

Markets and costs of renewable energy

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Revision 2012 – New renewable direction for Japan

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Tokyo



The mission of IEA-RETD is to accelerate the large-scale deployment of renewable energies

RETD stands for “Renewable Energy Technology Deployment”.

IEA-RETD is a policy-focused, technology cross-cutting platform that brings together the experience and best practices of some of the world’s leading countries in renewable energy with the expertise of renowned consulting firms and academia.

- Created in 2005, IEA-RETD is an Implementing Agreement that functions under the legal framework of the International Energy Agency.
- Currently 9 countries are members of the IEA-RETD: Canada, Denmark, France, Germany, Ireland, Japan, the Netherlands, Norway and the United Kingdom.
- IEA-RETD commissions annually 5-7 studies. The reports and handbooks are publicly and freely available on the RETD’s website at www.iea-retd.org.
- In addition, IEA-RETD organizes at least two workshops per year and presents at national and international events.

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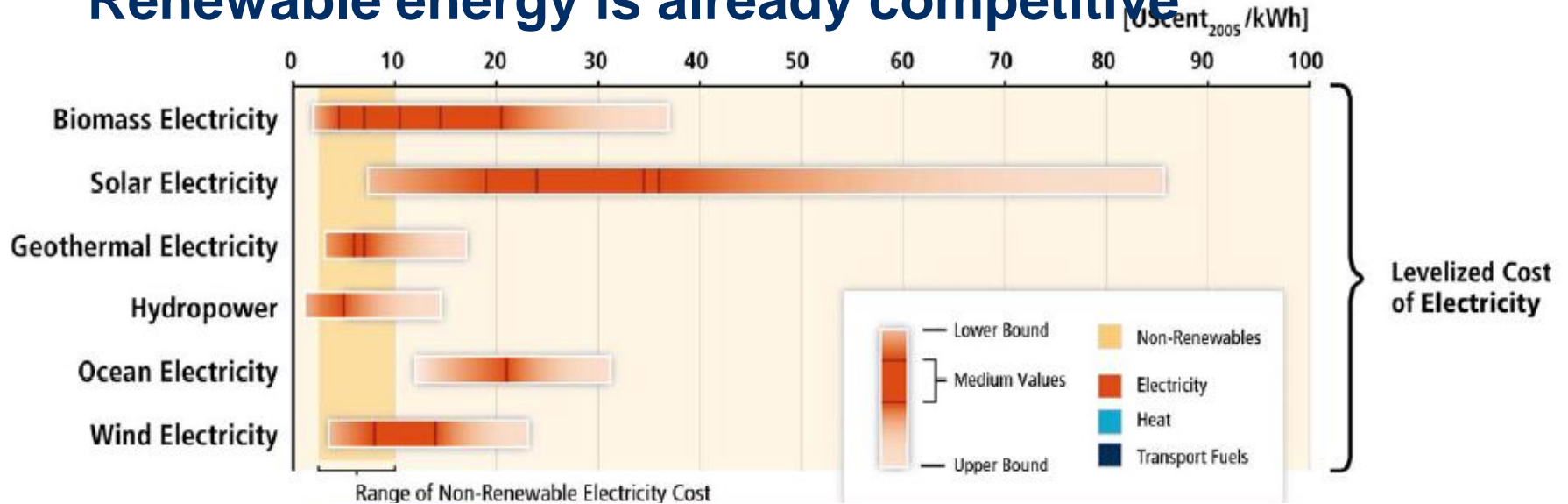
- Costs and misperceptions about costs
- Markets

