

IRENA's Costing Analysis: Social Acceptance Issues



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COSTING....WHY?

AND....

**RELEVANCE TO SOCIAL
ACCEPTANCE**

-
- Renewable energy can meet policy goals for *secure, reliable and affordable* energy and *access*.
 - Lack of objective and up-to-date data is a barrier
 - Cost declines, rapid for some renewables
 - But, decision making is often based on:
 - outdated numbers
 - opinion, not fact based
 - IRENA to strive to become THE source for cost data
 - Goals:
 - Assist government decision-making, allow more ambitious policies
 - Fill a significant information gap

- Renewables can meet goals for secure, reliable and affordable energy; while improving access, environmental results and energy security.
- But at what cost? Critical issues - level and rate of change
- Also how to address misconceptions and misinformation?
 - Renewables cost too much...
 - They aren't really getting cheaper....
 - High capital costs are a barrier....
 - Integrating them costs as much as the renewables themselves...
- Cost work of IRENA can help provide the ammunition to address these issues

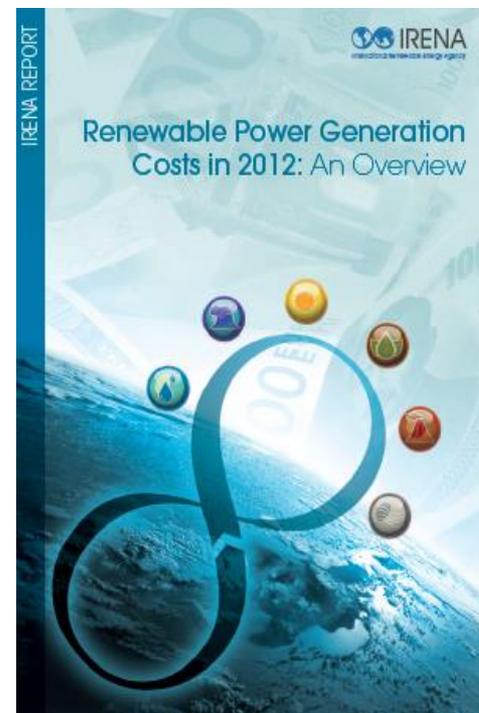
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MYTH #1

