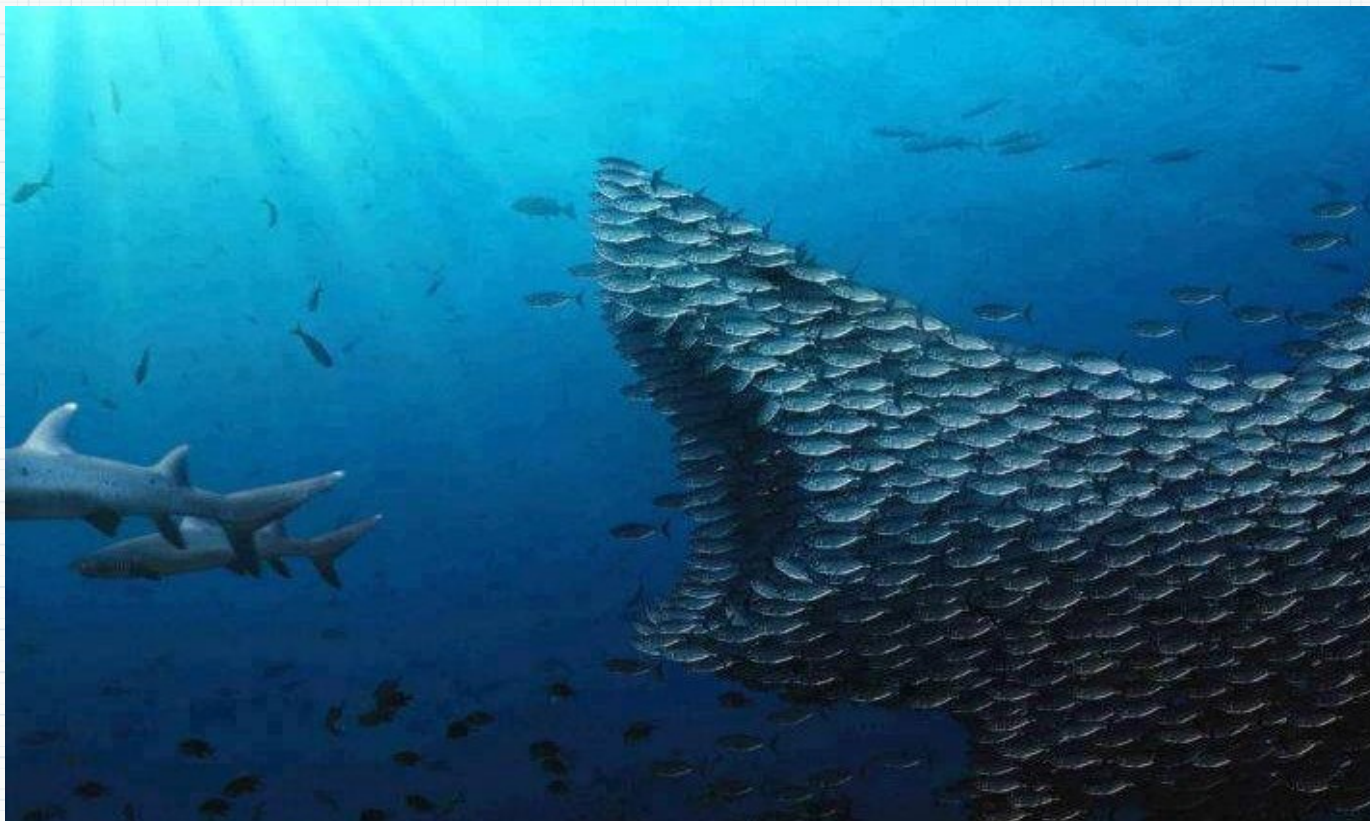
www.unendlich-viel-energie.de



Expenses for Fossil Fuels



CITIZEN PARTICIPATION =



Important fields of Energy Transition



1. Renewable Energy

- rapid and continuous expansion
- Cost effective and ecological

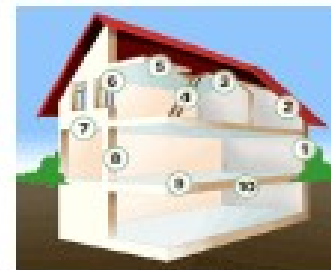


2. Energy Efficiency

- Saving energy
- Increasing Energy efficiency

3. Grid Infrastructure / Storage

- Expansion and modernization
- Integration of Renewable Energy
- Technological development

