

RENEWABLE ENERGY: POLICIES AND FINANCIAL INCENTIVES

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Technical Expert Meeting on Renewable Energy
Supply, More Faster Now

June 3, 2015

Dialogue. Insight. Solutions.



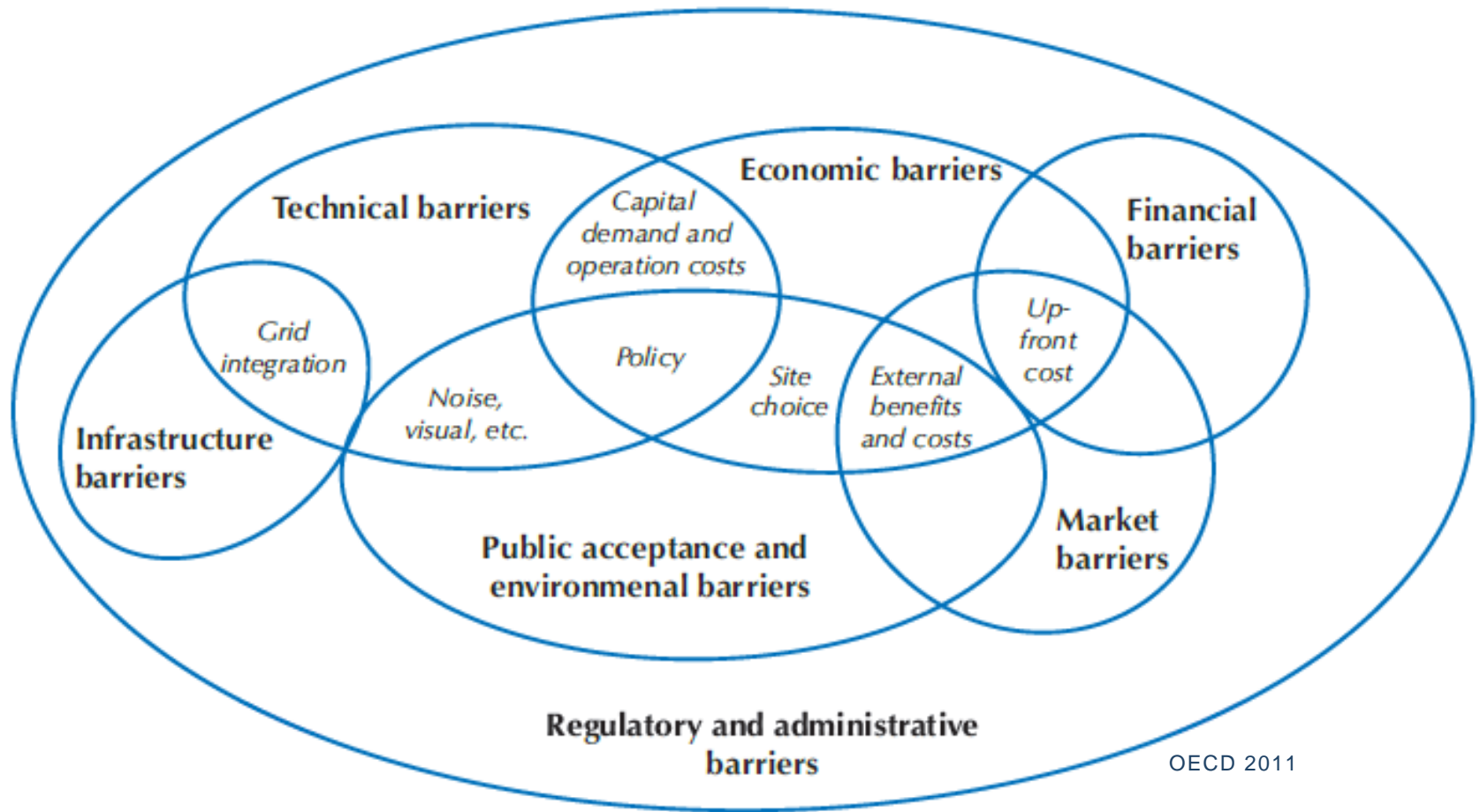
PRE-2020 ACTION FOR LONG-TERM TRANSFORMATION

- **Objective:** Launch/expand ambitious national renewable energy strategy in the electricity sector pre-2020 that contributes to country's post-2020 mitigation goals and drives long-term transformation.
- **Need to take key steps now:** changing the enabling environment for RE development takes time.
 - Assess policy options and costs
- **Determine what is affordable for the country and where the GCF, the private sector and other international funds can assist**
- **Develop ambitious and compelling action plans**

