



Ecologic Institute

Berlin
Brussels
Vienna
Washington DC



Environmental Policy in the European Union: Climate change and renewable energy

Dominic Marcellino
Ecologic Institute Washington DC

25 July 2012



Outline of Comments

1. Introduction
2. EU environmental policymaking
3. EU climate and energy policy
4. Group exercise: how policy debates are influenced
5. EU Member State in focus: Germany
6. German (renewable) energy policy
7. Recent revision of nuclear energy policy

EU Environmental Policymaking

- ▶ Coordination between European Commission (executive) and co-decision process between European Council and European Parliament (co-decision procedure)
- ▶ Relevant Directorates General
 - ▶ DG Environment
 - ▶ Energy and Climate: DG Climate Action; DG Energy
 - ▶ Mobility and Transportation; Competition; Internal Market; Research
- ▶ Member States
- ▶ Interest Groups



EU Climate Change Policy

- Linked to energy policy in the EU's Climate and Energy Package – announced in 2007 and became law in June 2009
- Interim targets based on no more than 2°C rise above the pre-industrial temperatures
- The European Union is committed to transform itself into an energy-efficient, low-carbon economy.
- So-called 20-20-20 targets by 2020
 - Emissions reductions; renewables; energy efficiency
- Other commitments
 - Energy efficient household appliances and other equipment.
 - CCS
 - EU wide climate-adaptation strategy to increase Europe's resilience to climate change.

EU Energy Policy

- ▶ 6 Pillars
 - ▶ Establish the internal energy market
 - ▶ Security of supply
 - ▶ Reduce greenhouse gas emissions
 - ▶ Develop energy technologies
 - ▶ Future of nuclear?
 - ▶ Common international energy policy