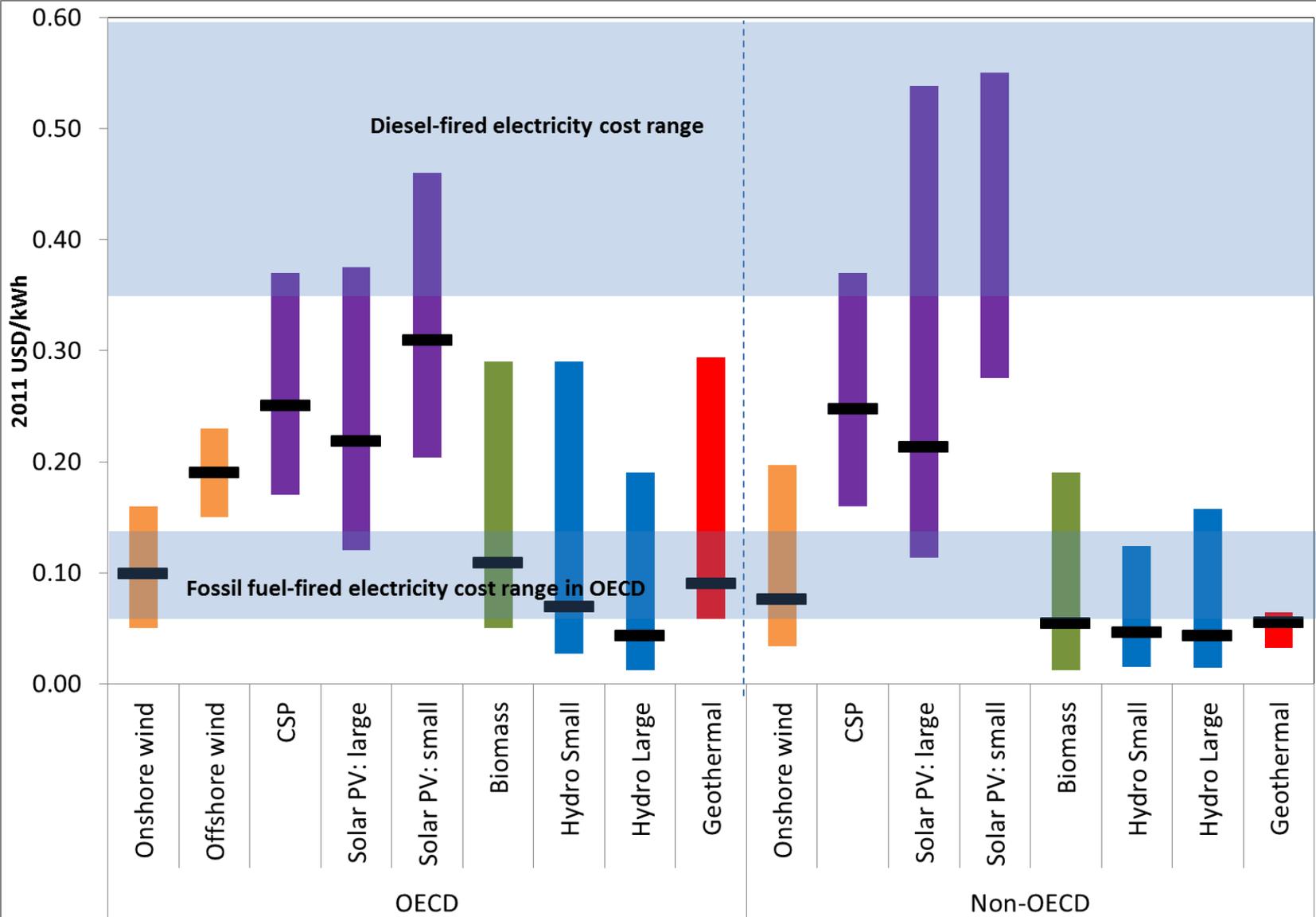
**RENEWABLES COST
TOO MUCH.....**

Power generation: Key findings

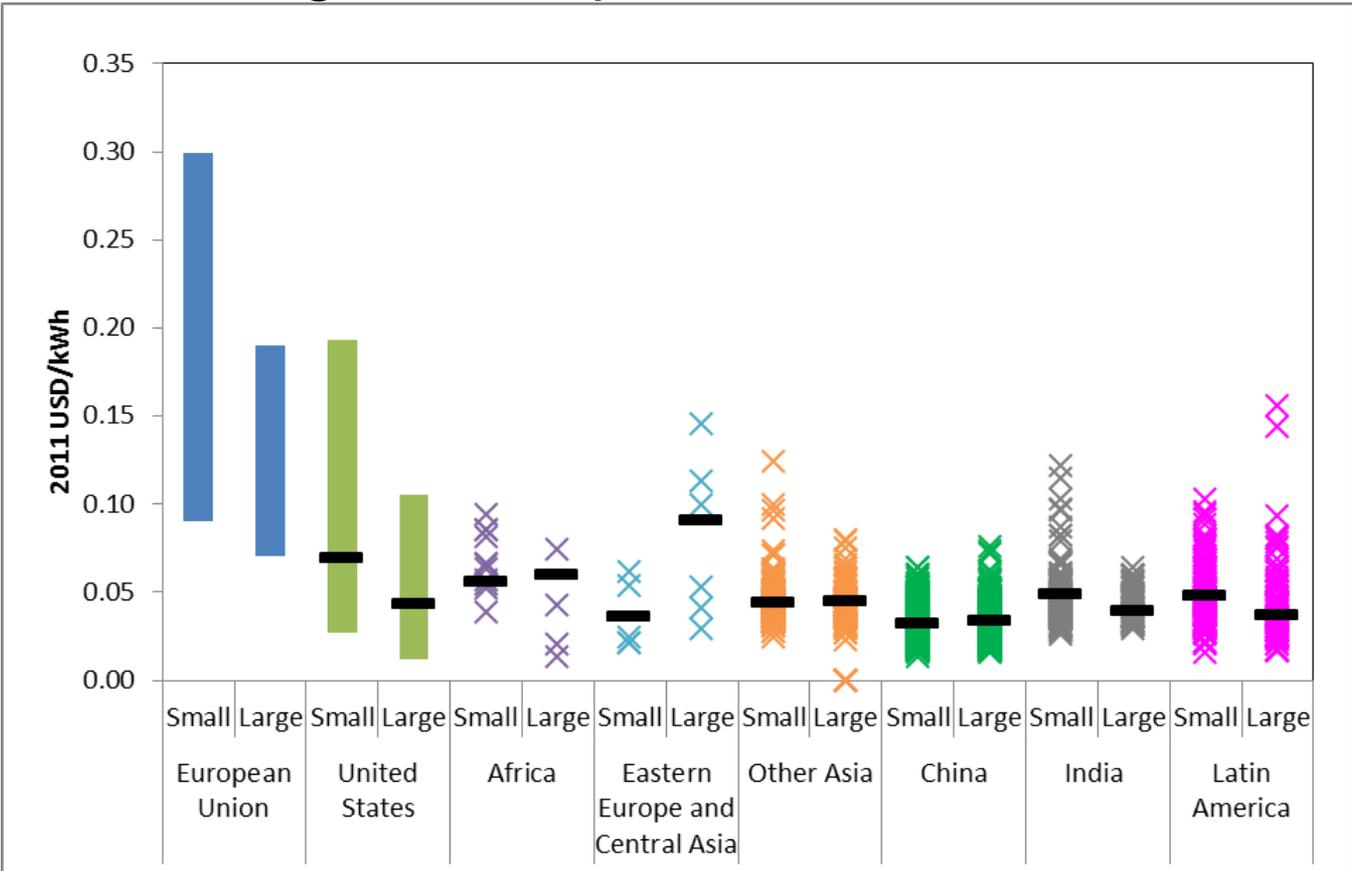
- Renewables now THE economic solution off-grid and for mini-grids, increasingly competitive for grid supply
- Dramatic cost reductions for Solar PV. Onshore wind competitive at best sites, CSP has great potential. Hydropower, geothermal and biomass more mature but low cost
- Equipment cost declines and technology improvements
→ LCOEs are falling