RANGE OF POLICY OPTIONS TO PROMOTE RE

- Financial Incentive Policies:
 - Feed-in Tariffs (FITs)
 - Tendering, reverse auctions
 - Tax policies
 - Net metering
- Regulatory Policies
 - Renewable Portfolio/Clean Energy Standards
 - Cap & Trade, carbon pricing
- Enabling environment for RE ideally should address on-grid, off-grid, and distributed generation as well as key barriers

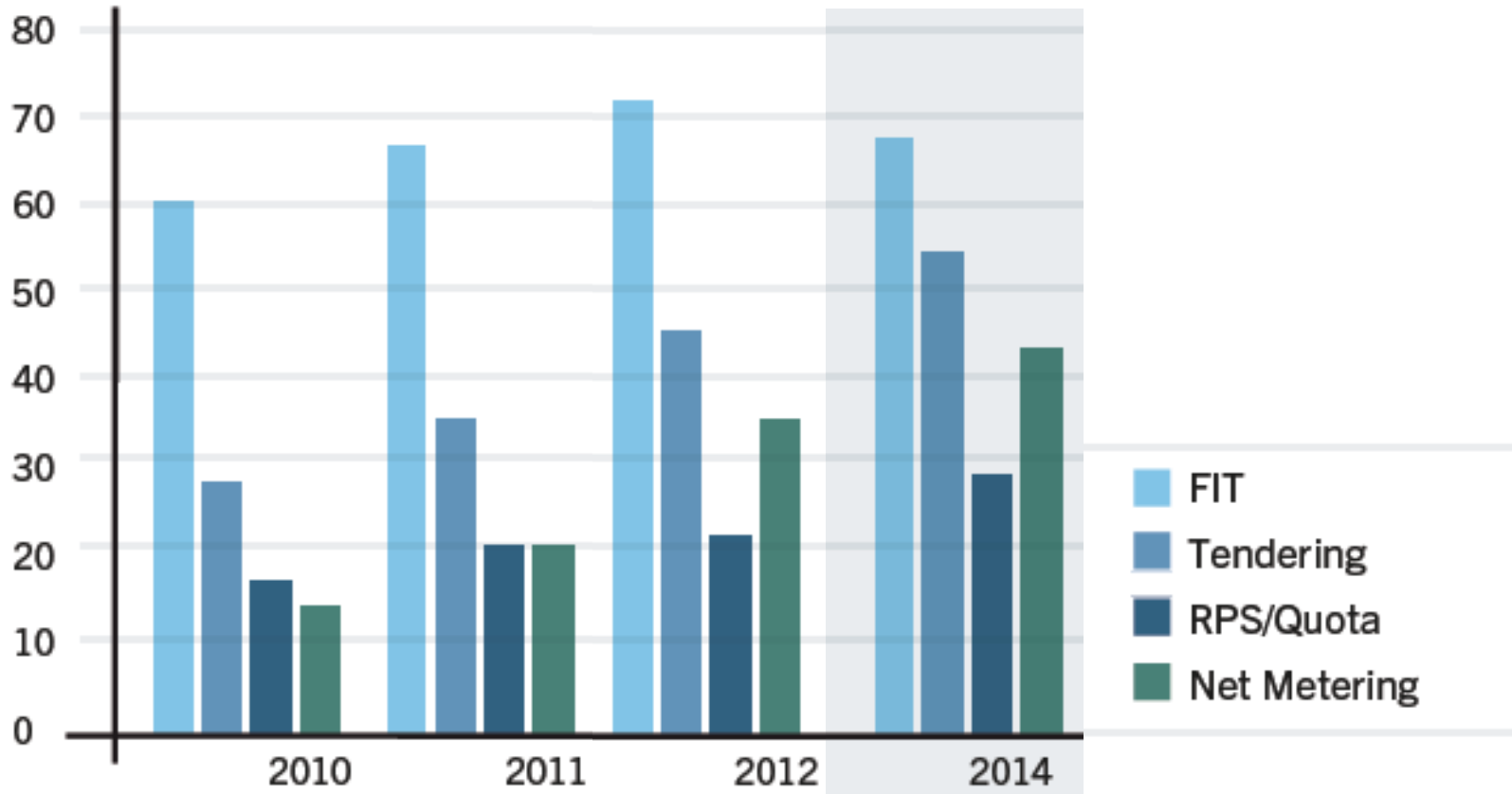
COMMON BARRIERS TO RE DEPLOYMENT



The types and magnitude of barriers faced by a country will depend on their domestic fossil fuel resources and RE potential

