

PUBLIC CONSULTATION

GREEN PAPER
“A 2030 FRAMEWORK FOR CLIMATE AND ENERGY POLICIES”
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COMMENTS AND PROPOSALS

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I. GENERAL

1.1. Which lessons from the 2020 framework and the present state of the EU energy system are most important when designing policies for 2030?

The design of a new 2030 framework for climate and energy policies should take into account several lessons, such as:

- **The imbalance of policy objectives:** All targets are linked to environmental sustainability, neglecting the security of supply, the competitiveness, and the interactions between them.
- **The design/implementation of targets:**
 - The European Union has not formulated measurable targets for security of supply and competitiveness;
 - The energy efficiency targets for 2020 are missed because they are not legally binding;
 - Implementation of directives by Member States; incomplete national measures; limited cooperation between Member States in meeting targets.
- **The incoherence of policy measures:**
 - Internal energy market is fragmented by: national and sectoral policies (national energy taxes, promotion schemes, exemption rules and grid regulation); problems regarding the transparency and openness of the market;
 - Energy prices for European industry represent a competitive disadvantage in comparison with other competitors;
 - The energy import dependency versus the efficiency of international negotiations in the energy and climate fields (e.g. Nabucco) - the need to improve the training of the EEAS diplomats;
 - Inefficient policies for innovation in storage technologies and behavioural change of consumers.
- **The inconsistency of financial instruments:**
 - The costs of renewable power generation (RES-E) versus a volume cap on CO₂ emissions (EU ETS);
 - The negative impact of international credits -> large surplus of ETS allowances -> low carbon price and low investment incentives;
 - Insufficient investments in energy transmission and distribution infrastructure.

II. TARGETS

2.1. Which targets for 2030 would be most effective in driving the objectives of climate and energy policy? At what level should they apply (EU, Member States, or sectoral), and to what extent should they be legally binding?

The most effective targets for 2030 would be: renewable energy, GHG/CO2 emission reductions, and non ETS sectors emission reduction. On the other hand:

- We need to define targets for 2030 and 2040 and an ambitious timetable, both for European Union and Member States, even if there are necessary additional measures for some Member States.
- We should also prepare measures packages for the targets which are not meet in time. For example, we can increase other targets, which have been implemented successfully, in order to meet the objectives of climate and energy policy.
- All targets should become legally binding for Member States (e.g. energy savings).
- We need to introduce new targets, especially for the security of supply and the competitiveness (e.g. reduce import dependency).

Table no. 1: Changes in targets' definition (proposals)

Targets	2020		Arguments	2030		Arguments	2040	2050
GHG emission reductions	20%	25-30%	Even without a global deal.	40%	At least 40%	Cost-efficiency.	60%	80-95%
CO2 emission reductions	20%	25%		30%	40%		60%	80%
Non ETS sectors emission reduction	10%	15%	Cover 55% of the EU GHG emissions.	20%			30%	40%
Renewable energy	20%			25%			30%	40%
Nuclear energy						0% CO ₂ ¹		25-30%
Energy savings	20%	20%		25%			30%	40%
Import dependency	55%			50%			45%	40-35%

¹ Burton Richter, *Beyond Smoke and Mirrors, Climate Change and Energy in the 21st Century*, Cambridge University Press, 2010, p. 68,

2.2. Have there been inconsistencies in the current 2020 targets and if so how can the coherence of potential 2030 targets be better ensured?

There have been inconsistencies in the current 2020 framework at EU level, Member States level and sectors level. Several proposals to ensure the coherence of potential 2030 targets can be:

- Adjust state aid for environmental protection;
- Update/reform national RES-E promotion schemes;
- Separate promotion of low carbon technologies;
- Limit access to international credits in order to decrease the surplus in EU ETS;
- The EU ETS carbon price signal should be taken into account in the non EU ETS sectors, etc.

2.3. Are targets for sub-sectors such as transport, agriculture, industry appropriate and, if so, which ones? For example, is a renewable target necessary for transport, given the targets for CO² reductions for passenger cars and light commercial vehicles?