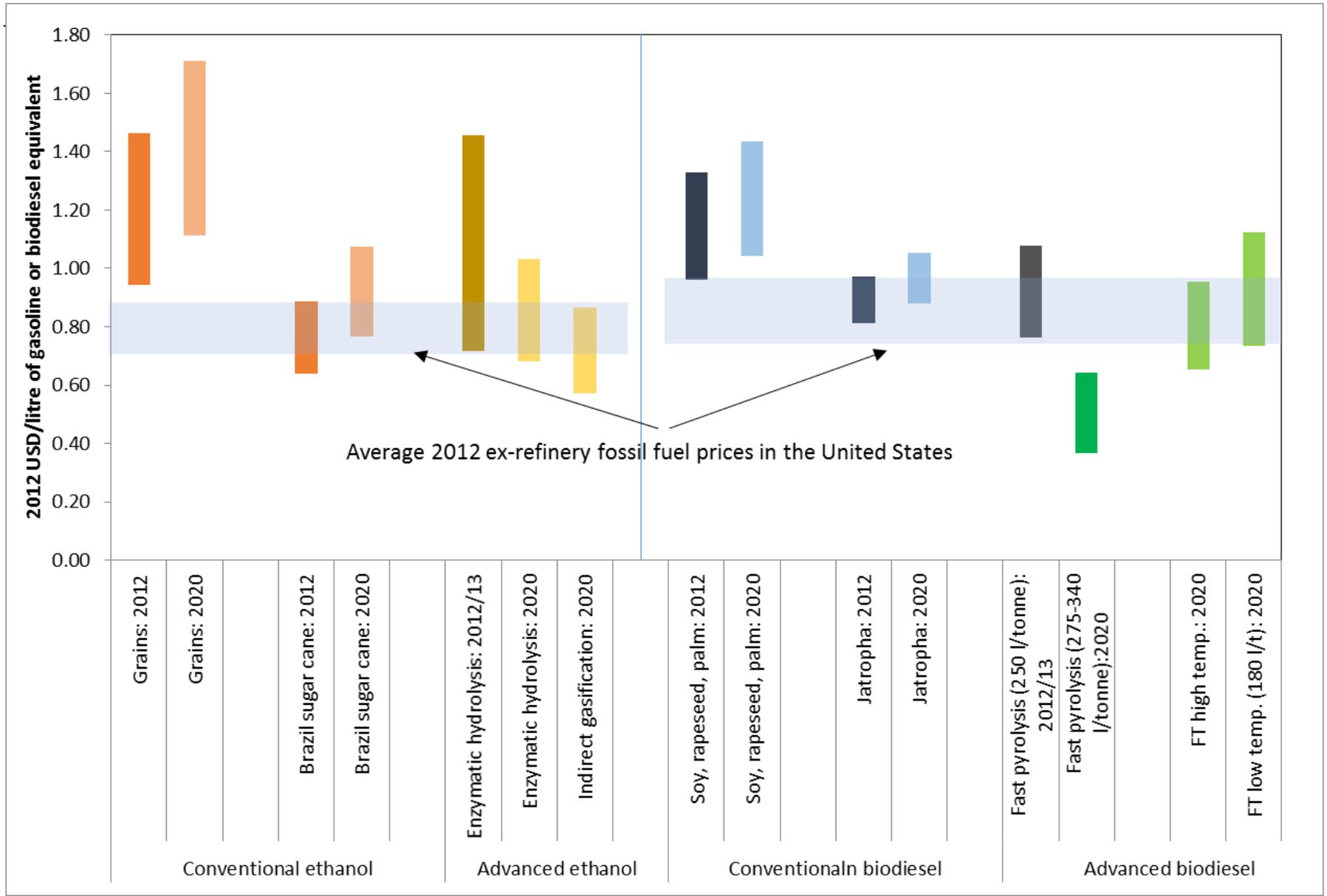
LCOE ranges and averages



- Mature technology, flexibility in design in many cases
- Lowest cost electricity of any source in many cases
- Importance will grow with penetration of variable RE