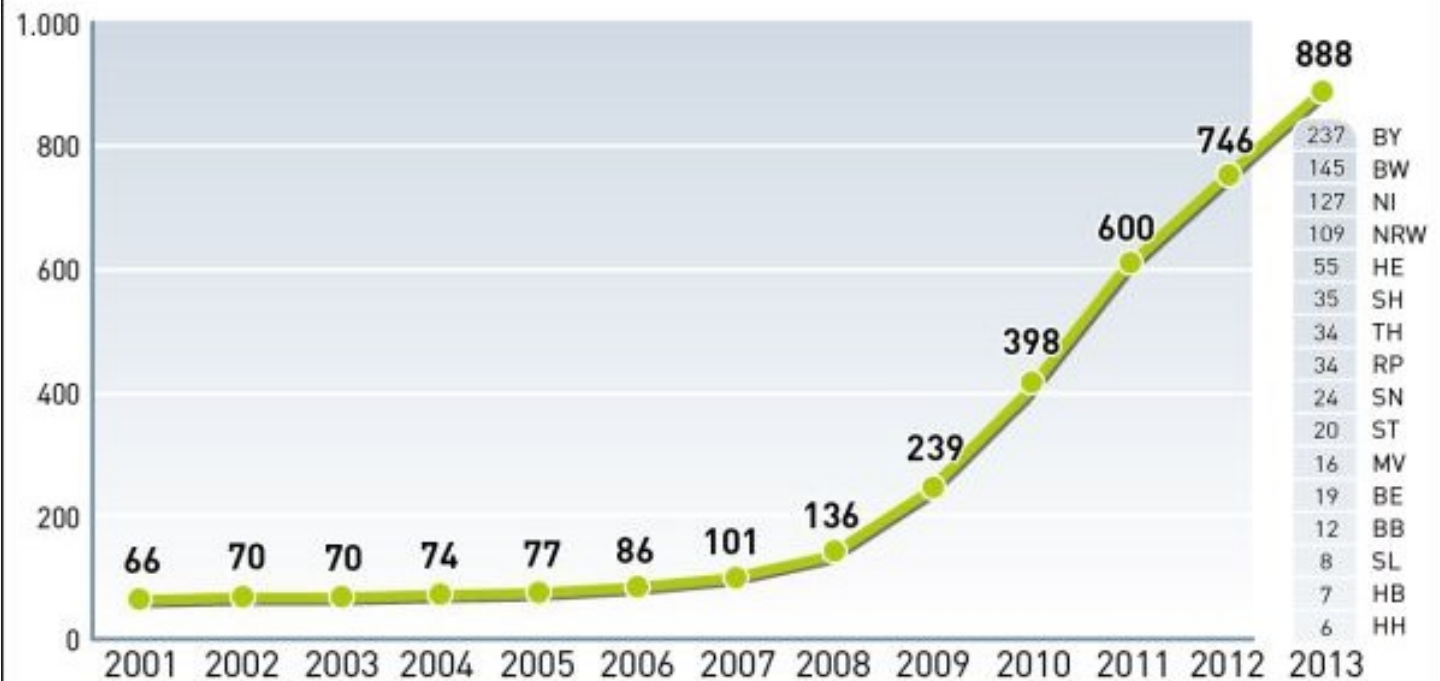


Energy Cooperatives in Germany

- Citizens = most important impetus for the energy turnaround
- Energy cooperatives as very democratic and realistic way of funding.

Potential for big transformation?
A big success story?

Development of Energy cooperatives in Germany



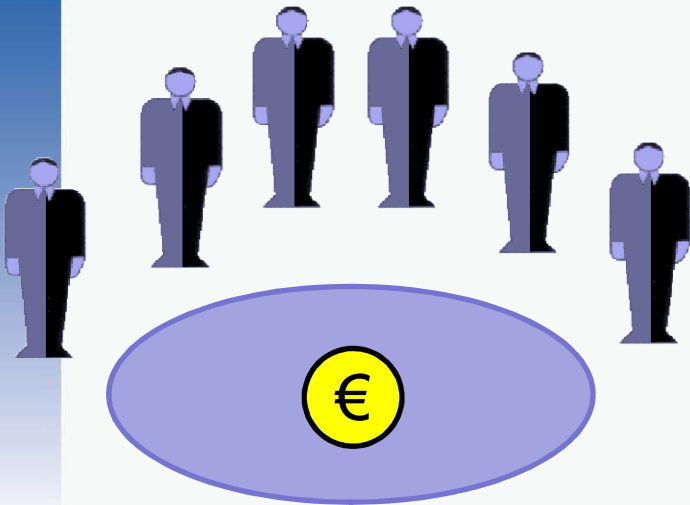
Safe and Sustainable Energy

Quelle: Klaus Novy Institut; Stand: 1/2014

www.unendlich-viel-energie.de



An Energy Cooperative is ...

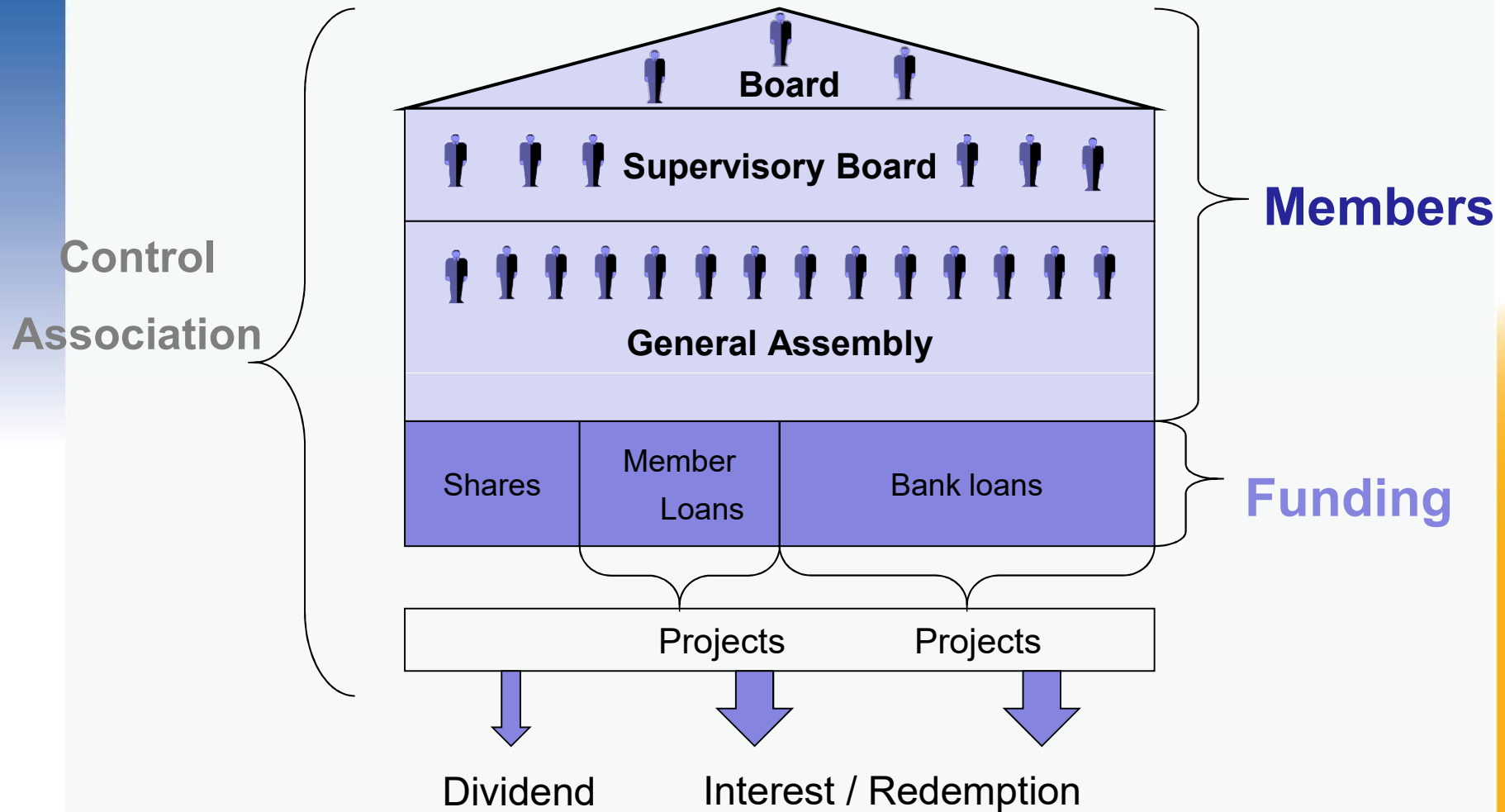


Potential for big transformation??