- ▶ Energy 2020

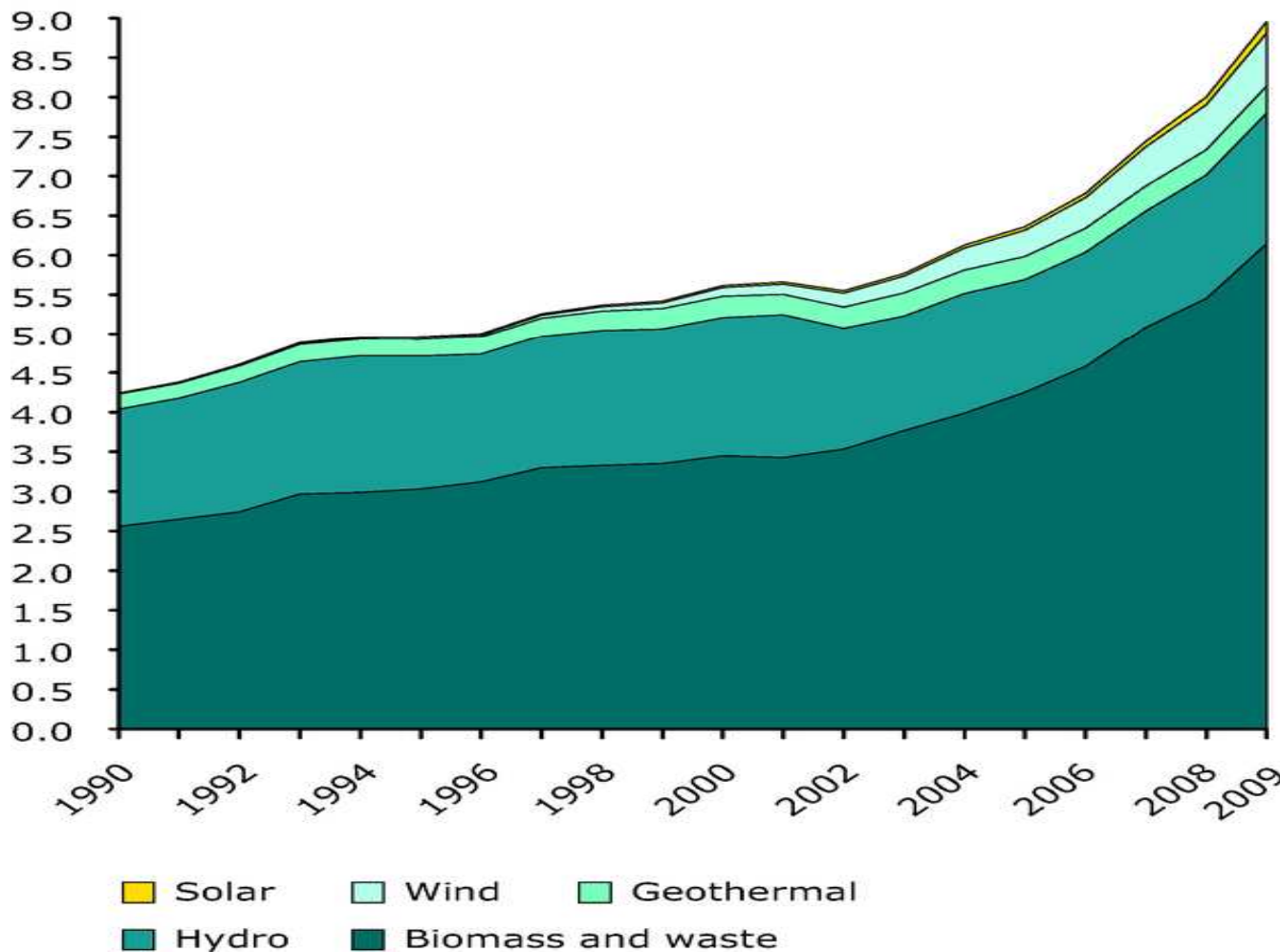
EU Renewable Energy Policy

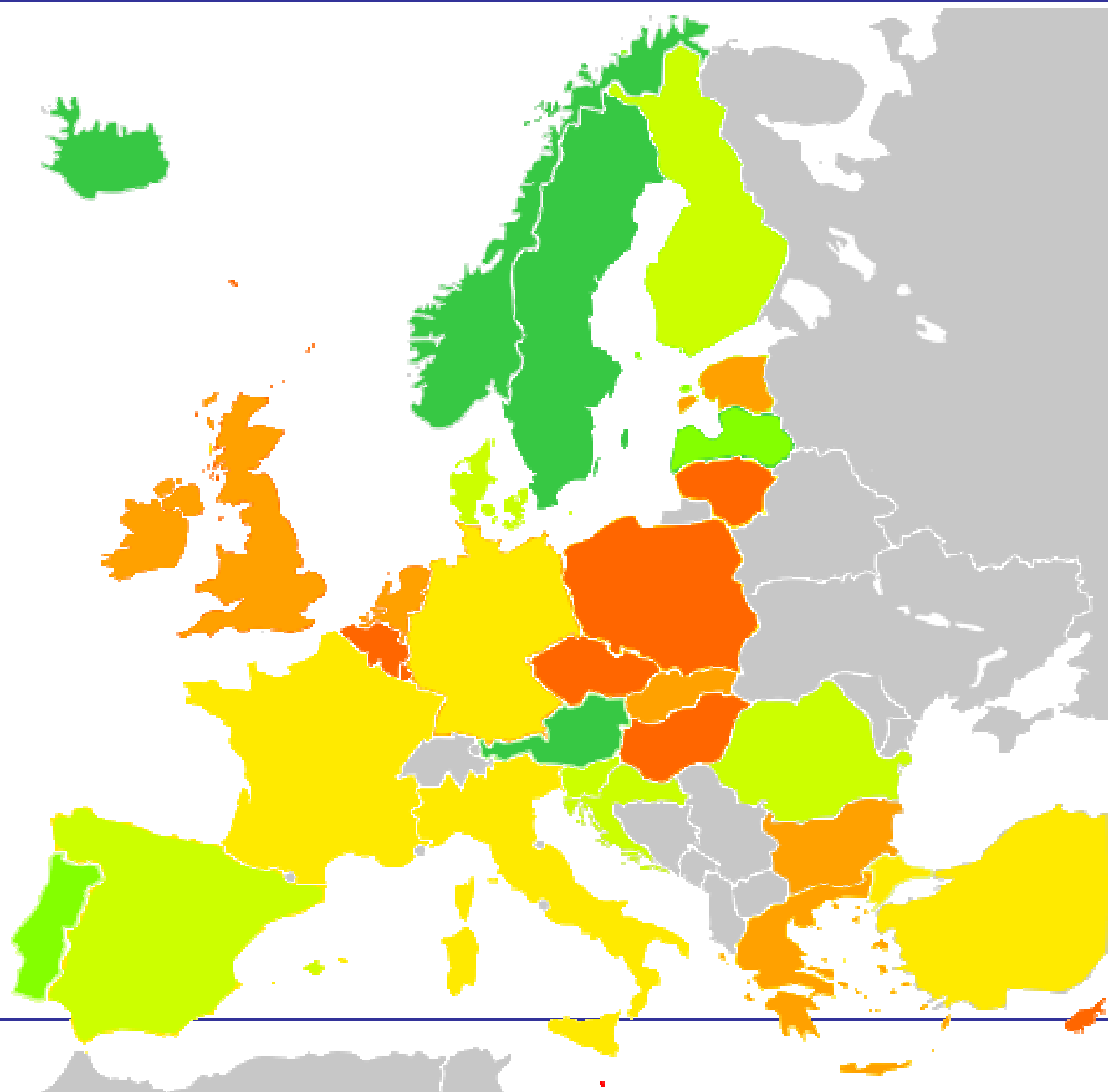
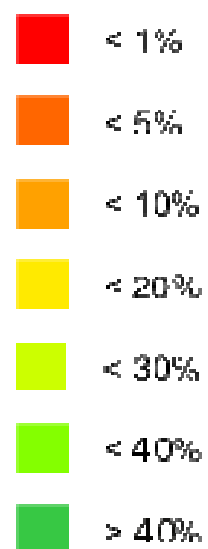
- The European Union's commitment to renewable energy is determined under its joint energy and climate policy.
- Based on 2009/28/EC – Renewable Energy Directive (April 2009)
- National targets and measurement
 - 20% of final energy consumption from renewables; at least 10% in transport sector
- National renewable energy plans
- Cooperation between Member States and guarantees of origin
- Access to and operation of the grids
- Biofuels and bioliquids