Advanced biofuels

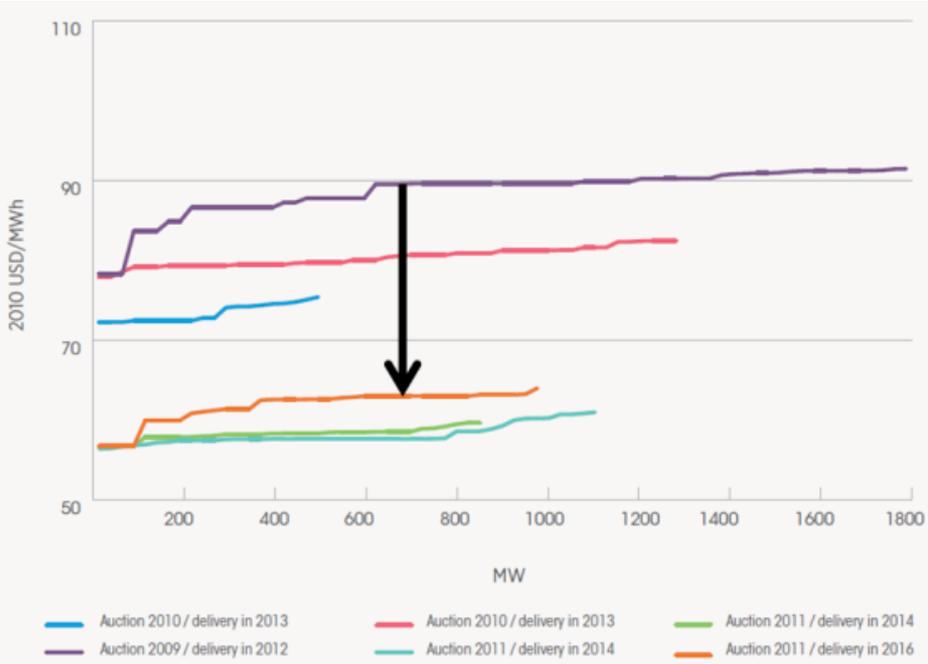
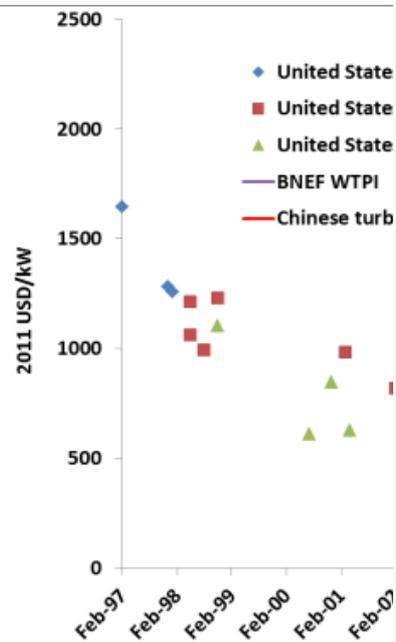
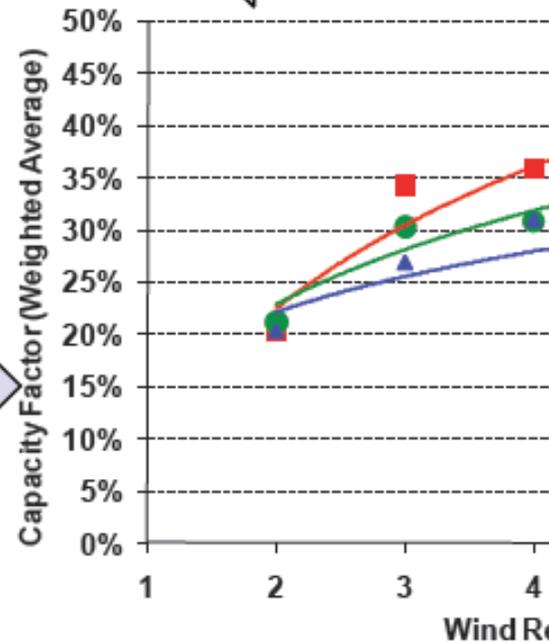