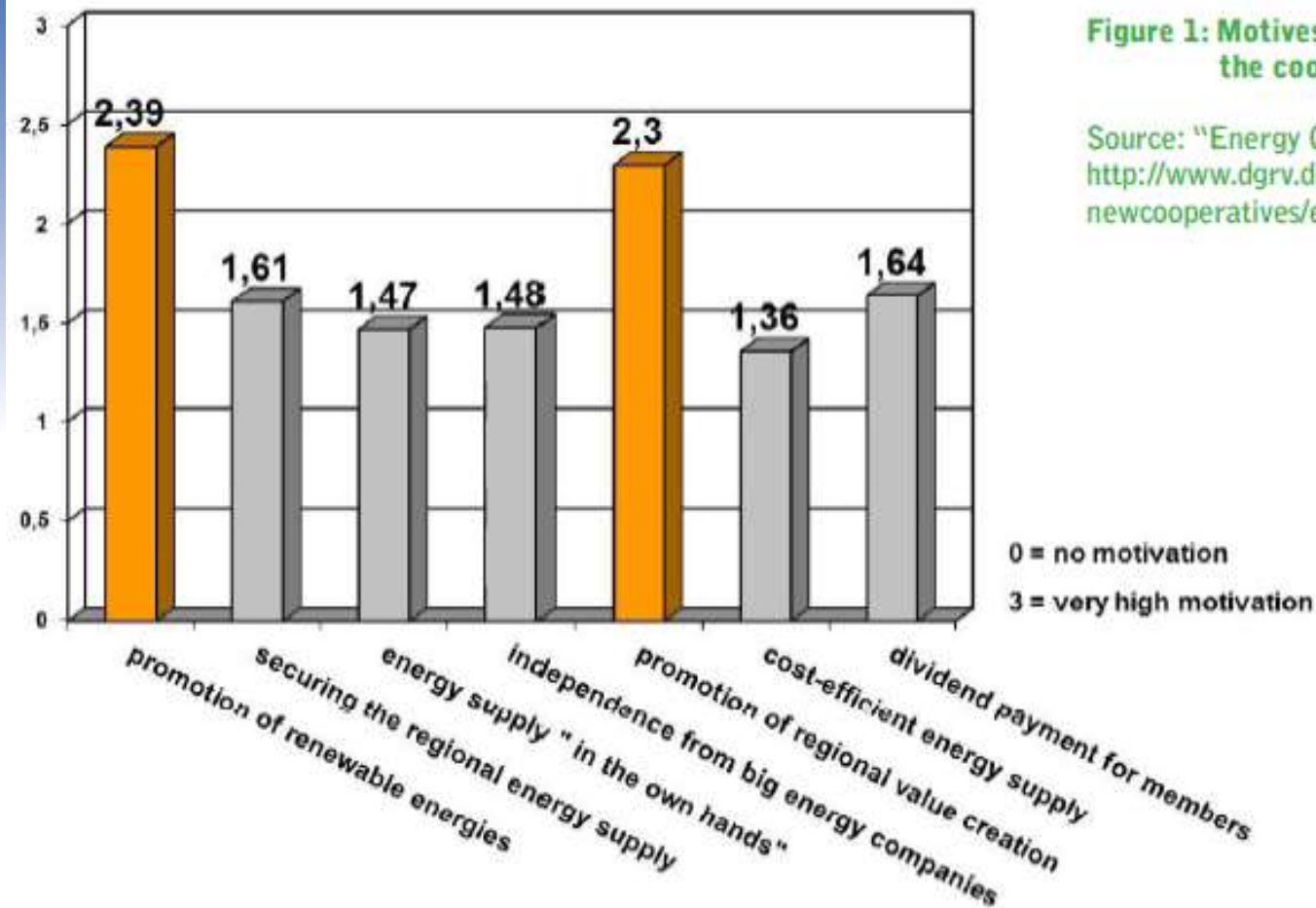
- no profit maximising
- flexibility for energy saving, direct consumption, e-mobility, condominiums
- flexibility to involve many stakeholders

- ... **democratic:**
each member has one vote, small-volume
- ... **flexible**
easy way to become a member and to exit
- ... **secure:**
nearly no insolvencies and risk diversion
- ... **ethical:**
as ecological investment
- ... **expandable:**
for more projects in the region
- ... **economic:**
attractive and ecological investment
- ... **sustainable:**
energy production free of nuclear and carbon
- ... **participative and decentral**
people can create the energy turnaround from bottom up with small amounts