Contribution of Renewable Energy Sources to Primary Energy Consumption in the EU 27

Shares in primary energy consumption (%)







EU Policymaking in context

- ▶ Renewable electricity certificates (or guarantees of origin) vs. feed-in tariffs (or other premium support structures)

Germany's 2012 Renewable Energy Law

- ▶ New interim targets: 35% of electricity from RE by 2020,
 - ▶ 50% by 2030; 65% by 2040; 80% by 2050 (also 60% of total energy by 2050)
- ▶ Added support for storage (specifically biogas)
- ▶ Rapid reduction of tariffs paid to solar (€0.2111/kWh to start, w/ 9% annual reductions that can be scaled up)
 - ▶ No more than €0.185/kWh by July 2012 and could fall to €0.16/kWh by the beginning of 2013)
- ▶ Increased support for offshore wind (€0.185/kWh for 12 years); on-shore wind (€0.0893/kWh for 5 years; €0.0487/kWh after that)

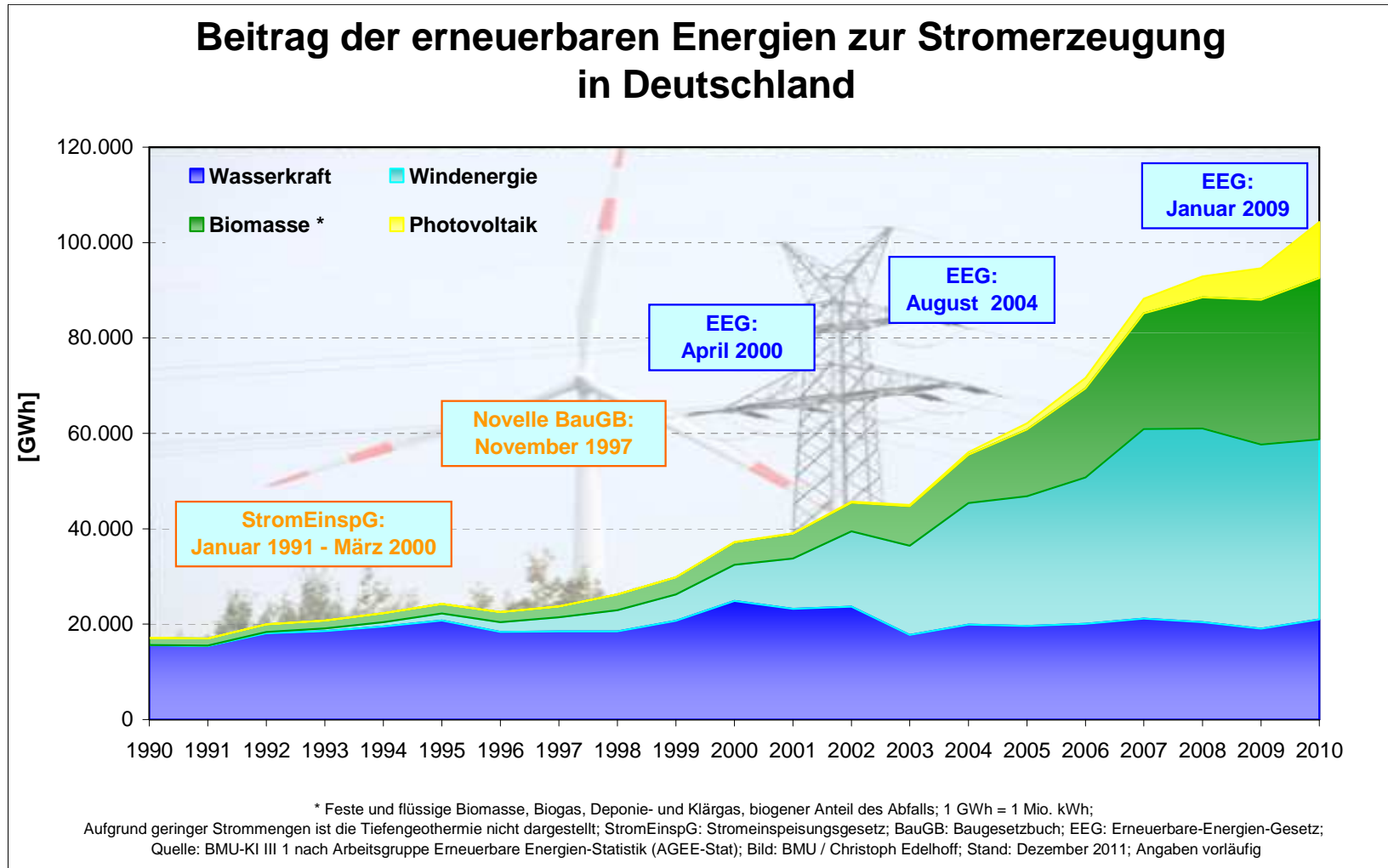


Straßkirchen – Germany’s largest solar park (54.4 MW)





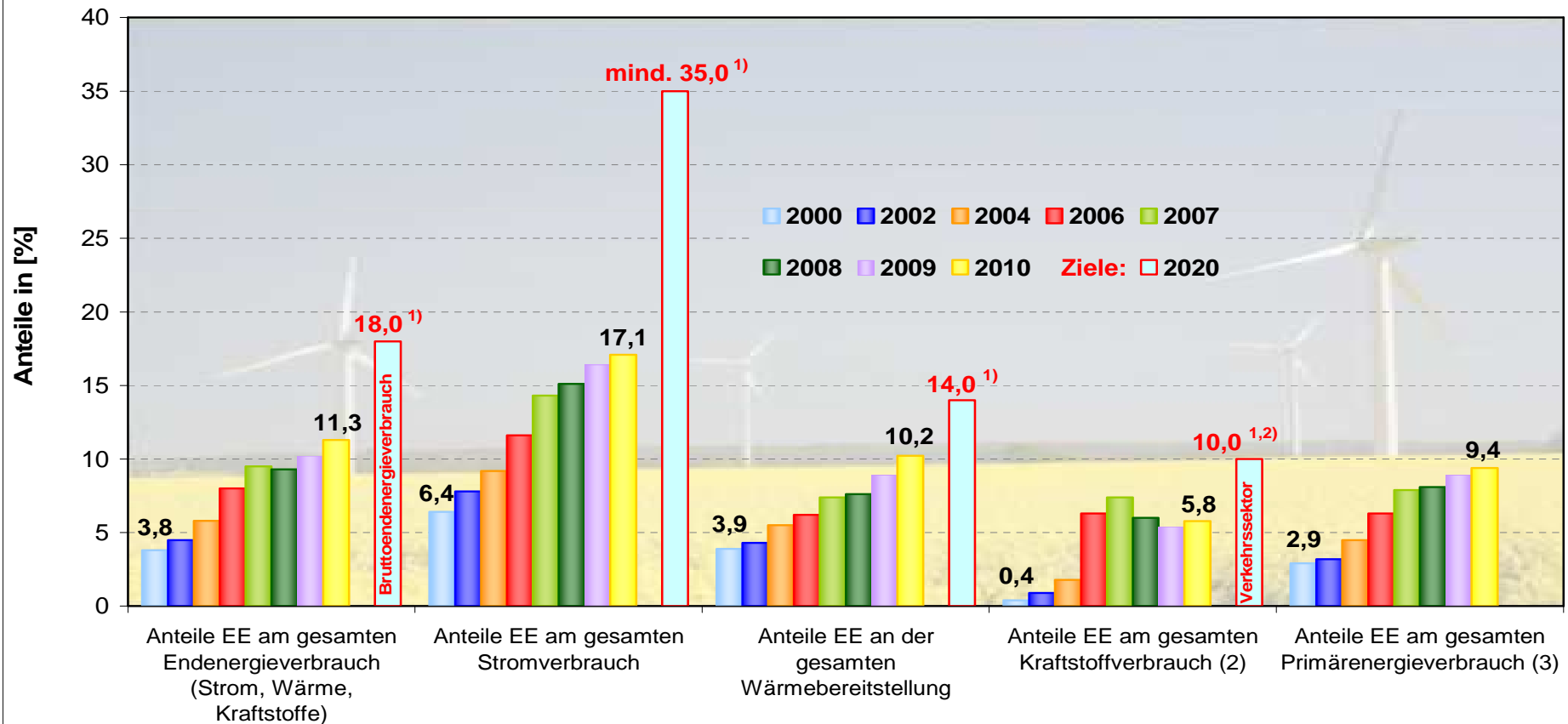
Effects of German RE Policy on RE production