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MYTH #2

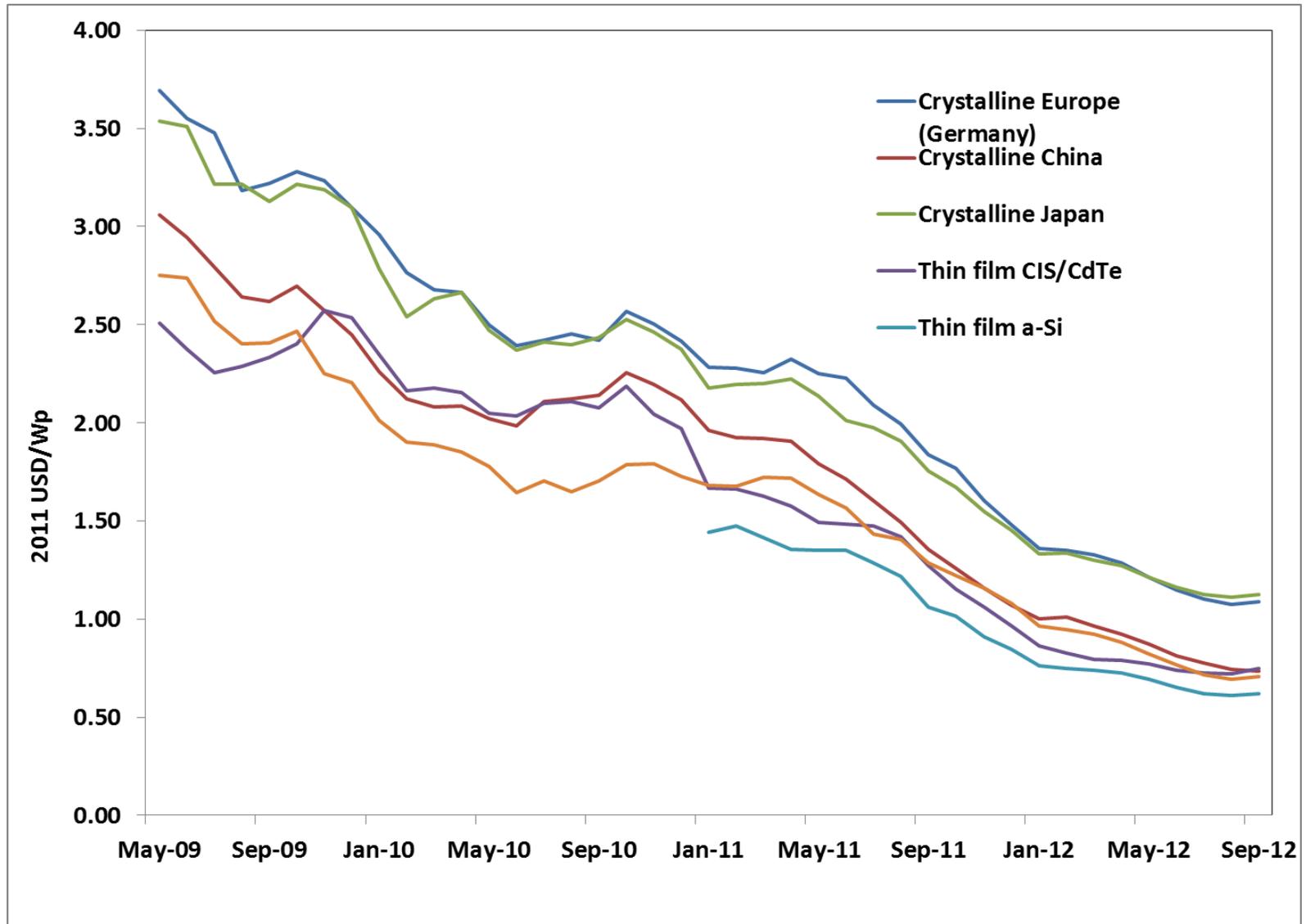
**THEY AREN'T
REALLY GETTING
CHEAPER**

The LCOE of wind

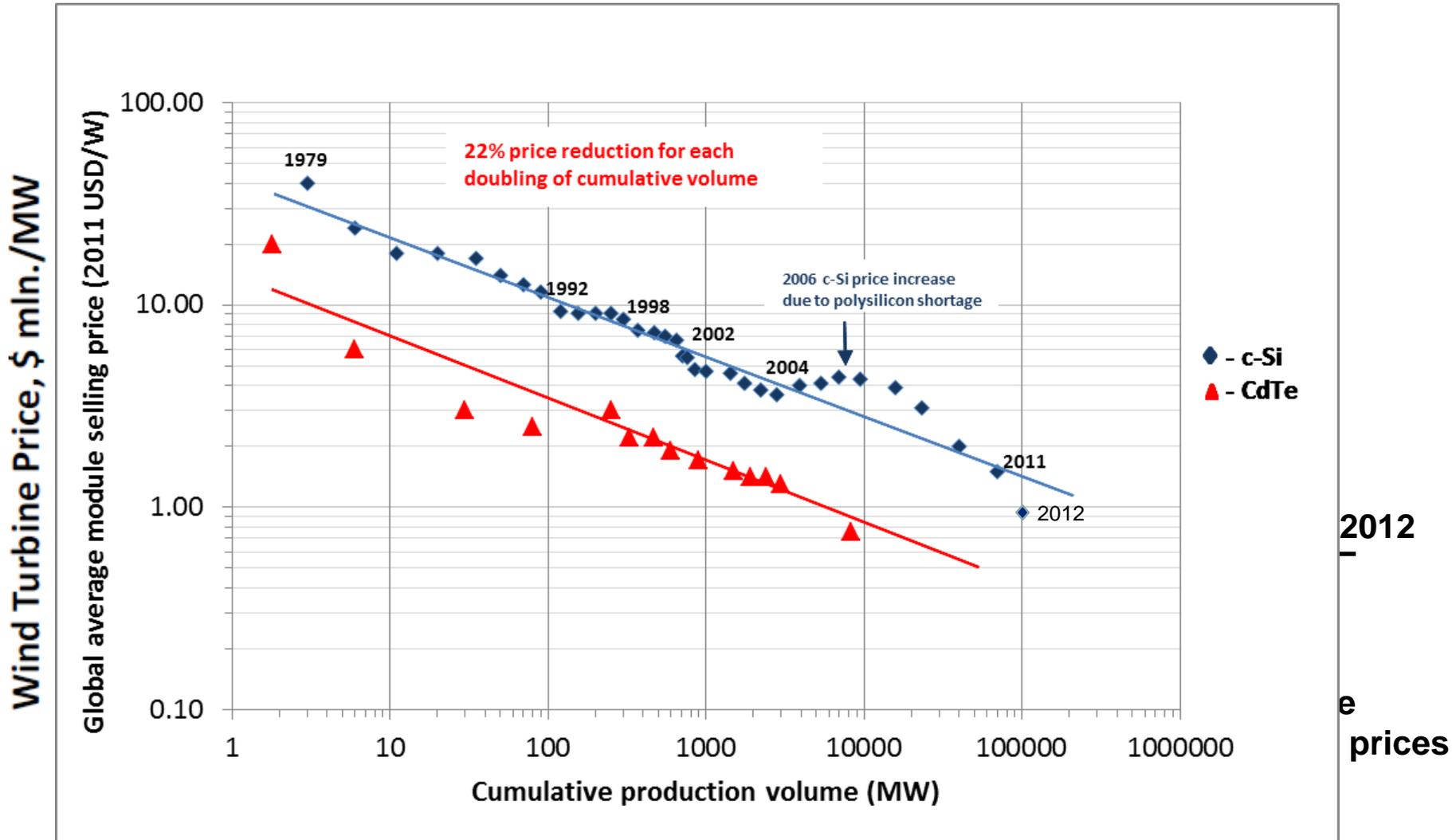


Source: Lawrence Berkeley National Laboratory

PV modules prices