We need concrete targets and sub-targets for every sector (e.g. transport, industry, agriculture), both at EU and Member States level. For example:

- We should introduce targets for agriculture, forestry and waste emissions even if the process is complex and costly;
- We should take into account some sectors sensitivity to price signal: industry, aviation, buildings, waste, and forestry.

Table no. 2: Sectoral reductions proposals (*2005 level)

Sectors	Targets, EU +Member States level			Sub-targets (e.g.), possibly implemented at Member States level
	2030	2040	2050	
Power	-60%	-73%	-95%	
Industry	-35%	- 60%	-85%	Landfill of waste; Fluorinated greenhouse gases; Solvents;
Transport	+20 to - 5%	-25%	-55% to - 65%	Energy consumption & emissions of CO ₂ for: Passenger cars; Light commercial vehicles; Rail transport; Air transport, etc.
Residential & services	-40 to - 45%	-60%	-90%	Establish energy savings obligations on energy utilities
Agriculture	-36%	-40%	-45%	Use of fertilizers; Nitrate content of water;

2.4. How can targets reflect better the economic viability and the changing degree of maturity of technologies in the 2030 framework?

Ambitious targets can stimulate research in low carbon technologies. In the same time, successful technologies can determine the review of targets in a constructive manner. The best examples are in transportation and buildings sector. In the same time, targets should allow Member States to adapt national support schemes to changing circumstances and technological developments. Finally, decisions have to be made on a cost-effectiveness basis.

2.5. How should progress be assessed for other aspects of EU energy policy, such as security of supply, which may not be captured by the headline targets?

Electricity will have to play a greater role in the EU energy future. Secondly, we should diversify/improve supply technologies, nuclear energy and Carbon Capture and Storage. Thirdly, EU/Member States should stimulate private investments in the supply issues. The security of supply can be assessed through:

- Monitoring adequacy (?) to ENTSO-E for electricity and ENTSO-G for gas;
- Improving regional network integration;
- Promoting EU ETS and Energy Charter Treaty in the EU's neighbourhood;
- Establishing targets for every Member State regarding energy imports in the national energy mix;
- Establishing targets to reduce import dependency: 55% in 2020, 50% in 2030, 45% in 2040 and 40-35% in 2050.

III. INSTRUMENTS

3.1. Are changes necessary to other policy instruments and how they interact with one another, including between the EU and national levels?

Firstly, we need changes in the energy policy regarding: carbon price stabilisation, technologies, networks, large infrastructure projects. Secondly, other sectors can easily introduce changes regarding:

- Adjust state aid for environmental protection;
- Review of urban planning and air quality policy;
- Improve multimodal logistics;
- Increase the renovation rate of existing buildings;
- Reduce pollution from fertilizers and pesticides; etc.

3.2. How should specific measures at the EU and national level best be defined to optimise cost-efficiency of meeting climate and energy objectives?

Specific measures at the EU/national level can best be defined taking into account:

- A robust carbon price can deliver more money for innovation;
- Guidance on best practices and experience gained on support schemes;
- Cooperation mechanisms between Member States, but also with the neighbourhood and other major energy consumers:
 - Research in low carbon technologies: USA, China, Taiwan, India, Japan, Korea;
 - Bilateral linking of ETS: USA, EU's neighbourhood, etc.;
- EU's/Member States increased involvement in Global Environmental Facility, WTO Committee on Trade and Environment, OSCE Environmental Directorate.

3.3. How can fragmentation of the internal energy market best be avoided particularly in relation to the need to encourage and mobilise investment?