Functional and Financial Structure



Motivation for Founding Energy cooperatives

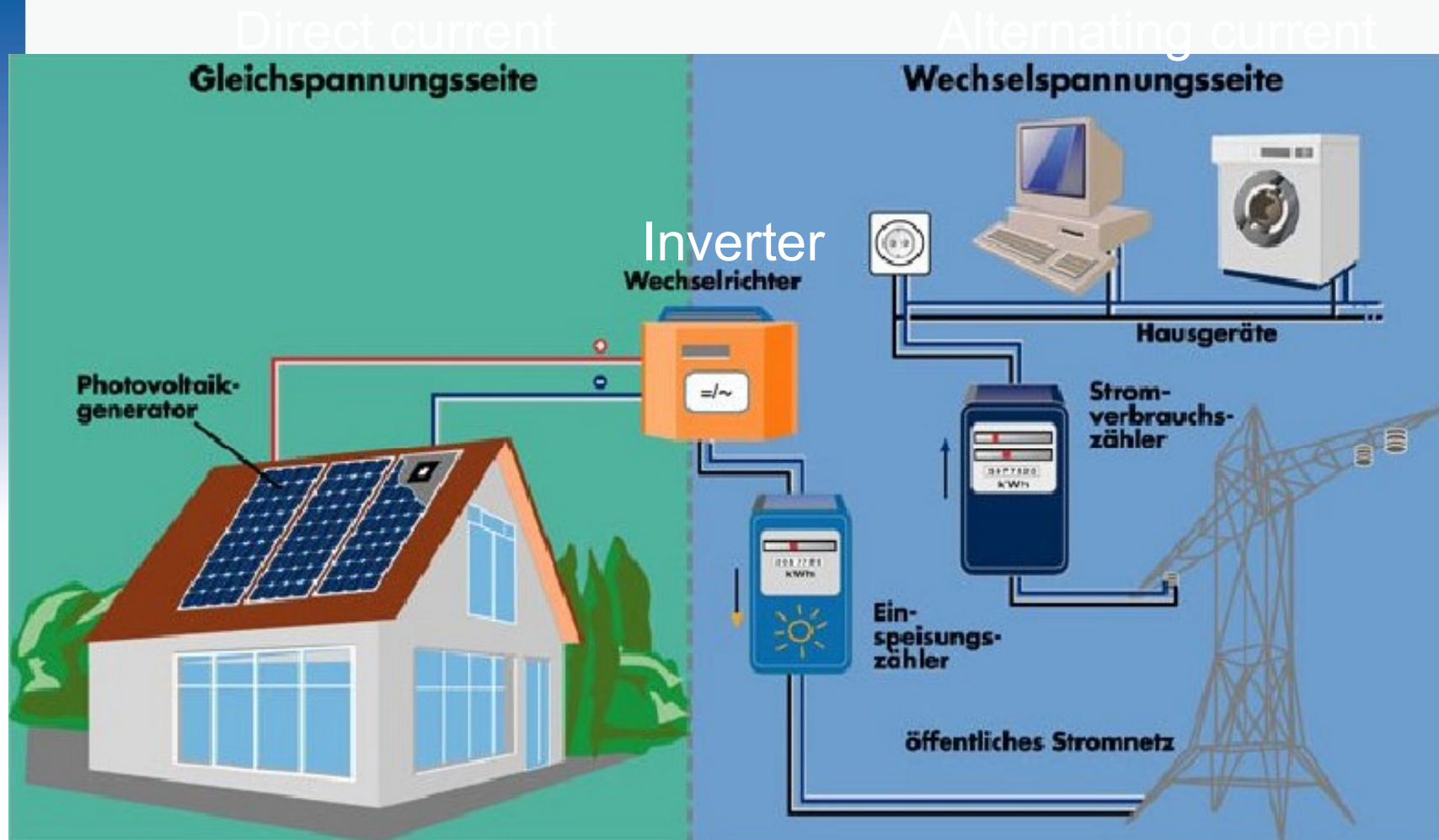


Energy cooperatives

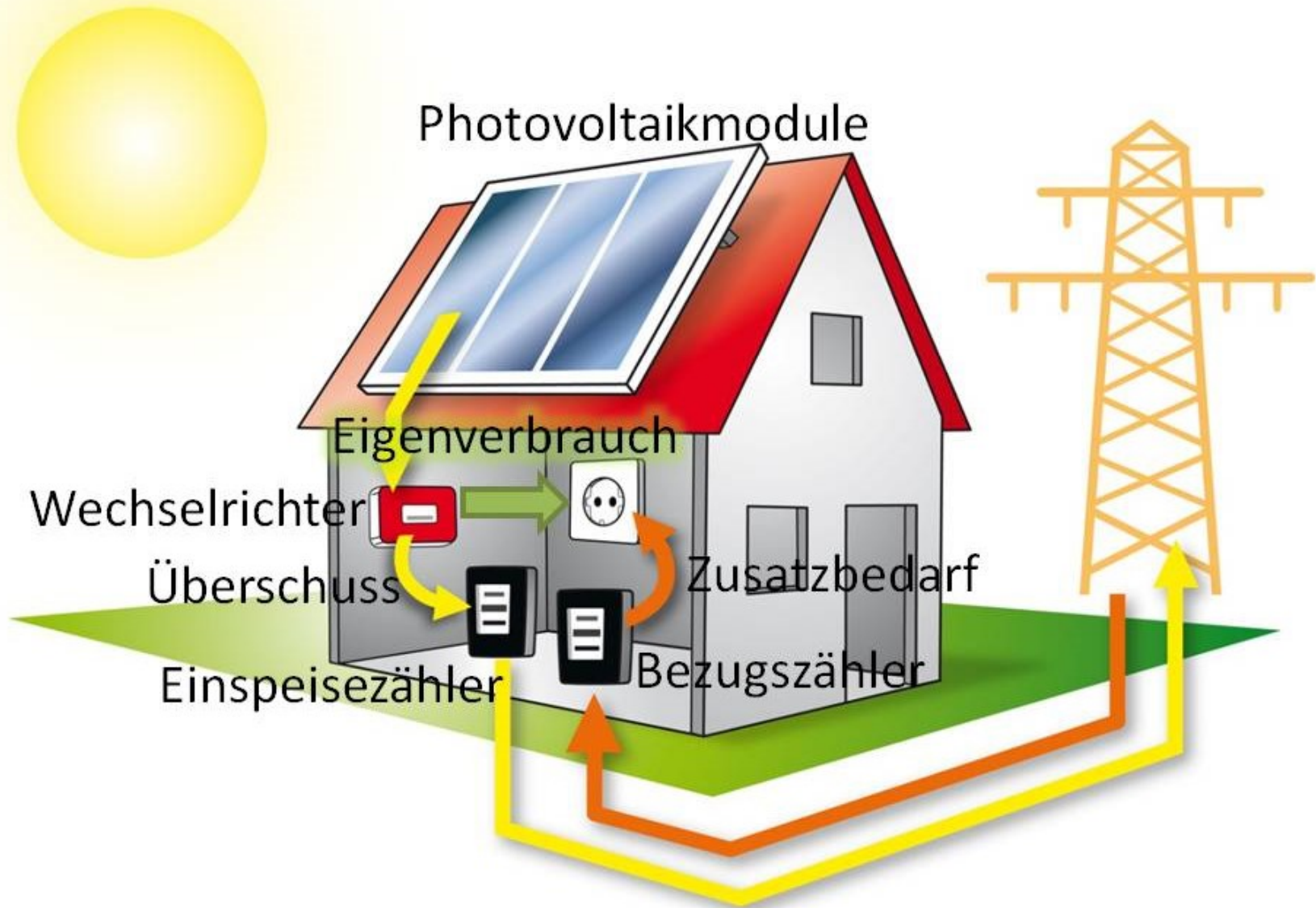
Different business models

- **Producing** energy: planning, development, buying and operation of power plants
- **Trading and** distributing of energy: direct marketing
- **Consulting-model:** consulting, planning, training
- **Purchasing** cooperatives: cooperation with other partners to achieve advantages in terms of knowledge or prices, etc.
- **Funding-Model:** Investing in renewable energy power plants of public utilities, operating companies, etc.
- **Heat:** Decentralised heat supply
- **Own consumption** concepts for tenants or companies
- **Acquisition** of power grid systems