Renewable energy production since 2000

Anteile erneuerbarer Energien an der Energiebereitstellung in Deutschland

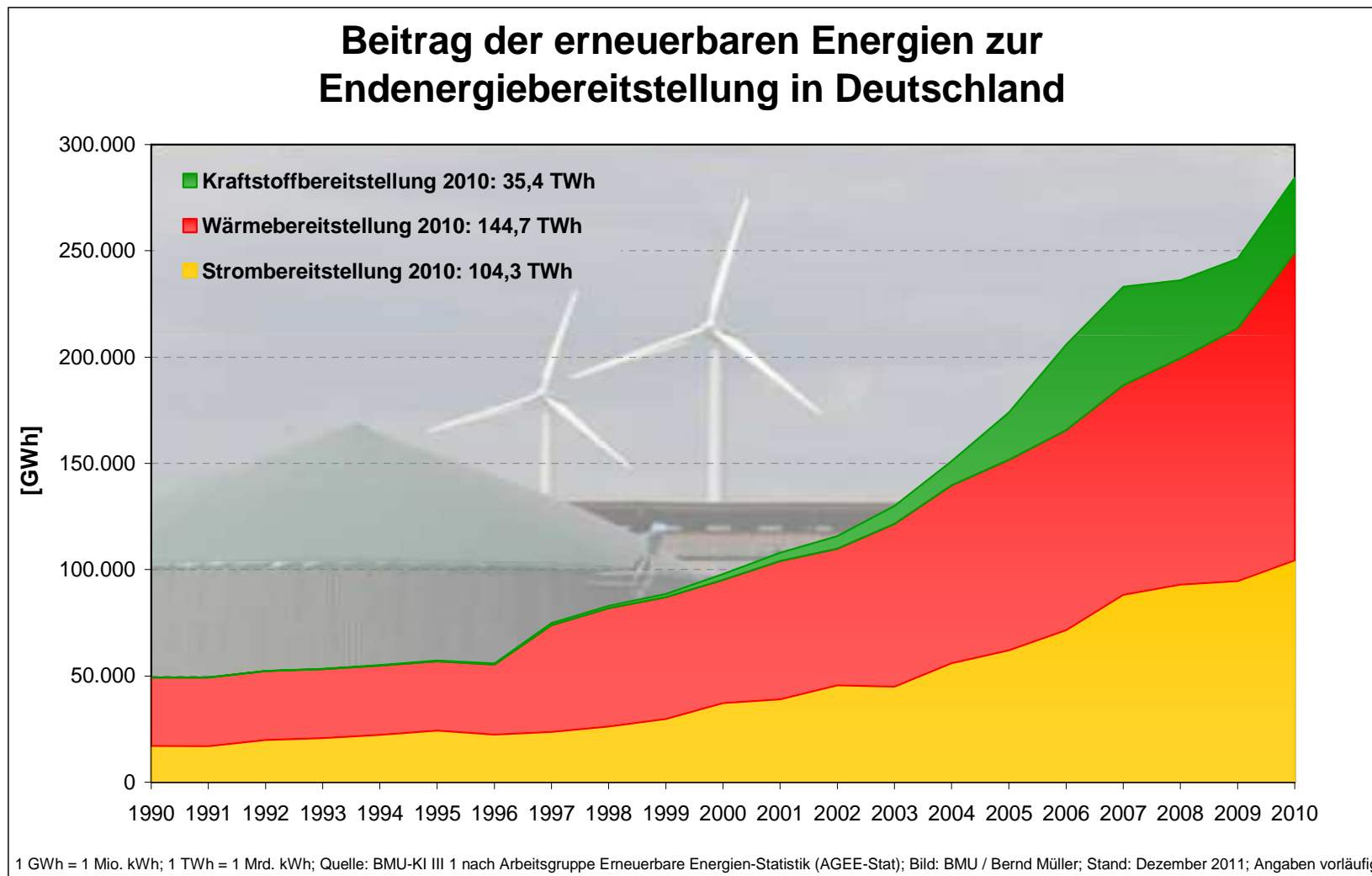


1) Quellen: Ziele der Bundesregierung; Erneuerbare-Energien-Gesetz (EEG); Erneuerbare-Energien-Wärmegesetz (EEWärmeG), EU-Richtlinie 2009/28/EG;

2) Der gesamte Verbrauch an Motorkraftstoff, ohne Flugbenzin; 3) Berechnet nach Wirkungsgradmethode - Quelle: Arbeitsgemeinschaft Energiebilanzen e.V. (AGEB); EE: Erneuerbare Energien; Quelle: BMU-KI III 1 nach Arbeitsgruppe Erneuerbare Energien-Statistik (AGEE-Stat); Bild: BMU / Brigitte Hiss; Stand: Dezember 2011; Angaben vorläufig