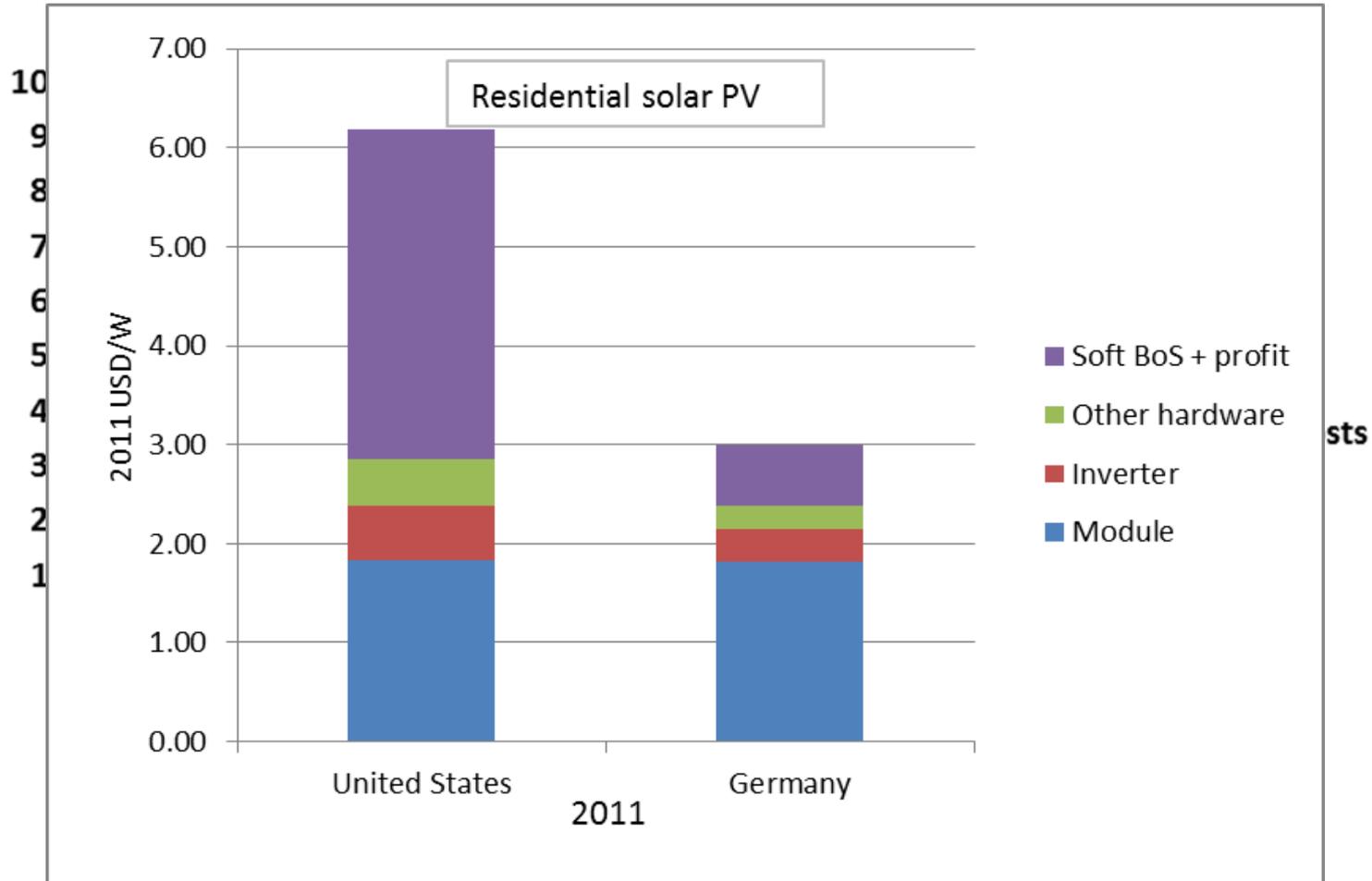


Future cost reductions: An acceleration for wind & CSP? A slowing for solar PV?



Source: Bloomberg New Energy Finance, February, 2011

An emerging issue: Balance of system costs and O&M costs to be a problem?