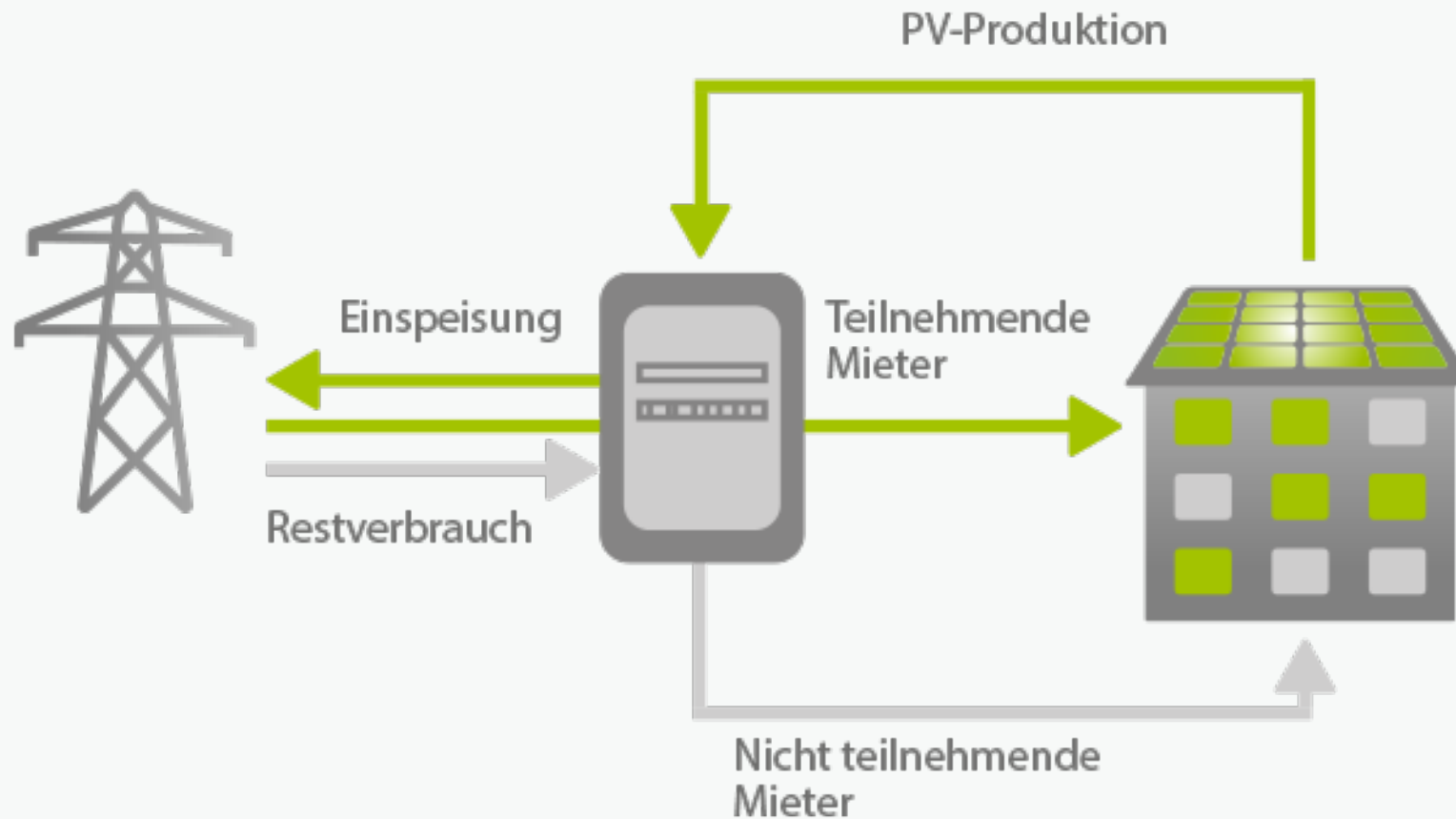
PV with Feed-in



PV with own consumption and Feed-in



PV – Tenant Model

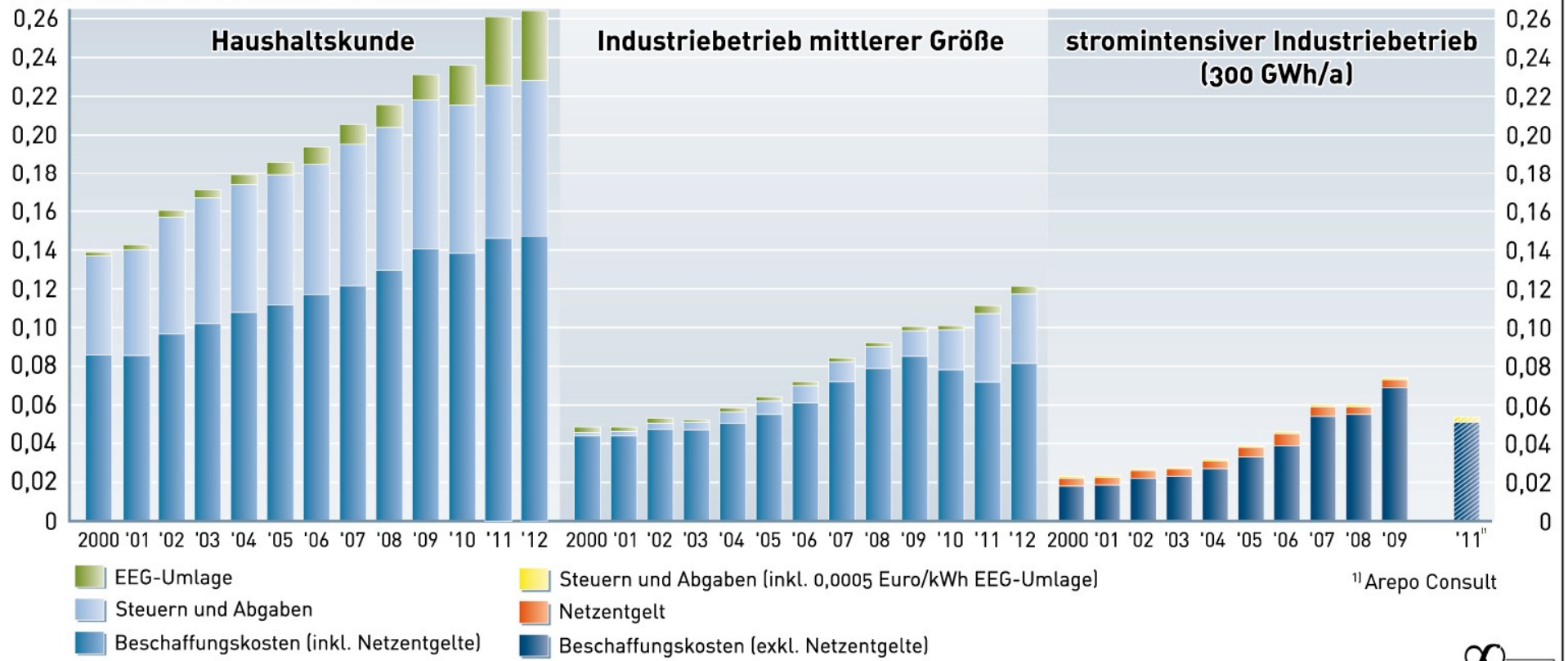


Electricity price in Germany

Strompreise in Deutschland im Vergleich

Die EEG-Umlage macht nur einen geringen Anteil am Industriestrompreis aus.