The fragmentation of the internal energy market can be avoided through:

- Full implementation of 3rd liberalisation package;
- A plan to reform the national energy mix for every Member State;
- Rewarding efforts in flexible generation and demand side management;
- A plan to deliver the infrastructure needed; grid integration;
- Decreasing prices for renewable energy (reducing costs of clean technologies);
- Encouraging the cross-border trade in energy and low carbon technologies;

3.4. Which measures could be envisaged to make further energy savings most cost-effectively?

Further energy savings, from a cost-effectively point of view, can be reached through the following measures:

- Decrease in energy demand of 40% by 2050;
- System changes: electrification;
- Structural changes: urban planning, modal shift;
- Private investment in energy efficiency (capacity building, technical assistance, private lending, energy efficiency technology research).

3.5. How can EU research and innovation policies best support the achievement of the 2030 framework?

The share of low carbon technologies in the electricity mix is estimated to increase: around 60% in 2020, 75-80% in 2030 and nearly 100% in 2050, especially through the Strategic Energy Technology (SET) plan, Horizon 2020 research programme, and Strategic Transport Technology plan. A key proposal would be to reduce emphasis on expensive technologies.

EU research should concentrate on: 2nd and 3rd generation bio fuels, batteries, electric vehicles, propulsion systems, fuel cells, turbines, photovoltaic panels, fusion research, nuclear safety research, ocean energy, electricity storage, liquefied natural gas (LNG), smart grids, intelligent networks, etc.

IV. COMPETITIVENESS AND SECURITY OF SUPPLY

4.1. Which elements of the framework for climate and energy policies could be strengthened to better promote job creation, growth and competitiveness?

The promotion of job creation, growth and competitiveness can be improved through:

- Skilled work force: emphasis on technical professions, engineering, research;
- Support clean and efficient technologies, products and services;
- ETS auctioning revenues and private investments to assist sectors with innovation;
- Improve resilience to energy price peaks;
- Innovative business models.

4.2. What evidence is there for carbon leakage under the current framework and can this be quantified? How could this problem be addressed in the 2030 framework?

Carbon leakage under the current framework	“Measures which address the risk of carbon leakage and its impacts on energy intensive industry sectors” (SET-Plan)	European carbon market
Carbon leakage under the 2030 framework	?	Global carbon market?

4.3. What are the specific drivers in observed trends in energy costs and to what extent can the EU influence them?

The European Union can influence the developments in energy costs taking into account:

- Regularly revision of the long term energy forecasts and scenarios;
- Cross border integration of retail markets;
- Expansion of strategic reserves;
- Encouraging transnational investments;
- Sharing of technologies with producer and consumer countries;
- International energy crisis management coordination; support the reform of the International Energy Agency.

International Energy Agency (IEA) is one of the very few international organisations that are empowered to make decisions that are legally binding on its member states (by majority vote).² Created in November 1974, it has only 27 member states, also members of OECD, representing the largest bloc of energy-consuming states.

But, with major oil and gas consumers and producers operating outside the IEA framework, its members could be left with significantly less control over the energy market in the event of a crisis. The International Energy Agency also faces serious difficulties in promoting its official goals:

- Free and open trade in energy is still far from being achieved;
- The Agency is hardly able to stabilize the global oil market;
- The Agency does not address the growing ideological divide between energy-producing and energy-consuming countries;
- IEA statistics are still based on external sources, often contradictory each other;
- Technology sharing operates effectively only between the member countries.³

The IEA can become the *primus inter pares* institution in global energy governance. But it needs to demonstrate its ability to coordinate effective collective action. Integrating the newcomers in the structures of the IEA – Russia, China, India, Brazil and Saudi Arabia, is not an easy task. There are significant obstacles and costs associated with extending membership: redistribution of votes in the Governing Board; membership in the OECD; the benefits offered by the Agency in order to compensate the financial and sovereignty costs of meeting the IEA's regulations and requirements. Therefore, some authors propose coordination without membership, in Coordinated Emergency Response Measures' exercises for example, as a temporary solution, hoping that it will stimulate the outsiders' interests in the IEA.