TRENDS IN RE POLICIES

Number of countries with power sector RE policies by type, 2010-early 2014

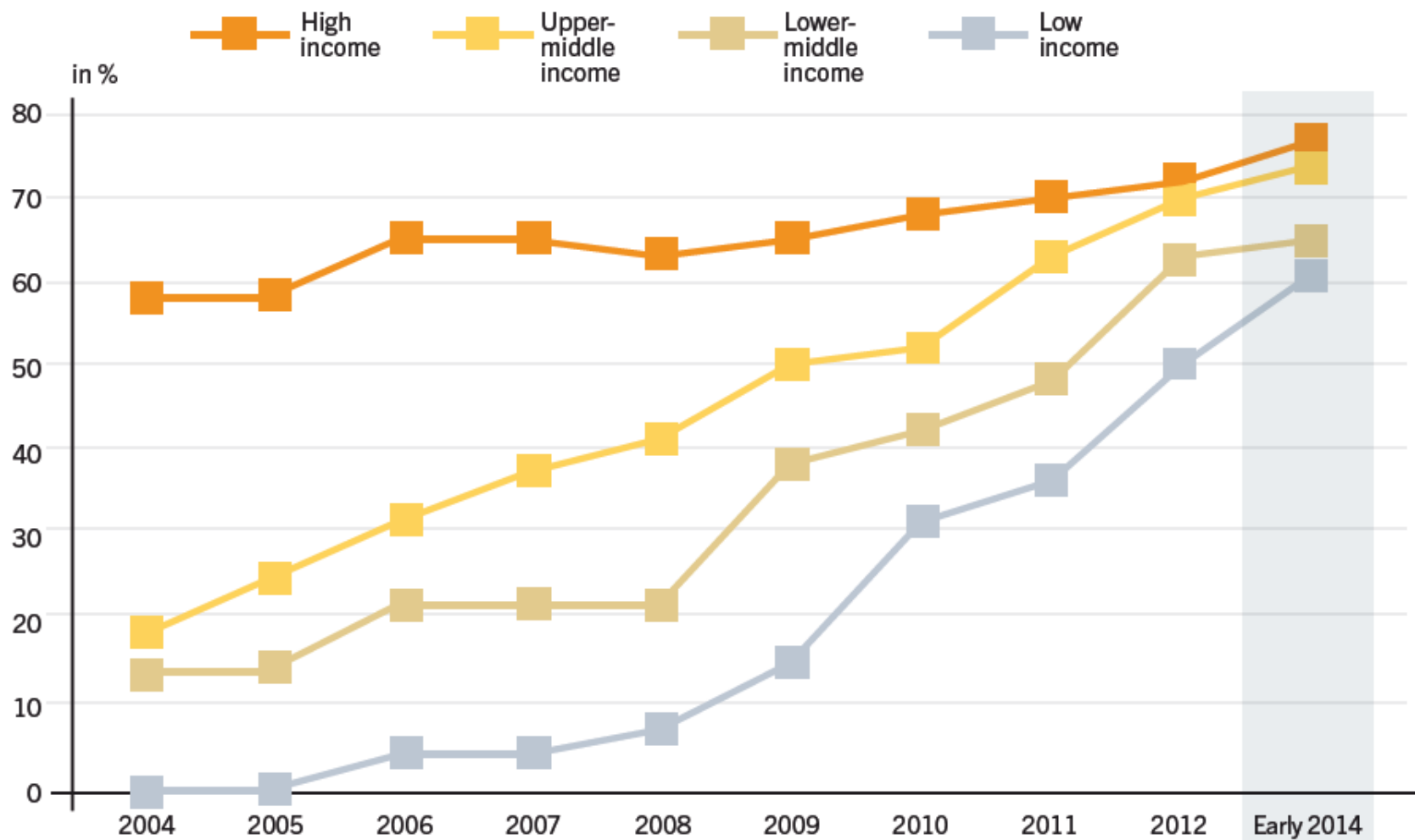


-While still the most common, not many countries introducing new FITs

-Tenders and RPS/Quotas becoming more common

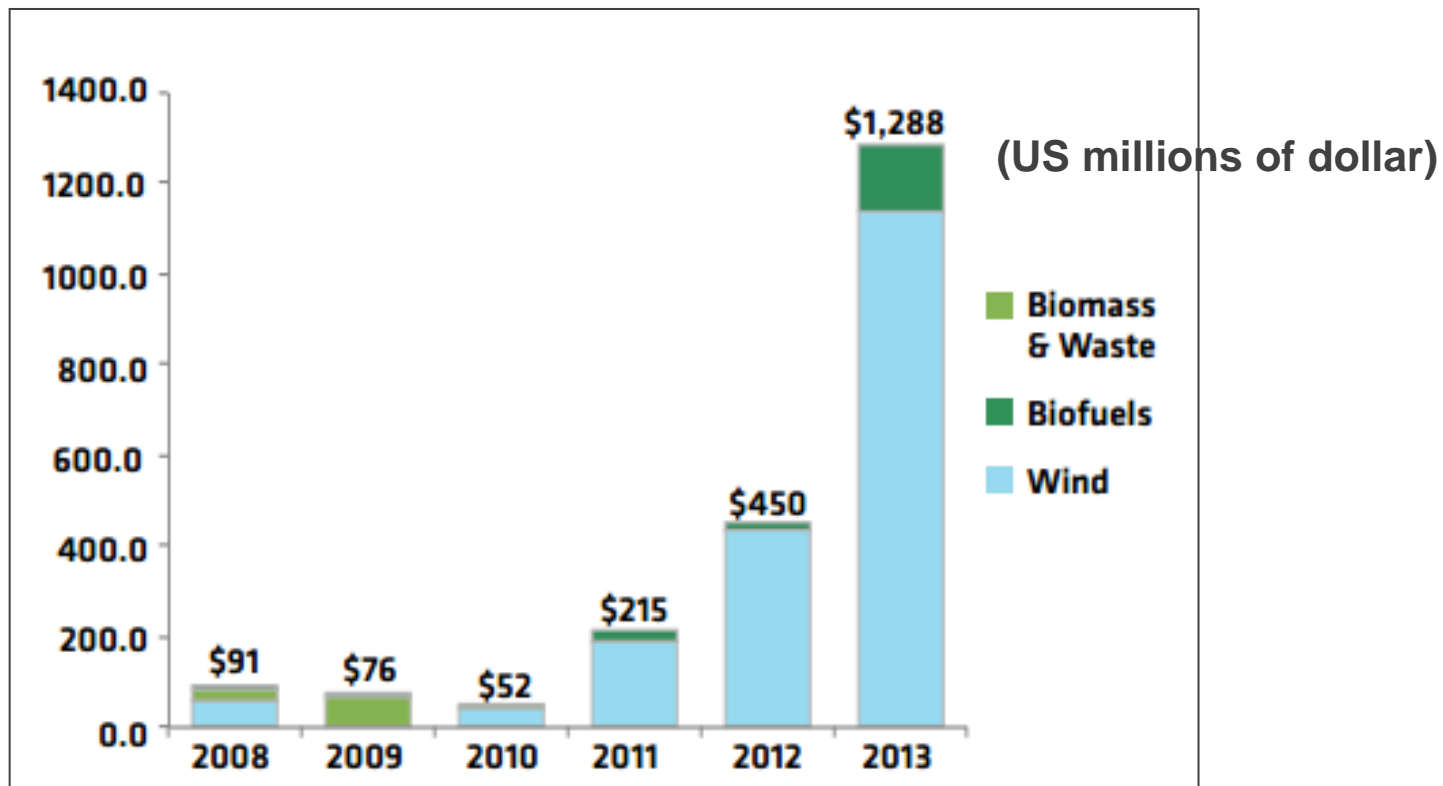
RE POLICY MOMENTUM

Share of Countries with RE Policies by Income Group, 2004-Early 2014



URUGUAY

Uruguay has ushered in a surge of clean energy investments



- Currently, approaching 90% of electricity from RE
- From 2010-2015, shift from 1% to 28% wind power