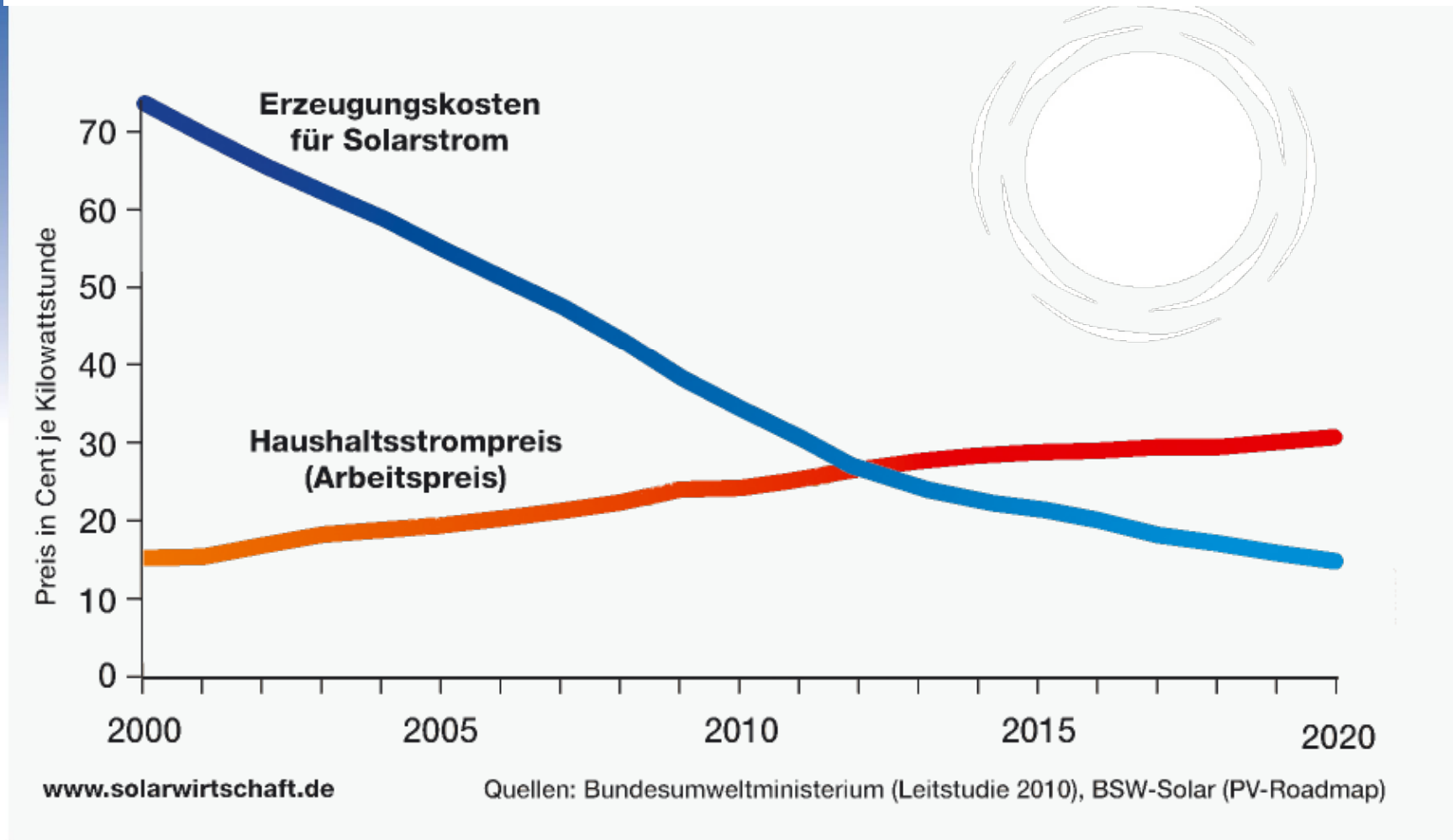
Durchschnittlicher Preis in Euro/kWh



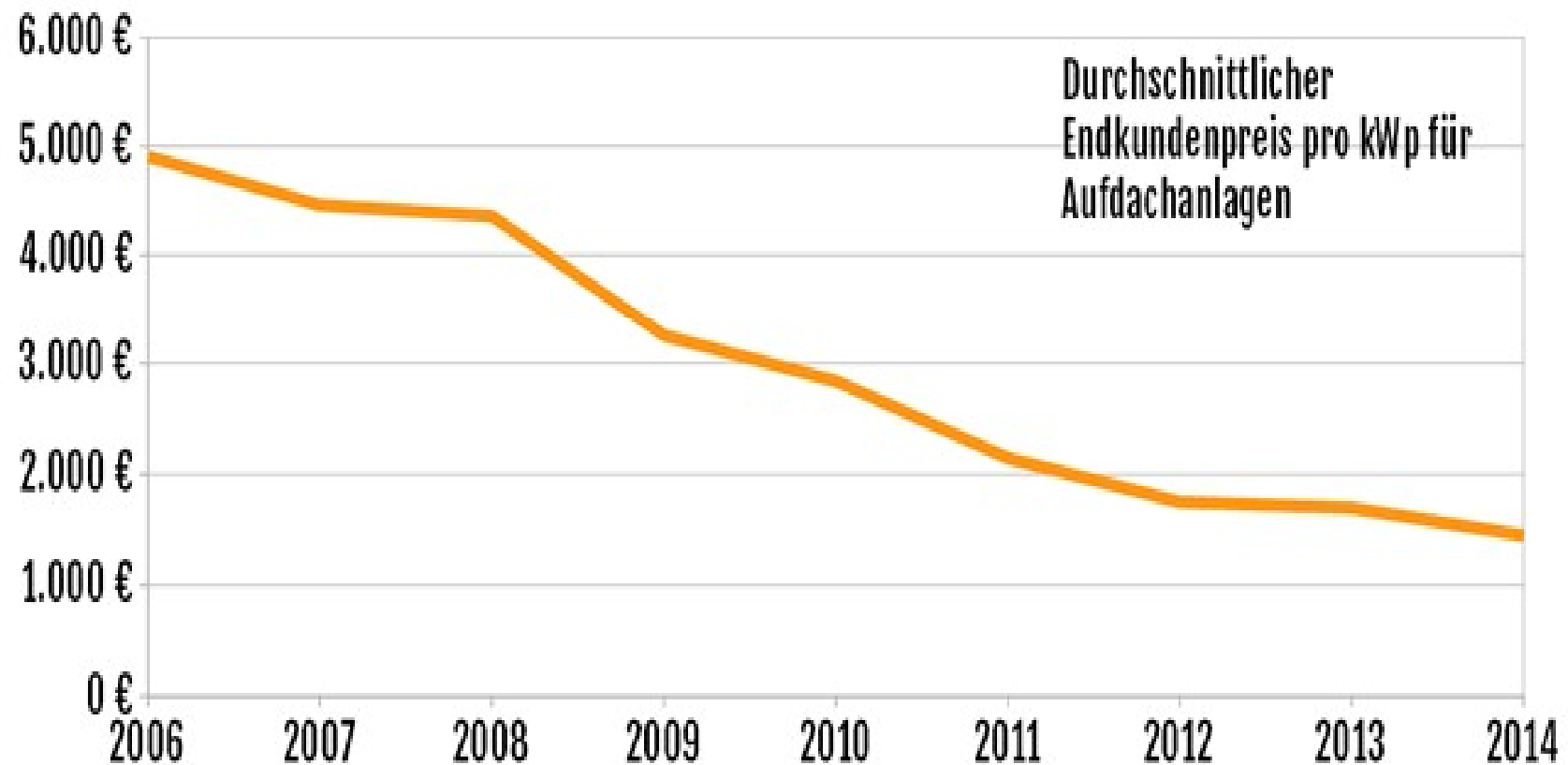
Quelle: Arepo Consult, Frontier economics / ewi, VIK, eigene Berechnungen; Stand: 4/2012