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² Irina Ionela POP, *Energy Security in the 21st Century: Pros and Cons to Global Energy Governance*, in: Eugen Stratiu, Pavel Moraru, Vasile Tabara si Nicoleta Munteanu (coord.), *Political Science, International Relations and Security Studies International Conference*, Volume 1, "Lucian Blaga" University Press, Sibiu, 2012, pp. 323-324.

4.4. How should uncertainty about efforts and the level of commitments that other developed countries and economically important developing nations will make in the on-going international negotiations be taken into account?

The uncertainty brought by the behaviours of other international actors can be decreased through:

- A network of linked ETSs, developed through a series of bilateral agreements;
- Functional European Carbon Market (complete auctioning infrastructure, minimum prices which give more certainty);
- Increased interconnection capacity in 2030;
- Expansion of energy strategic reserves;
- Reform of the International Energy Agency, Energy Charter Treaty*.

4.5. How to increase regulatory certainty for business while building in flexibility to adapt to changing circumstances (e.g. progress in international climate negotiations and changes in energy markets)?

Regulatory certainty for business can be increased through the following measures:

- Regularly revise long term energy forecasts and scenarios;
- Promote many participants on the market -> less market manipulation;
- Expand EU ETS to new sectors -> price volatility will decrease;
- Control and strengthen the carbon market;
- Funds' availability for international emission credits;
- Support European businesses on third markets (e.g. China) and at World Trade Organisation.

4.6. How can the EU increase the innovation capacity of manufacturing industry? Is there a role for the revenues from the auctioning of allowances?

The European Union can increase the innovation capacity of manufacturing industry considering:

- Decrease free allowances for manufacturing;
- Minimum price for carbon auction;
- Redirect auctioning revenues to research and development;
- Additional financial support for clean and efficient technologies, products and services.

4.7. How can the EU best exploit the development of indigenous conventional and unconventional energy sources within the EU to contribute to reduced energy prices and import dependency?

The development of indigenous conventional and unconventional energy sources within the EU can contribute to reduced energy prices and import dependency through: review national energy mixes, energy trading; export of clean technologies; technical assistance.

4.8. How can the EU best improve security of energy supply internally by ensuring the full and effective functioning of the internal energy market (e.g. through the development of necessary interconnections), and externally by diversifying energy supply routes?

The European Union can improve security of energy supply internally through:

- Full implementation of 3rd liberalisation package;
- A plan to deliver the infrastructure needed; grid integration;
- Financial support for research on safe nuclear power;
- A plan to reform the national energy mix for every Member State.

The European Union can improve security of energy supply externally through:

- Stronger negotiated international agreements regarding pipelines; climate actions; joint projects; cooperation mechanisms; trade policies (especially with BRICS countries);
- Develop/improve the supply portfolio for every Member State;
- Improve the training on energy and climate issues of EEAS diplomats;
- International energy crisis management coordination.

V. CAPACITY AND DISTRIBUTIONAL ASPECTS

5.1. How should the new framework ensure an equitable distribution of effort among Member States? What concrete steps can be taken to reflect their different abilities to implement climate and energy measures?

Member States' efforts in meeting the 2030 targets should take into account their economic capacity and possible additional measures for some of them. Several proposals can be: stimulation of private investments; preferential interest rates, etc.

5.2. What mechanisms can be envisaged to promote cooperation and a fair effort sharing between Member States whilst seeking the most cost-effective delivery of new climate and energy objectives?

Cooperation and a fair effort sharing between Member States can be improved – e.g.:

- Harmonize taxes among the Member States (European carbon tax?);
- Good governance of national energy companies (guidance on best practices);
- Improve Member States capacity to implement investments;
- Refrain from limiting international or private investments;
- Enhance cross border trading; cross border infrastructure;
- Promote the energy services market;
- Other cooperation mechanisms between Member States;
- Joint projects on clean energy technologies.