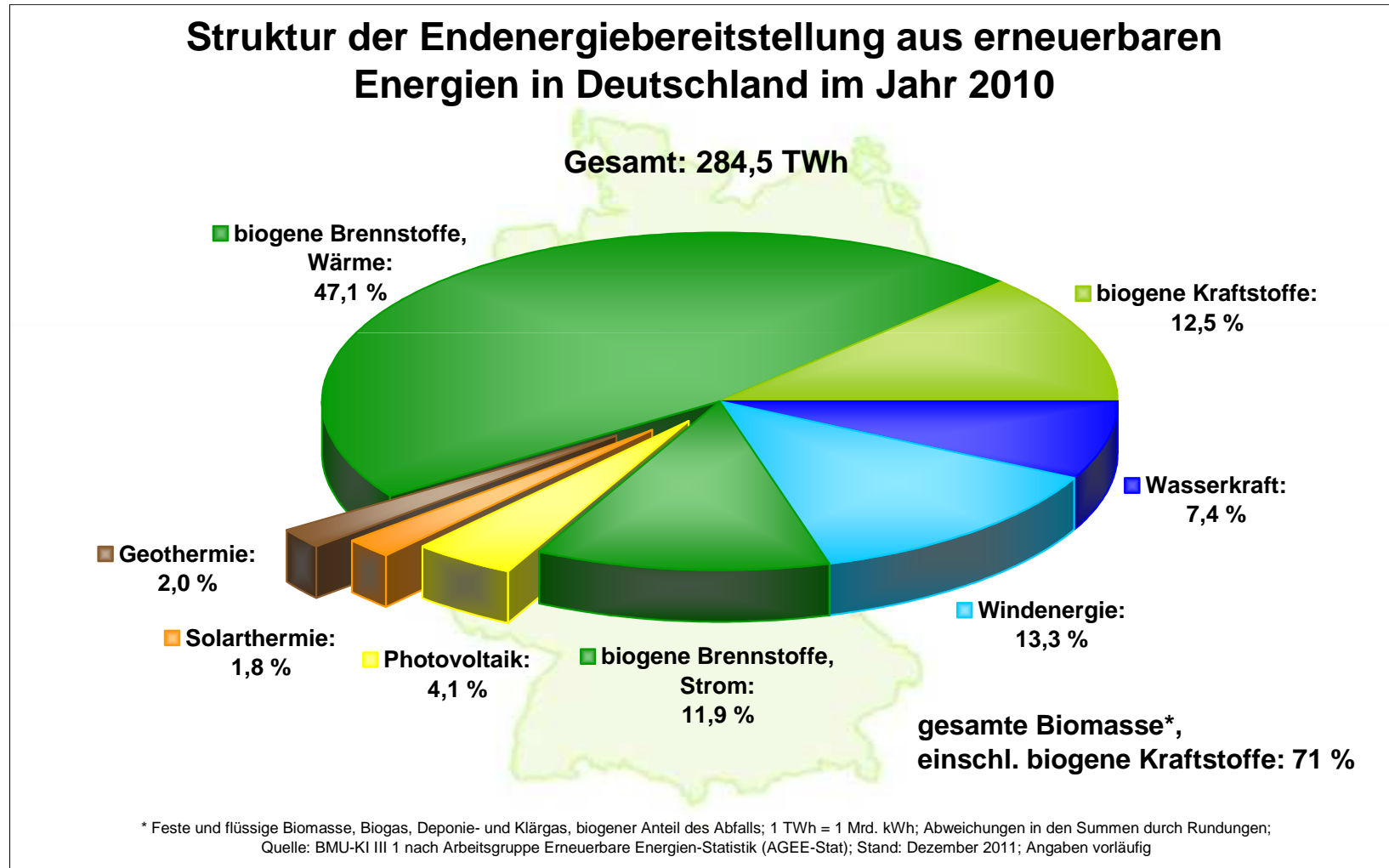


RE contribution to total energy consumption





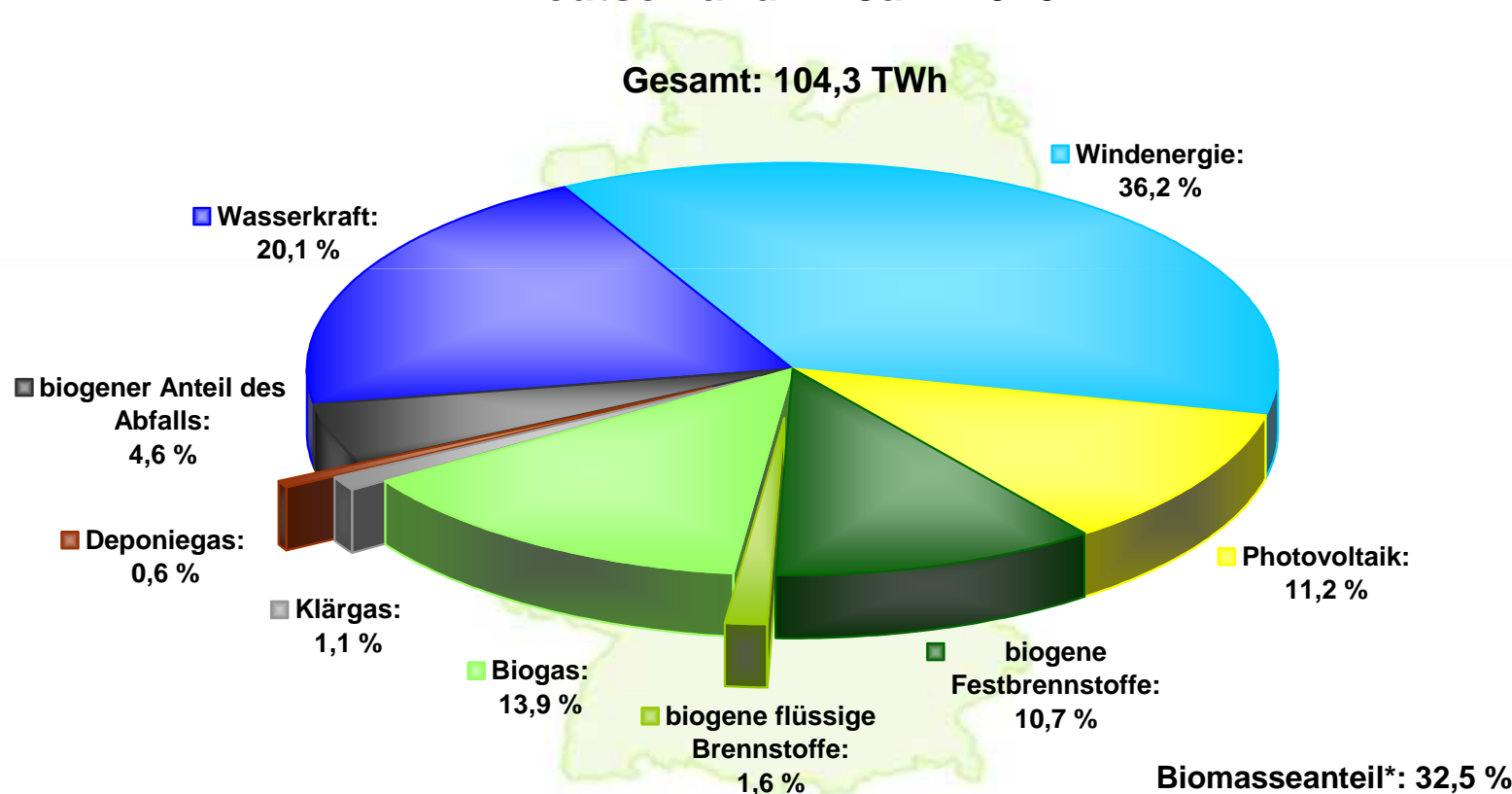
Breakdown of total RE production in Germany