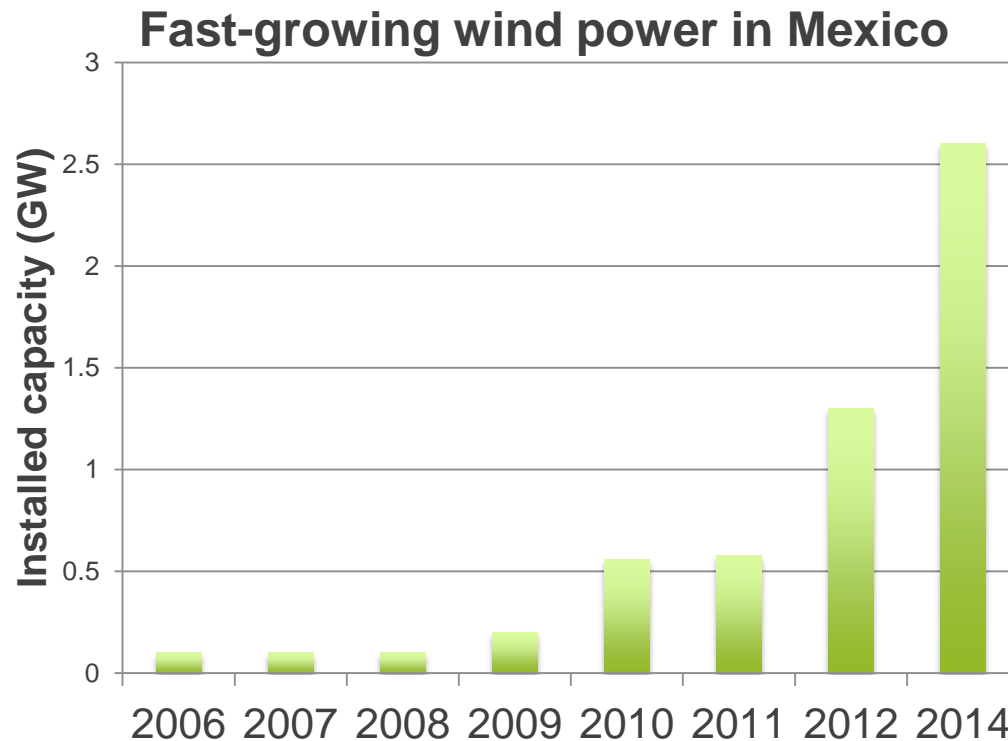
URUGUAY

Uruguay's model: strong private sector involvement, incentives, few mandates

- **Reverse auctions** have brought non-conventional RE online at competitive prices
 - 0 MW wind in 2007 to 8800MW wind in 2014
 - Price decline from \$90/MWh to \$63/MWh
 - 200MW solar PV set to be added
- **Highest total RE investment relative to GDP of any country in last 5 years**
- **Open generation market:** State-owned utility controls transmission and distribution, IPPs and self supply = 50%
- **Tax exemptions, Net-metering**
- **Solar hot water required** in new hospitals, hotels

MEXICO

- As an oil-producer, Mexico faced greater barriers to RE deployment
- Step by step reforms encouraged wind and CHP
 - Installed wind capacity quadrupled since 2010
 - \$9bn investment in wind power since 2006



Expected to
triple to 9.5 GW
by 2018

Step by Step approach to overcome key barriers to RE

Lack of experience with RE

- Initial FIT and capacity payment built confidence among IPP and regulators

Uneven playing field for RE

- Economic incentives (e.g. accelerated depreciation, lower capacity penalties, net-metering)

Limited transmission

- Transmission tender Increased transmission capacity for wind

Lack of financing

- Syndicated loans (reduce risk for local banks)