5.3. Are new financing instruments or arrangements required to support the new 2030 framework?

The new 2030 framework can be supported by:

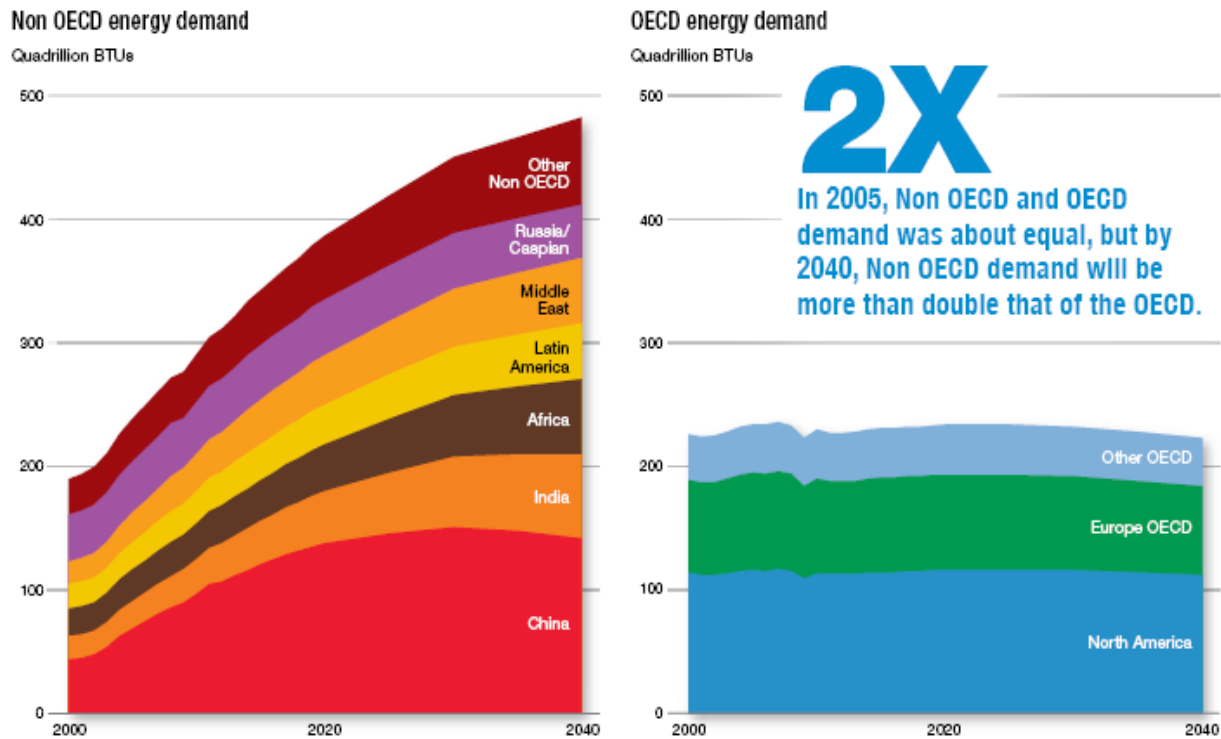
- Phasing out fossil fuel subsidies;
- Guarantees covering country risk;
- Instruments promoting behavioural change: fiscal incentives, taxes, grants (stability and level of support – very important);
- Reform support schemes in order to ensure their cost-effectiveness;
- Harmonisation of national support schemes between Member States;
- Reduced administrative costs and capital costs.