Renewable Electricity Production in Germany

Struktur der Stromerzeugung aus erneuerbaren Energien in Deutschland im Jahr 2010



* Feste und flüssige Biomasse, Biogas, Deponie- und Klärgas, biogener Anteil des Abfalls; aufgrund geringer Strommengen ist die Tiefengeothermie nicht dargestellt; 1 TWh = 1 Mrd. kWh; Abweichungen in den Summen durch Rundungen; Quelle: BMU-KI III 1 nach Arbeitsgruppe Erneuerbare Energien-Statistik (AGEE-Stat); Stand: Dezember 2011; Angaben vorläufig



www.ecologic.eu

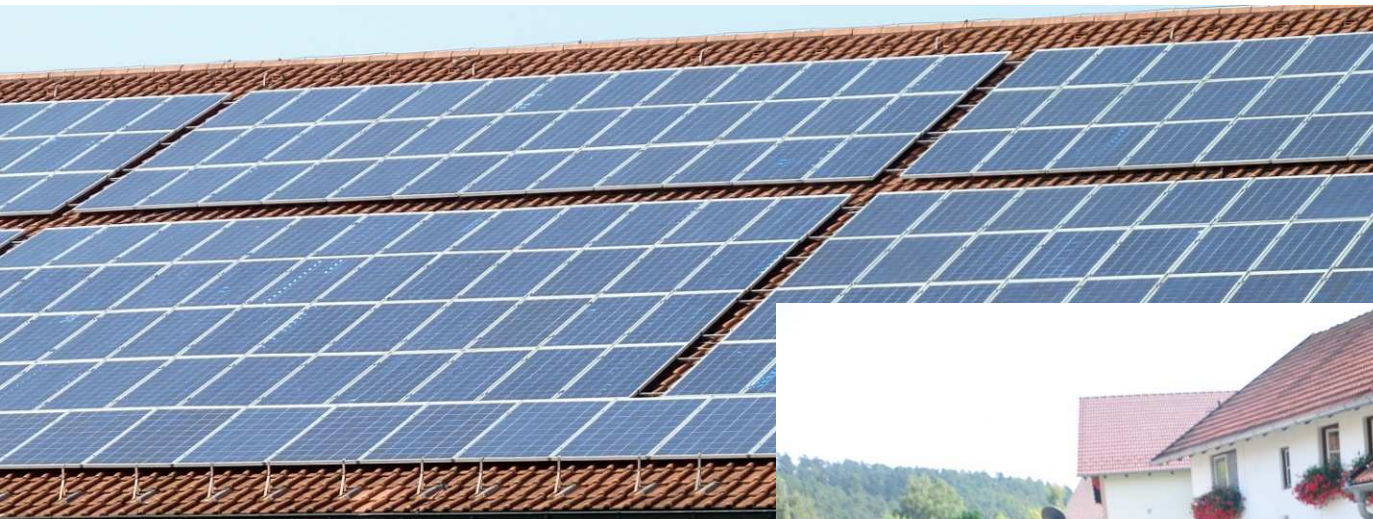
Ecologic Institute

Berlin
Brussels
Vienna

Washington DC



The Village of Ascha – a plan for energy independence





Betrieb Braun – reimagining the small farm





Justifications for the continued German investment in RE

- ▶ Climate change mitigation (RE responsible for 120 million tons of GHG reductions)
- ▶ Increased energy independence (other than lignite, Germany does not have any other domestic fuel options)
- ▶ Long term electricity market effects
- ▶ Jobs and industrial development (over 375,000 jobs in 2011)



Challenges (and opportunities) ahead

- ▶ The nuclear phase out
- ▶ Transmission
- ▶ Total energy use (energy efficiency), jobs, and industrial competitiveness
- ▶ Electrifying transportation
- ▶ Greenhouse gas objectives
- ▶ Continued public support?



What's next for the EU on environment, energy, and climate

- ▶ Continue to work toward a binding international climate change agreement
- ▶ Work toward the meeting of 2020 targets
- ▶ Develop the 7th European Environmental Action Programme
- ▶ Begin thinking about policies and targets for post-2020