www.unendlich-viel-energie.de

PV electricity cheaper than household price



Development Photovoltaik Technology



Regional Energy Tariff

- Many citizens would like to use local and renewable electricity
- Common development and product of energy cooperatives:
 - Bavarian ecological electricity – 100%
 - Without any public grants
 - Energy from citizens power plants – 25%

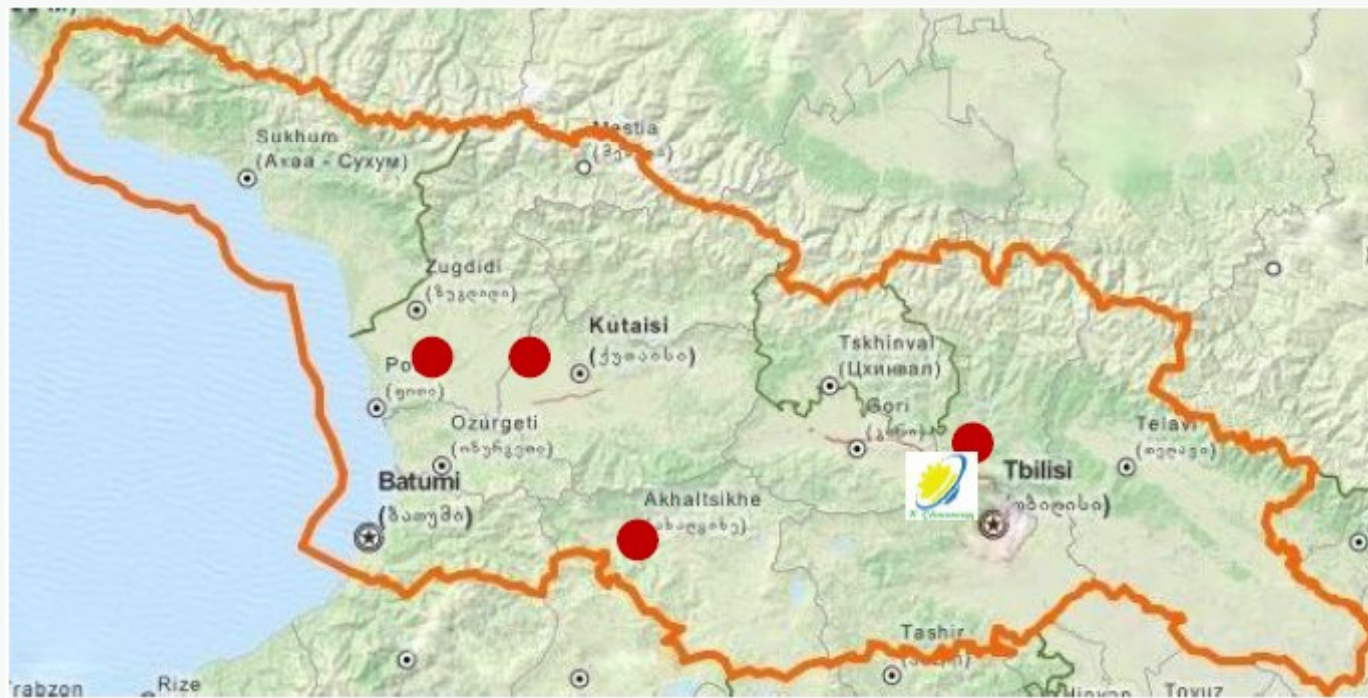


Gender sensitive cooperatives in Georgia

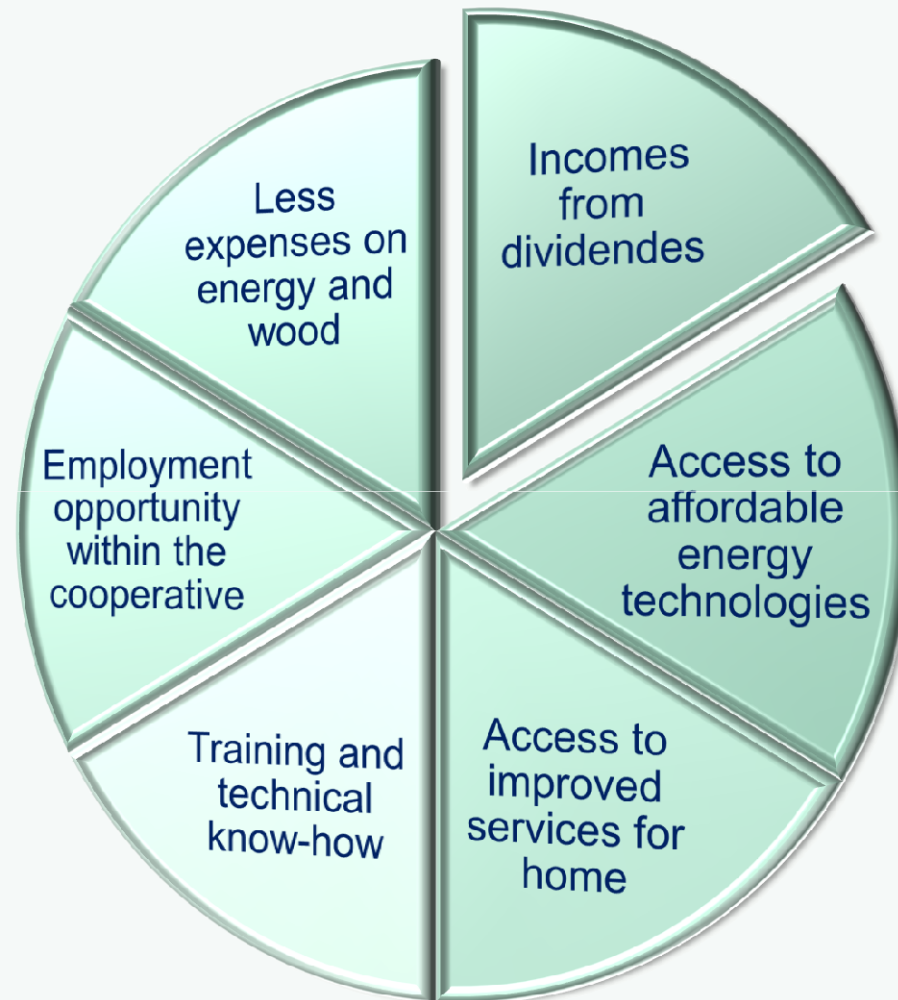
- Decentralized production of renewable energy and enhancement of energy efficiency
- 3 Workshops – November and December 2015, March 2016
- Trade possibilities for sustainable energy supply
- Establishment of 4 cooperatives between Dec. 15 and March 16
- Trainings on renewable energy technologies for women and by women
- Business acquisitions and leadership positions for women in the cooperative
- Increase of life quality and labor security in rural areas