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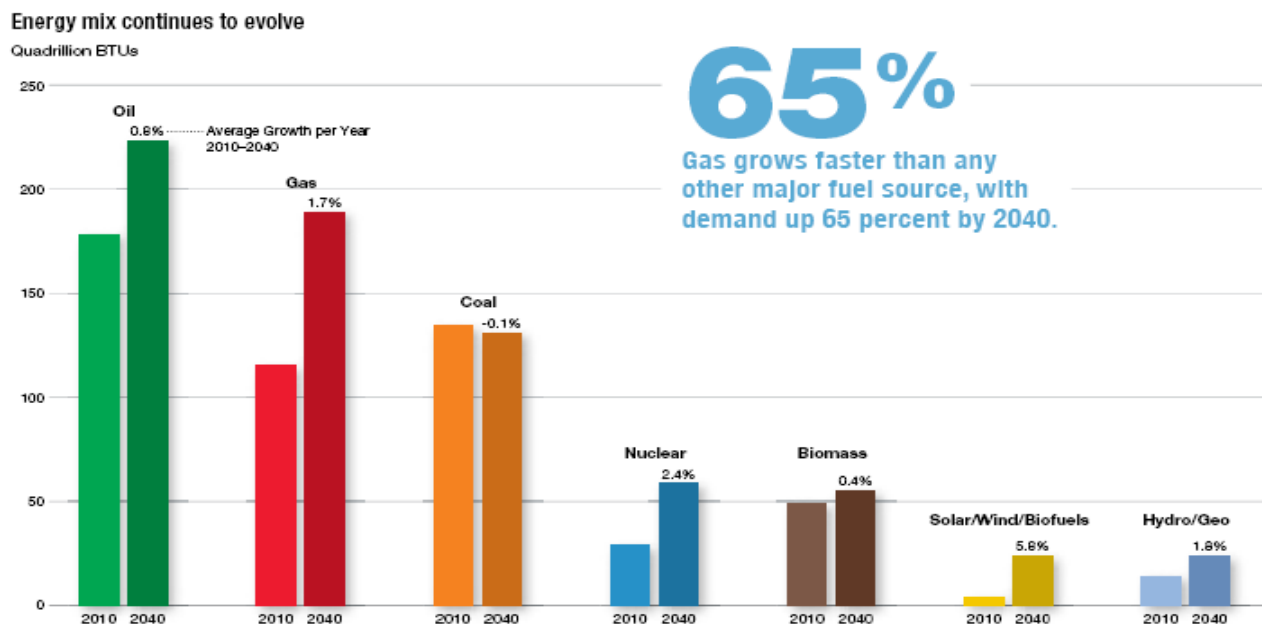
ANNEXES

A.1.: Energy Demand



Source: Exxon Mobil, *The Outlook for Energy: A View to 2040*, 2013, p. 8.

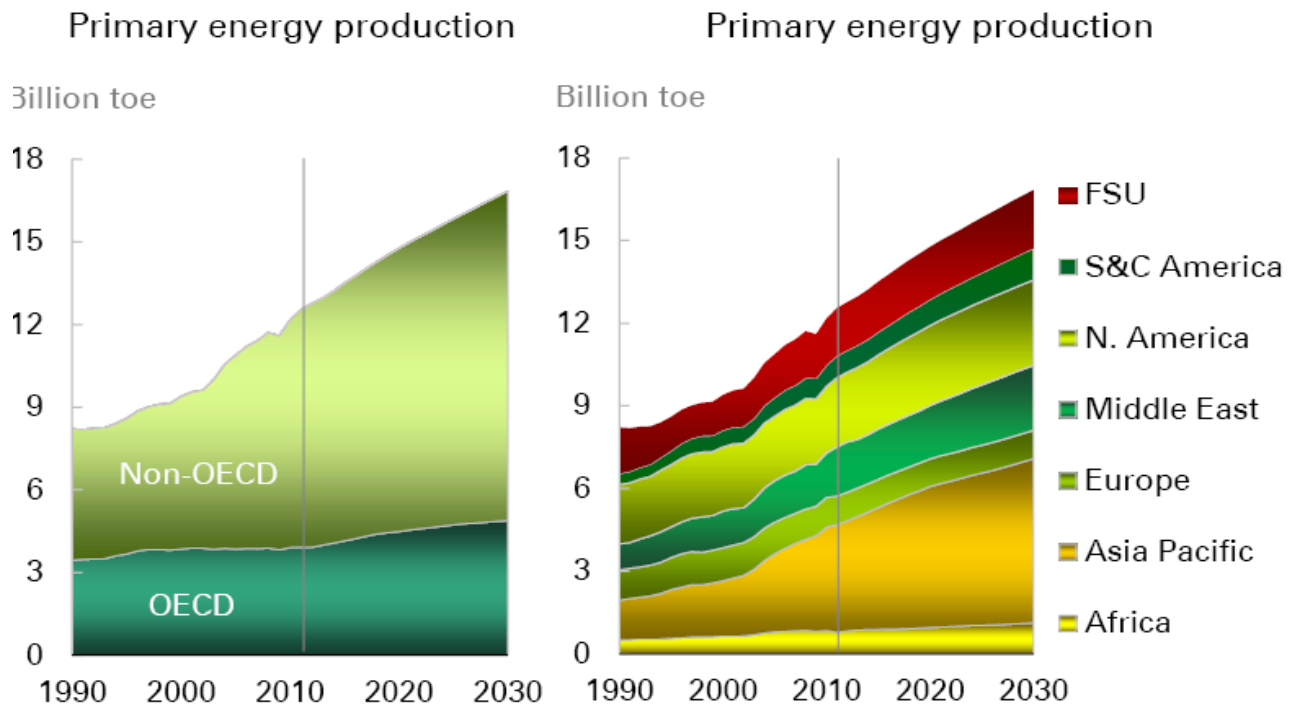
A.2.: „Energy mix”