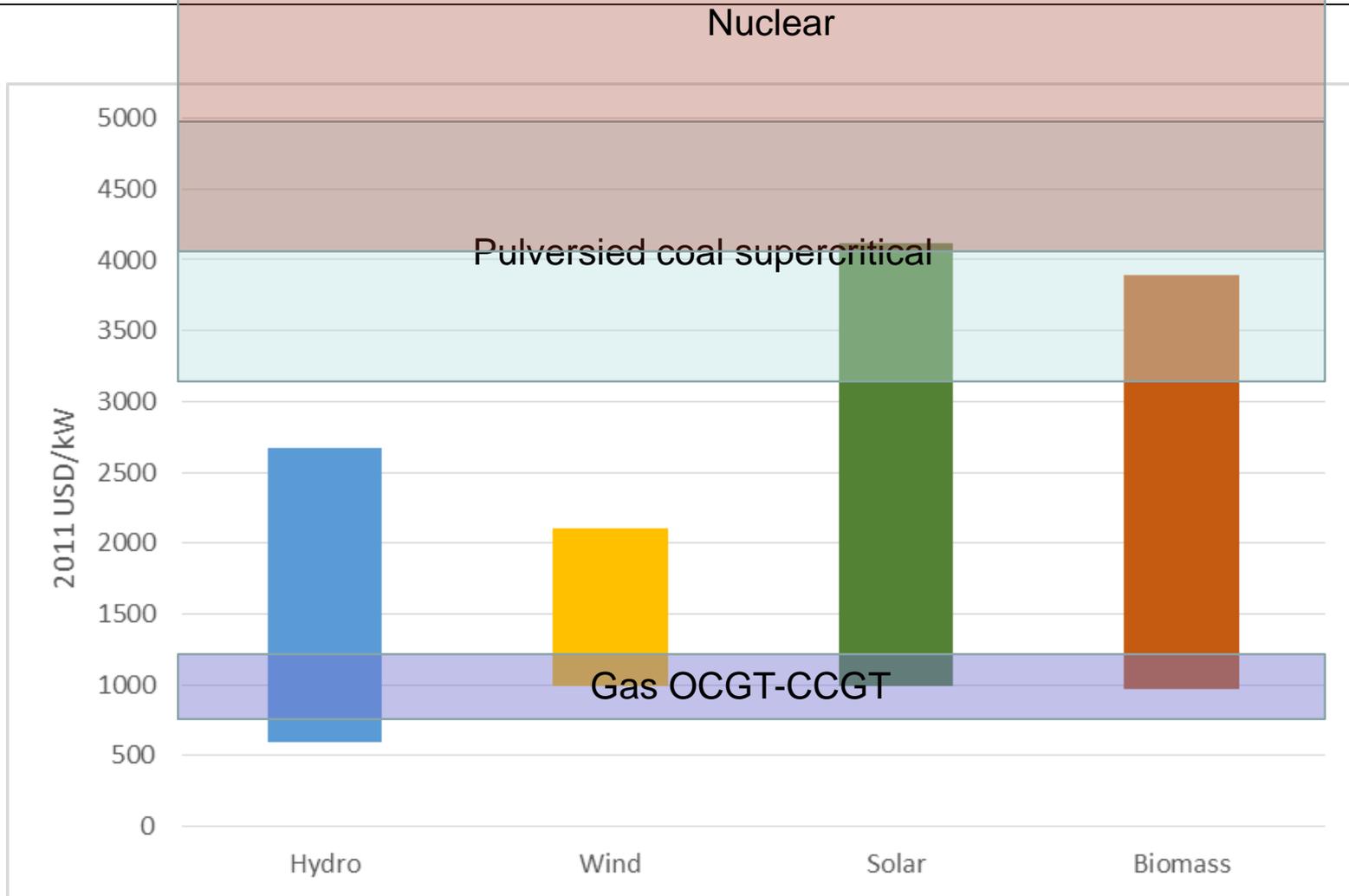
As equipment costs fall, O&M's share of LCOE will rise and may slow LCOE reductions
Cost reduction pass-through will be strongly tied to success in reducing BoS costs

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MYTH #3

**HIGH CAPITAL COSTS
ARE A BARRIER TO
RENEWABLES**

Well only if you have cheap gas or oil.....



They can be a barrier full stop! for power generation technologies, except where abundant oil and gas exist cheaply...