Levelised costs of energy

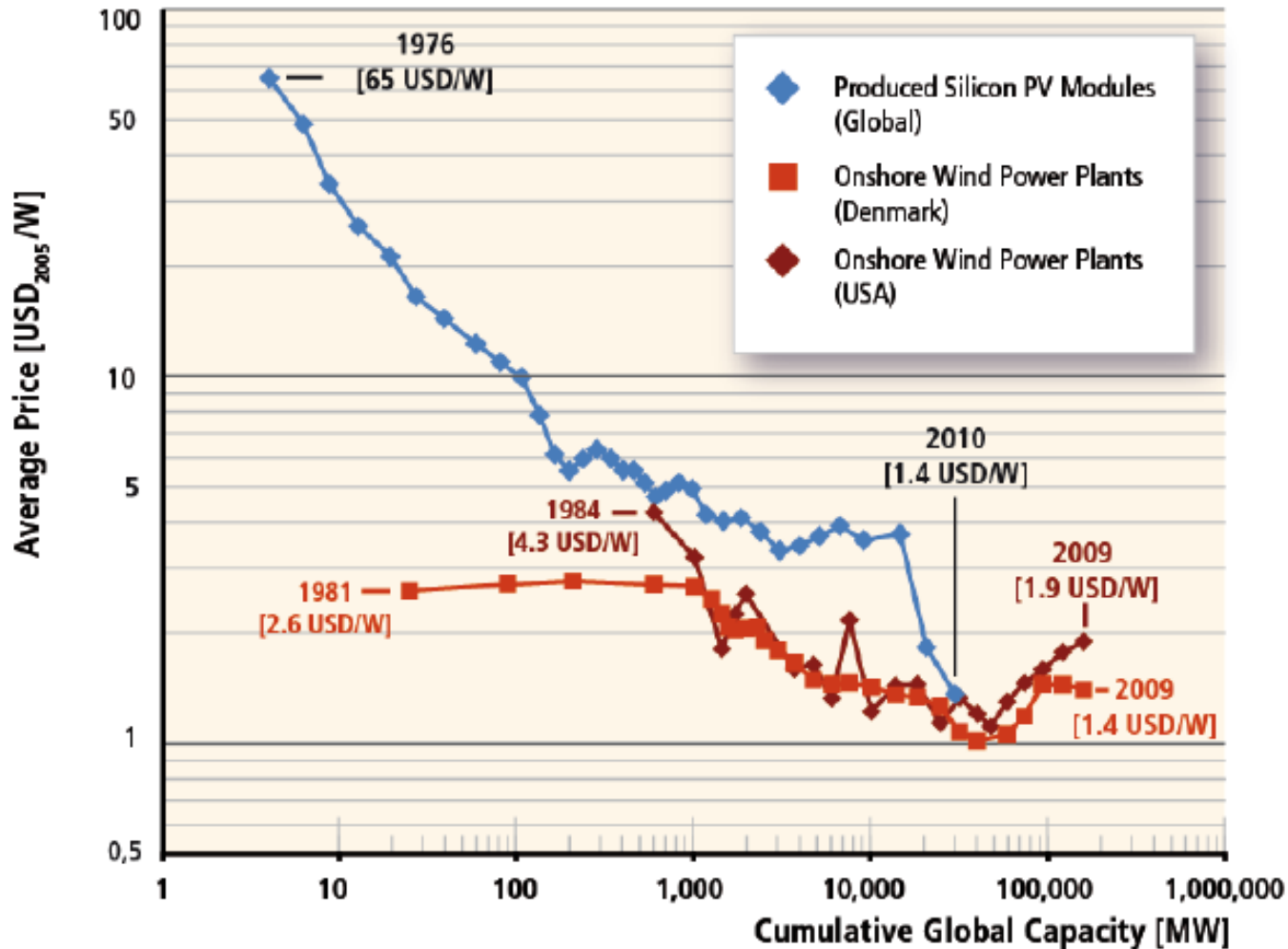
The facts:

- Renewable energy is already competitive in many regions
- Costs are declining rapidly
- Lower (or negative) learning rates for fossil and nuclear energy
- Fossil energy prices: increasing and volatile