Source: Exxon Mobil, *The Outlook for Energy: A View to 2040*, 2013, p. 42.

A.3.: Energy Production

Emerging economies dominate energy production growth...



Source: British Petroleum, *BP Energy Outlook 2030*, January 2013, p. 14.

A.4.: Renewable Energy Producers (!!!)

Figure 13. Market Shares of Top 10 Wind Turbine Manufacturers, 2010

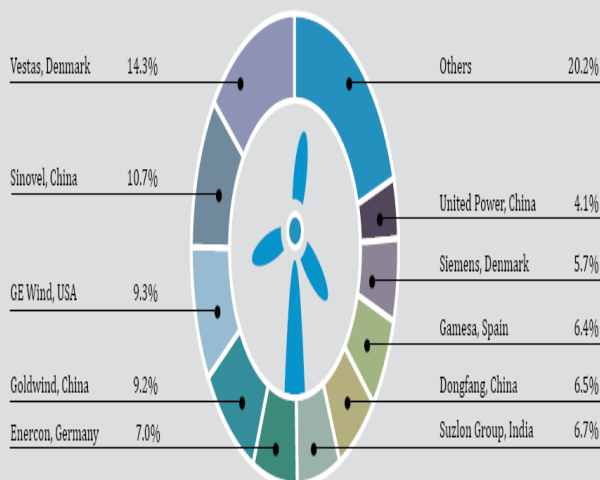
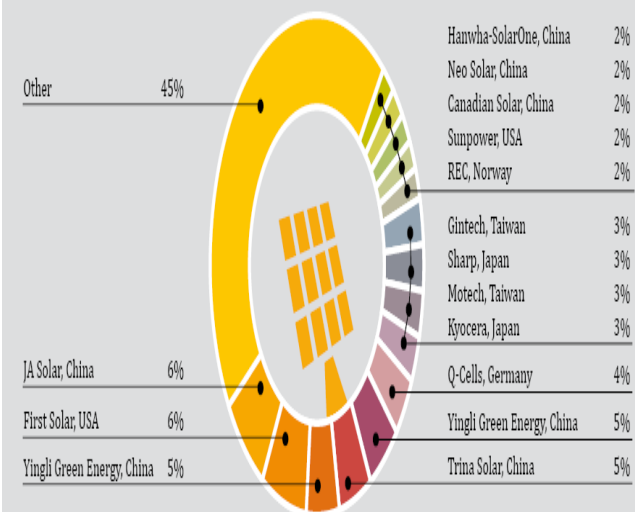


Figure 14. Market Shares of Top 15 Solar PV Cell Manufacturers, 2010



Source: REN21, *Renewables 2011 – Global Status Report*, Paris, 2011, pp. 39; 41.