Gender sensitive cooperatives in Georgia

Partners/Stakeholders: Energy Advisory Centers in Khobi, Khoni, Akhaltsikhe and Mzcheta, environmental organisations GREENS Movement of Georgia (Friends of the Earth), RCDA, SDCA and SEMA



Advantages for the members



Gender sensitive cooperatives in Georgia

Agreed and initiated actions:

- Solar collectors
 - For Members: free of charge advisory and distribution of corresponding information
 - Building, Installation , Service and Maintenance of Solar collectors

- Energy advisory
 - For Members: free of charge and regular information meetings and material distribution
 - Energy audits for extensive actions (energy saving) and intensive actions (f.e. Infrared cameras) for private households, communes and enterprises

Gender sensitive cooperatives in Georgia

Agreed and initiated actions:

- Solar dryer of agricultural residues
- Photovoltaic installations
 - Small demonstration installations in schools and kindergartens with support from financial aid programs

Gender sensitive cooperatives in Georgia

Working plan

Business Plan

- Offered products: Solar collectors
- Market analysis
- Transparent marketing strategy
- Product and service description
- Amortization calculations
- Cooperation with support organization

Creation of Coops

- Meetings in municipalities
- Creation-group meeting
- Draft Paper of meeting
- Name, Logo... of Cooperative
- Registration by notary

Admin

- Chair and supervisory board
- Competence and authority
- Head office of the Cooperative
- Cooperation with other Cooperatives and Resource-Centers

Participation

- Planning for the members number
- Bank account
- Application form
- Process of compensation payments and confirmation
- Regular information distribution

Marketing

- Flyer
- Product description, guarantee, contracts
- Financing possibilities with cheap loans
- Communication network
- Movie
- Presentation days
- Meetings with local and national politicians

Financing

- Promotion of international members
- Application for Georgian financial aid programs (app. 5000 Lari)
- International aid

Control and monitoring group

- Lobbying (agricultural associations, tax free performance, politicians as members)
- Consulting
- E-Cooperative, presentations, media communication

Goals to be achieved in Georgia

- ✓ Economic and social empowerment (saving costs and time for fuel)
- ✓ Expand Renewable Energy technologies (e.g. solar collectors, energy efficient stoves, solar dryers, biogas digesters) with high quality and quantity
- ✓ Give access to these technologies for citizens, especially women
- ✓ Service & consultation for communities in the renewable energy and energy efficiency sector
- ✓ Expand the local value chain / generate employment for women and men
- ✓ Build-up technical know-how
- ✓ Increase women's participation in public life through awareness raising of women and men
- ✓ Create safe and climate friendly energy supply for women & other citizens

Benefits of Citizen's Energy

Socially

- Integration in sustainable economy patterns
- Commitment: Added value through active participation rather than passive consumption
- Early and active participation of locals increases acceptance for RE projects
- Participation and involvement: prosumer
- Ownership feeling: establishing bonds to community and region

Benefits of Citizen's Energy

Economically

- Diversity of actors: democratic energy market is less dependent on few big suppliers
- Implementation highly dependent on what happens locally
- Innovation: Citizen's projects drive progress
- Level up and a broader distribution of regional value chains
- Creation of jobs
- Basis and showcasing for competitive RE market

Public welfare

- In contrast to big companies, citizen's initiatives and energy cooperatives do not only target maximum return but what is good for their members in the long run → Sustainability

Success Factors - energy cooperatives

- Legal/political: favorable legal framework: Feed-in-Tarifs, setting-up organisations, grant programs, tax exemption
 - Technology: solar heater, photovoltaik, heating systems, etc.
 - Qualification: energy networks, energy consulting, information, craft firms, etc.
 - Funding possibilities because of small volume investments
 - Interested civil society: bottom up
 - Networking and new partnerships (e.g. with municipalities, etc.)
 - Transparent information for everybody, clear targets
 - Local added value for citizens, companies, municipalities, etc.
 - Common planning und implementation
- ⇒ **Cooperatives goes for democratization, qualification, funding possibilities and strengthening civil society**

Future Challenges

Legal framework:

- Heating systems, retrofitting of buildings,
- No subsidising for fossils, fair cost distribution

Development and structuring of grids:

- Measures to decrease the grid demand
- Energy efficiency, storage, efficient power lines and intelligent grids

Dialogue with citizens

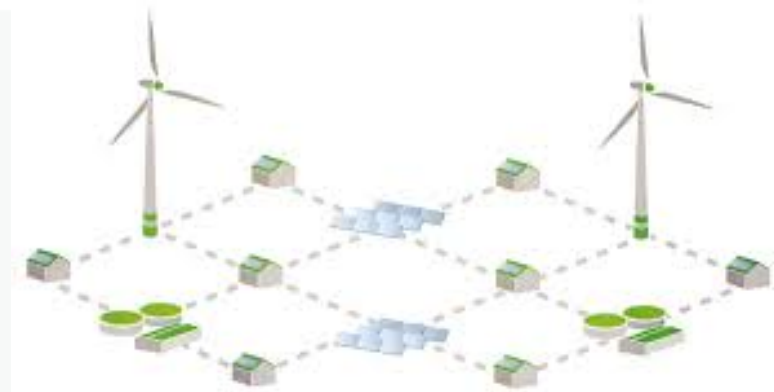
- Energy saving - Energy transition and protection of nature - Early participation and communication with civil society

⇒ **Renewable energy has nearly reached market readiness**

⇒ **Energy transition needs encouraged actors and decision makers**

⇒ **In the long term wind and solar will be the main energy producers**

⇒ **We have to continue the renewable energy way with public participation**



Questions or comments?

Thank you for your attention!

Katharina Habersbrunner

katharina.habersbrunner@wecf.eu

katharina.habersbrunner@beng-eg.de