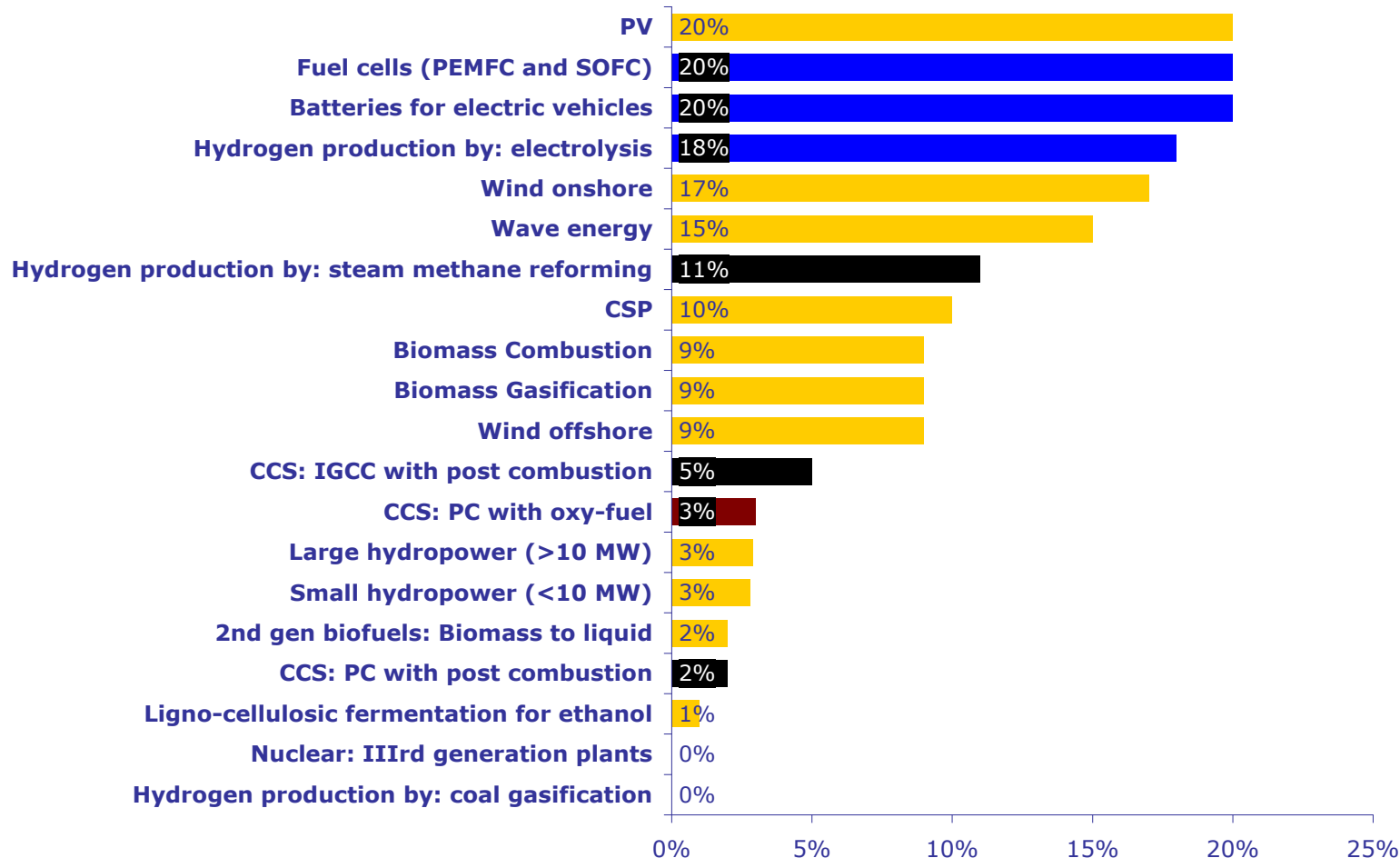
Renewable energy is already competitive



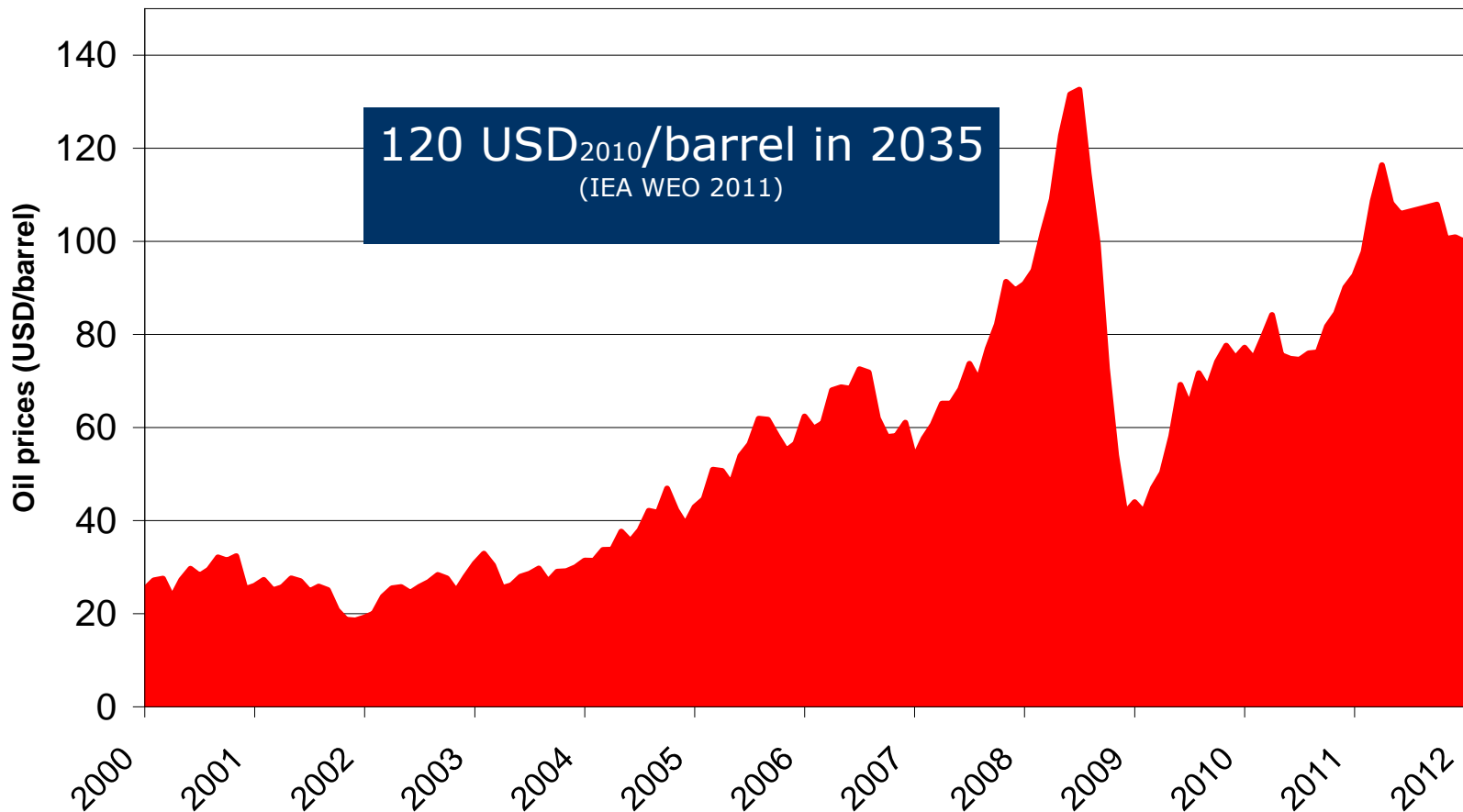
Costs are declining rapidly



Renewables have highest learning rates



Fossil energy prices: increasing and/or volatile

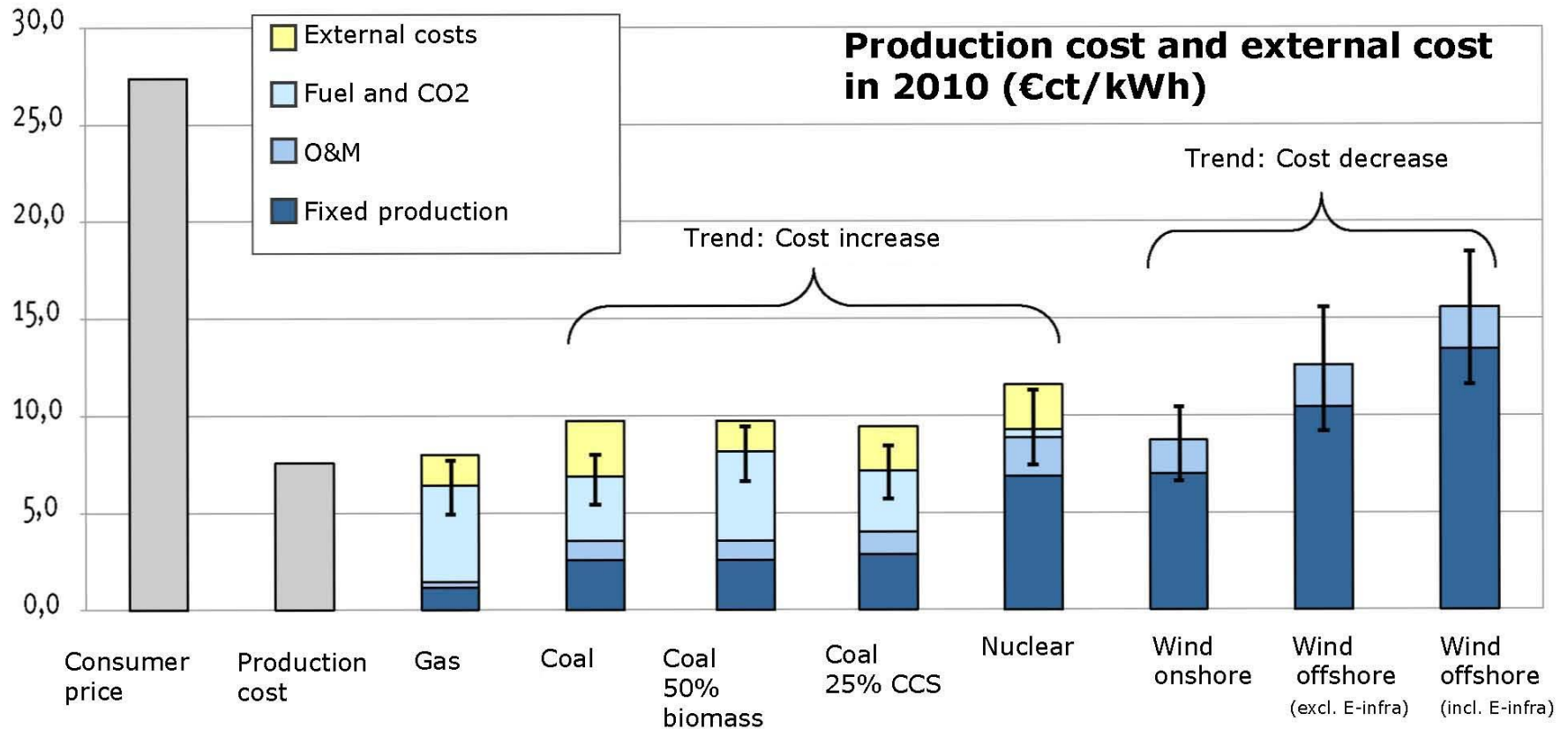


Misperceptions

- Externalities of energy production are not included in energy prices
- Hidden subsidies
- System integration aspects (costs and) benefits or renewable energy
- Lower risk profiles for incumbent technologies
 - Trust in proven technologies and/or confidence in new step-wise developments
 - No or lower policy risk
- Comparing costs of new technologies with existing (depreciated) stock

In a level playing field situation, many renewable energy technologies can compete with nuclear or coal fired power plants already.