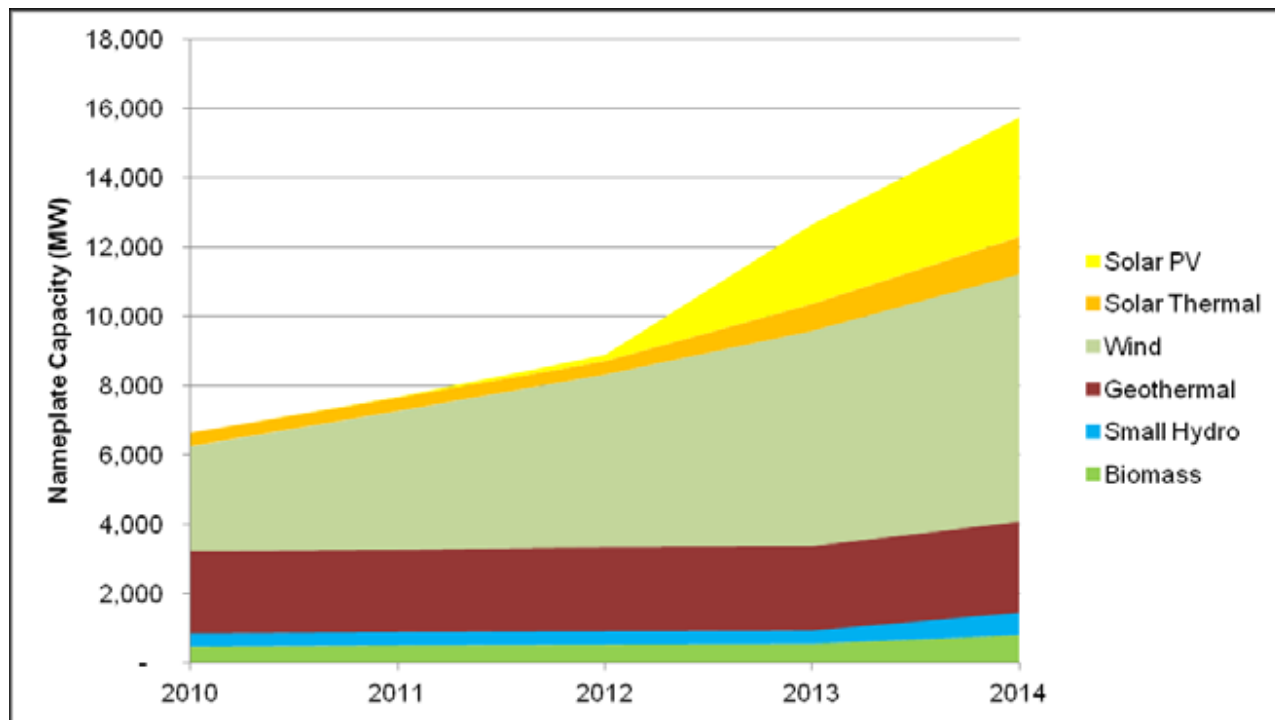
State-owned monopoly

- Sweeping energy sector reforms requires 35% clean energy by 2024, opened market fully to private sector

CALIFORNIA

- CA has more than doubled installed RE capacity over the last four years, adding over 11,000 MW (out of 21,000 MW currently online)

Utility-scale Renewables operating in CA (2010-2014)



Source: California Energy Commission Quarterly Fuels and Energy Report

Enabling environment – **full range of policy actions over time**

- **Ratcheting up RPS** (utility procurement requirement)
 - 2002: 20% of retail sales from RE by 2017
 - 2003: accelerated 20% deadline to 2010
 - 2008: 33% RE by 2020
 - 2015: 50% RE/clean energy by 2030
- **Interconnection with neighboring states**: allowing utilities to trade energy to balance out supply and demand fluctuations
- **Renewable Auction Mechanism**: competitive bidding for DG projects 3-20 MW
- **Net Energy Metering** : allows for compensation for excess generation
- **DG Goal**: 12,000 MW by 2020 (5,200 MW of DG currently online)
- **CO2 cap and trade includes utilities**: encourages utilities to shift toward RE, includes out-of-state power purchases

DISCUSSION QUESTIONS

- Affordability of policy reform for the host country is a key decision. How should this be assessed relative to impacts on sustainable development and the global climate challenge?
- In designing new policies, how do you weigh the use of carrots vs. sticks and pilot efforts versus full-scale implementation?
- Is it better to start developing RE policies for grid-connected renewables first and then follow with net metering and off-grid renewables? Carry these out in tandem? Or can countries “leapfrog” the challenges of reforming centralized generation policies and move straight to off-grid RE and net metering? Can this be a faster path to transformation?
- How do the challenges faced by countries with high endowments of fossil fuel resources differ from those with little or no domestic fossil fuels and what strategies are most promising to overcome those challenges?

DISCUSSION QUESTIONS

- What are the necessary pre-conditions to attract private sector players to invest in RE? What are effective tools to overcome financial barriers, and how can they complement other price support policy (e.g. FIT)?
- How can countries translate RE strategies into concrete investment plans that can be financed by the GCF or other climate finance institutions? Where should GCF support be targeted? To develop more expensive or advanced RE programs? encourage greater investment in programs country has started? Finance pilot tests of new policies? Other?

THANK YOU

For more information,
please visit us at

www.ccap.org.