

## RENEWABLE ENERGY AUCTIONS IN MEXICO: the gap between design and implementation

Red-tape in Mexico prevents world low-record renewable energy prices to become a reality. Blindly copying auctions' design from developed countries results in rent seeking municipalities and inefficient federal agencies tarnishing what were, on paper, competitive outcomes.

### MAIN FINDINGS:

- At USD 20.82 Megawatt hour + Clean Energy Certificates (CEC), the third auction's awarded solar bids are the lowest in the world.
- However, out of 36 awarded solar projects in the previous two auctions, only one has started operations.
- Implementation failure is a cause of "borrowing" policies and auctions' design from developed countries without adapting them to a complex Mexican institutional setting.
- Obtaining a federal construction permit can take over a year; rent seeking municipalities ask up to 20 times higher fees than the estimated by bidders. The former delays projects, the latter prevents them from developing.
- COFEMER has the expertise to assist local governments and federal agencies in improving regulation and streamlining procedures. Its non-involvement so far shows government's coordination failures.

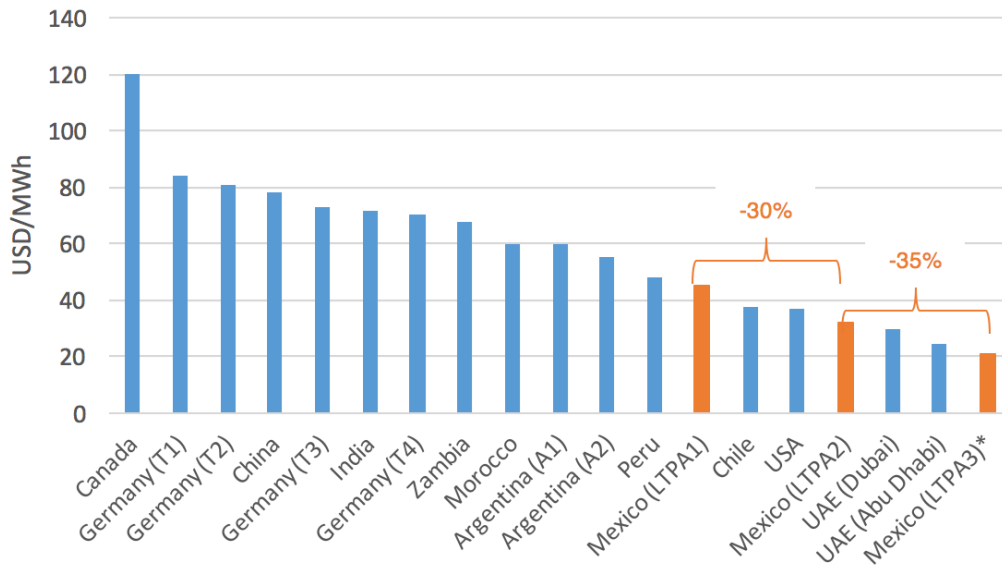
### ENERGY BEST PRACTICES DO NOT FIT THE MEXICAN CONTEXT

One of the Energy Reform's main objective is to drive electricity prices down through clean sources. There are two reasons for this. First, electricity in Mexico is expensive. Electricity prices are 73% higher than in the US. As a consequence, 95% of the households are subsidized and these subsidies represent 0.75% of the GDP. Second, 74% of the country's energy comes from fossil fuels, which are highly pollutant.

The main instrument to achieve the reform's objective are the Renewable Energy Auctions. In a newly liberalized sector, electricity retailers auction their demand for private generators to supply it. The first three auctions' outcomes were highly competitive. Mexico has, on paper, the lowest solar prices in the world (figure 1). Nevertheless, the auctions' outcomes are far from translating into cheaper electricity prices.

Auctions' implementation is failing because Mexico "borrowed" best practice designs from developed countries, without

**Figure 1. Mexican solar PV prices are the lowest in the world and they have decreased significantly from one auction to another.**



adapting them to its complex institutional framework. Once awarded, the firms have to start dealing with agencies at three different government levels to obtain construction permits: federal, state and municipal.

The number of construction permits in Mexico can be up to three times higher and 11 times longer from one state to another (figure 2). Similarly, the same permits can be up to eight times more expensive.