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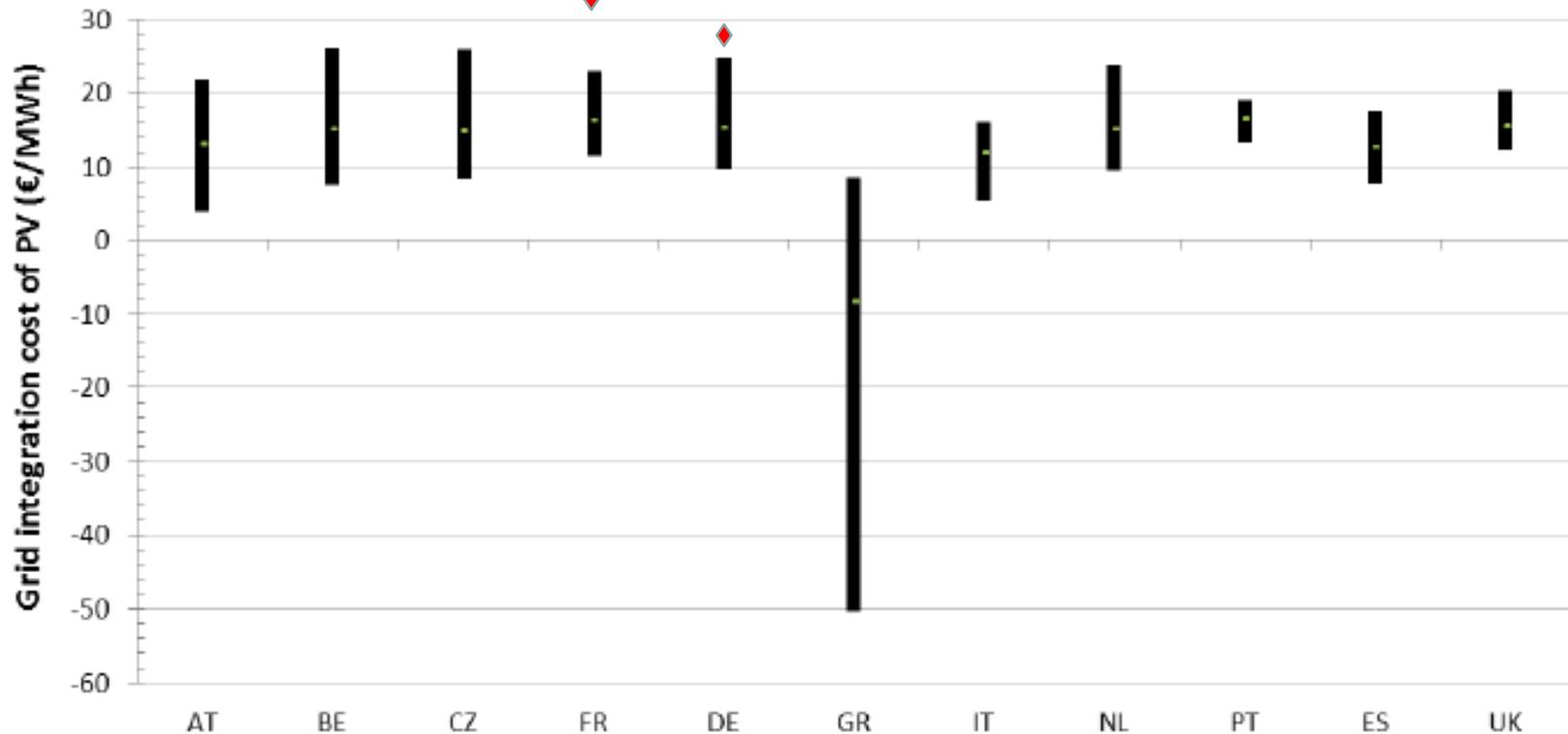
MYTH #4

**INTEGRATION
COSTS OFFSET THE
BENEFITS OF
RENEWABLES**

- Are not yet a global issue or constraint
- 1.3 billion people without access to electricity
- Any system relying on oil-fired generation can integrate high percentages and still reduce costs
- There are grid-integration benefits in many developing countries with poor system reliability
- But the issues are real for those early adopters in OECD
- Requires careful co-ordination and planning to minimize
- Using “yesterdays” solution is not the answer

Integration costs widely overstated

NEA (2013) for 10% solar...



The range of grid integration cost of PV in Europe

PV Parity Project: For penetration of 2-18% NO demand response!

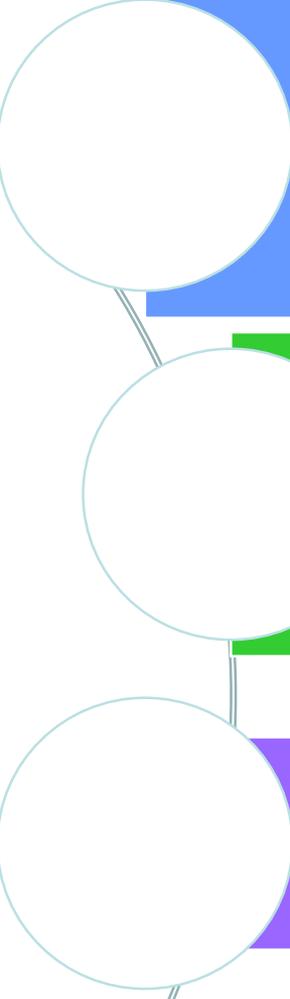
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PLANS FOR THE IRENA RENEWABLE COSTING ALLIANCE

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- Analysis to date has been based on low hanging fruit
 - Engage with business: The Alliance will work at a technical level on data and its availability
 - Alliance members share, confidentially, their data on real world project costs
 - Entirely voluntary, we work together for mutual benefit
 - Establishment period now, official launch at Assembly
 - Goals:
 - more data, better data, a greater focus on analysis of data

Who can be a member?

- Anyone with real world renewable project costs and performance data
- Utilities, project developers, community associations, individuals, research institutions, banks, development banks, etc.
- What if I only have one piece of the cost puzzle?
 - It depends, talk to us: for instance, data on the cost of equity and loans very interesting....only installed PV costs (no CF) in 10 homes in Munich, maybe not...



Member countries:

- Steering group for costing analysis focus
- One workshop a year
- Must nominate institution to deliver data
- Quarterly newsletter

Alliance Members:

- Provide data, confidentially
- One workshop a year
- Ability to query the database in detail
- Quarterly newsletter

Observers:

- Quarterly newsletter
- Mailing list for new publications/analysis



Renewables are increasingly competitive, but more needs to be done to fulfill their potential...

IRENA is part of the solution

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www.irena.org/costs