Level playing field – RES-E



Bron: Ecofys/CE, 2011

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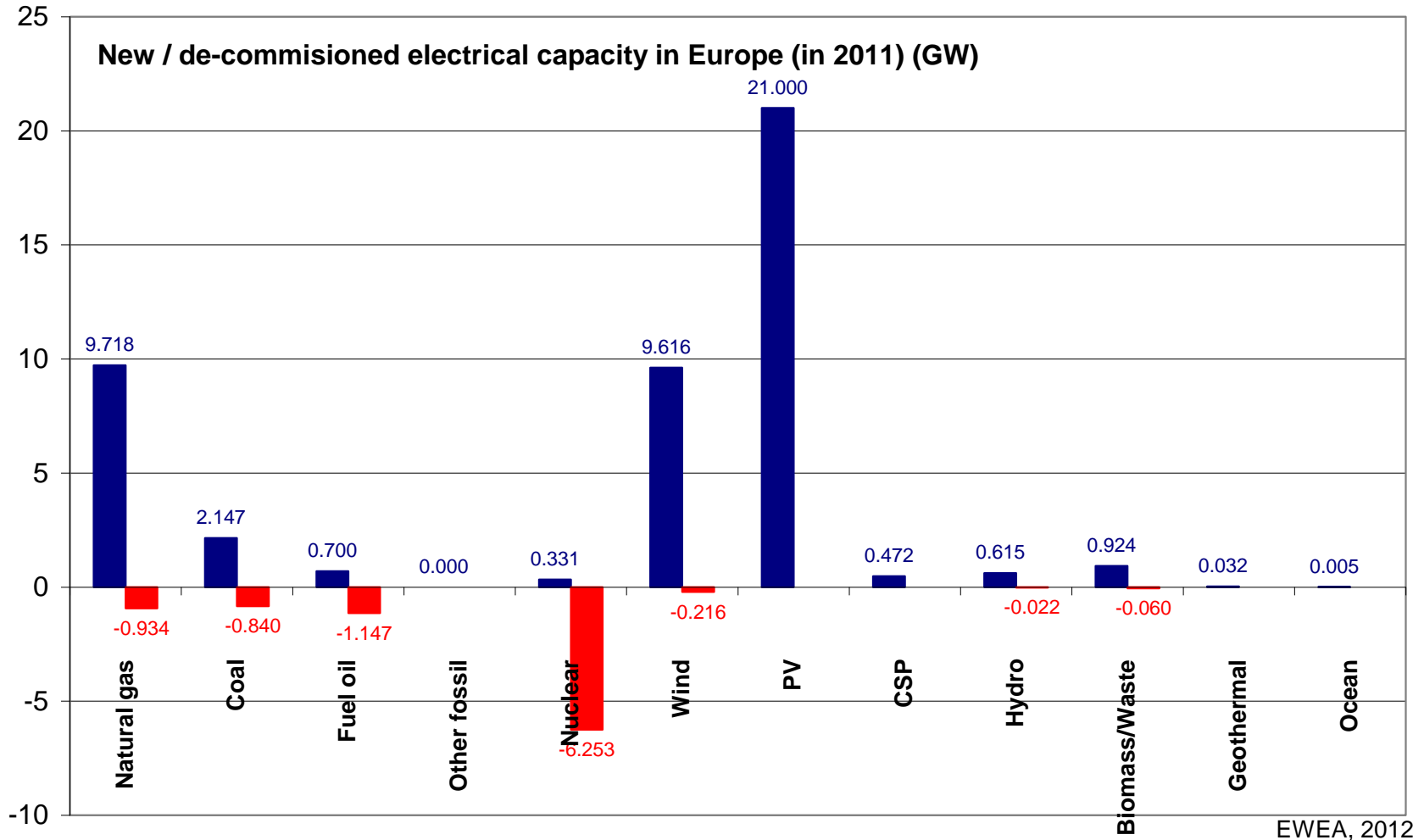
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Renewable energy is mainstream in many regions (1)

Continuous record-breaking developments:

- World: **211 billion USD** of investments in 2010 in renewables
- Europe: renewables dominate installed capacities (next slide):
 1. PV +21 GW
 2. Gas +10 GW
 3. Wind +10 GW
- China: 12th Five-Year Plan for Economic and Social Development (2011-2015): major push for renewable energy

Renewable energy is mainstream in many regions (2)



Conclusion

- Renewable energy is growing as never seen before
- Policy action is needed to permanently secure the position of renewable energy and energy efficiency, and to reap the full benefits of such a strategy
- Challenges
 - Integration into energy systems
 - Integration into institutional and economic systems
 - Opposition by incumbent fossil and nuclear stakeholders
 - Misinformation and misperceptions on renewable energy
 - Cooperation among many stakeholders



THANK YOU!

For additional information on RETD

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Contact: IEA_RETD@ecofys.com