# **EGP** experience with auctions

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Green Power



# **EGP** Overview

#### **Enel Green Power**

A global leader<sup>i</sup>



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<sup>i</sup> Data as of 31 December 2015

#### **Enel Green Power**

**Recent achievements** 





### **Business Development Strategy**

Selection of new markets





EGP selection of new growing markets is driven by creating value for stakeholders

#### **Renewable market overview**

Incentives vs Competitive mechanisms



#### **2010 – EGP countries of presence**

#### **2016 – EGP countries of presence and interest**



16 countries of which 6 with competitive mechanisms/PPA

49 countries of which 29 with competitive mechanisms/PPA

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Country switched to auction or tender since 2010

Fixed incentive schemes (GC, Tariffs)





# Feed-in-Tariffs vs. Market-based mechanisms

## **RES Regulatory Framework Overview**

Feed-in-Tariffs vs. Market-based mechanisms



	Advantages	Disadvantages
Feed in Tariffs	Attractive even for low-risk investors	No meritocratic approach
	<ul> <li>Impressive capacity boost generated by this solution</li> </ul>	<ul> <li>Wrong tariff setting can lead to RES under- or over- development vs. target</li> </ul>
	<ul> <li>Simple structure, applicable to mass market technologies: E.g. decentralize energy</li> </ul>	<ul> <li>Limited adaptability: in case of technology rapid evolution, many changes required</li> </ul>
		<ul> <li>In case of large premium offered, high system cos</li> </ul>
	Effective use of <b>budget</b>	<ul> <li>Risk of not prequalified players to under-bid</li> </ul>
	<ul> <li>Effective use of <b>budget</b></li> <li>Specific capacity targets can be set in short span of time</li> </ul>	<ul> <li>Risk of not prequalified players to under-bid disrupting competition</li> <li>Remuneration value strongly linked to competition</li> </ul>
Market-based mechanisms	<ul> <li>Effective use of budget</li> <li>Specific capacity targets can be set in short span of time</li> <li>Meritocratic mechanism with cheapest and higher</li> </ul>	<ul> <li>Risk of not prequalified players to under-bid disrupting competition</li> <li>Remuneration value strongly linked to competition level</li> </ul>
Market-based mechanisms	<ul> <li>Effective use of <b>budget</b></li> <li>Specific capacity targets can be set in short span of time</li> <li>Meritocratic mechanism with cheapest and higher quality projects selected</li> </ul>	<ul> <li>Risk of not prequalified players to under-bid disrupting competition</li> <li>Remuneration value strongly linked to competition level</li> <li>Not pre-defined when a player decides to enter</li> </ul>

### **Policy Best Cases**

Main success factors and results achieved



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	Critical Factor of Success	Main results
South Africa	<ul> <li>Long term (2030) capacity development planning (Integrated Resource Plan)</li> </ul>	• 5.2 GW approved in four bid rounds
		<ul> <li>\$4.5 bn investments attracted 2015</li> </ul>
	<ul> <li>Public confrontation and timely engagement on critical issues</li> </ul>	<ul> <li>In round IV awarded 1,1 GW at some of the cheapest tariffs globally (Wind 52\$/MWh, PV 66</li> </ul>
	Extremely detailed RES plan, with clear yearly planning by technology	\$/MWh)
		<ul> <li>Planned auctions for additional 6.3 GW</li> </ul>
<b>&gt;</b>	<ul> <li>Long term planning of electricity needs (10 years energy plan)</li> </ul>	<ul> <li>In 2015 over 4 GW of RES capacity has been awarded through auctions</li> </ul>
Brazil	<ul> <li>Stability of RES strategy and RES scheme rules (PPAs by auction since 2009)</li> </ul>	<ul> <li>In last seven years in Brazil approx. 24 GW RES capacity was auctioned, 80% of total capacity contracted (total capacity including also conventional)</li> </ul>
	Clear and predictable auctions system to allow Distributors to secure regulated demand	

Stability of RES development strategy, long term planning, reliable and predictable supporting schemes are the key factors of success for RES growth

## Policy Best Cases

Auctions as a key factor to drive down renewable energy costs





The competition introduced by auctions leads to lower energy tariffs

#### **Recent auction awarding prices**





Prices refer to \$/MWh

Source: IEA; Internal analysis



# **EGP** experience

#### **EGP experience with Renewable's Auctions**





#### EGP annual awarded capacity grew more than X10 in 4 years

## **EGP experience with Renewable's Auctions**



PV Capacity in execution MW Wind Capacity in execution MW Europe Europe North America North America 30 20 ~ 25 MW ~ 10 MW ~ 110 MW 150MW Africa Africa ~ 315 MW ~ 900 MW Latin America ~ 1350 MW Latin America ~ 1020 MW EGP presence in PV in 2015 EGP presence in Wind in 2015 Markets with new Wind capacity Markets with new PV capacity

 In 2014 PV installed capacity was ~ 430 MW, 25% was awarded through auctions

EGP experience in PV and Wind

 To date ~ 1.8 GW are in execution, of which 67% was awarded through auctions

- In 2014 Wind installed capacity was ~ 5.7 GW, only 5% was awarded through auctions
- To date ~ 2 GW are in execution of which 47% was awarded through auctions

Note: figures do not include 850 MW awarded in Morocco in partnership with Nareva and Siemens.

### **EGP experience with Renewable's Auctions**

EGP recently awarded auctions at record prices



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Market Analysis & Scouting	Global footprint	EGP consortium with     Nareva and Siemens     Wind, lowest bidder for
Strategic Partnership	Partnering with local suppliers, developers and minority investors	• Wind, lowest bidder for 850 MW at 28 \$/MW
Process Quality	Project Selection and Design Optimization thanks to our consolidated BD expertise	r
Innovation & Cost Optimization	New technological solutions (i.e. tracker) and cost optimization	<ul> <li>Perù</li> <li>Wind, Nazca 126 MW at 38 US \$</li> </ul>
Commercial Strategy	Bid strategy for tender and selection of reliable client for bilateral PPAs	<ul> <li>Solar, Rubi 180 MW at 48 US \$</li> <li>Hydro 44 US \$</li> </ul>

Morocco

#### Conclusions



#### EGP key take-aways

Long term contracts are crucial to ensure adequate return on investments

As long as they are properly designed, both auctions and FITs are effective mechanisms, yet leading to different outcomes

The world is moving towards competitive mechanisms as they reduced drastically renewables LCOE

In several markets renewables are already competitive versus conventional technologies