If renewable firms with cheaper electricity do not start operating, electricity prices are going to remain high. This will not only be a political failure on the administration for not delivering one of its main term promises. High subsidies will continue hurting the country's finances and high electricity prices will continue affecting

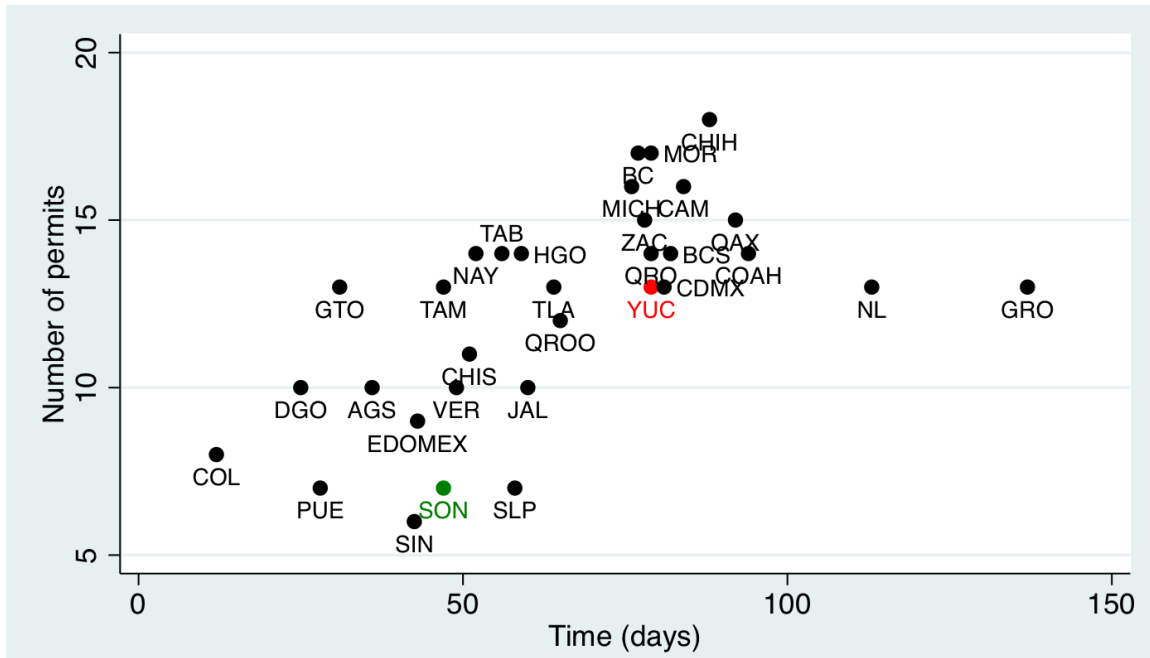
firms' competitiveness –as these are not subsidized. Mexico's reputation as a top renewable energies' destination will be hurt.

**CONSTRUCTION PERMITS HINDER RENEWABLE PLANTS' DEPLOYMENT**

Firms have on average two years to supply electricity from the day they formalize the contract (a Power Purchase Agreement). The construction time for a solar plant is nine months. That leaves a bit more than a year to obtain permits and run plants' tests. The experiences of firms in *Sonora* and *Yucatan* reveal the differences between auctions' design and implementation.

First, coordination failures across and within different government levels are the main cause for projects' delays. EDF in

**Figure 2. The number of permits and time to obtain them vary significantly across the country for the same project.**



*Sonora* had to request 16 permits from 13 different agencies. Many of these permits are duplicated across government levels. Moreover, that one year for permits and implementation test was spent just in obtaining federal construction permits (figure 3).

Second, some projects are not only delayed; they are stopped and not going to be implemented at all. Municipal regulation is outdated and open to interpretation. This becomes a problem when rent seeking institutions exist. EDF estimated USD 160,000 for construction permits in *Sonora* while placing its bid. The municipality demanded USD 5.5 million. Similarly, a municipality in *Yucatan* asked AR Sun Energy for USD 500,000 just for an

environmental permit. Out of 36 solar awarded projects in the first two auctions, only one has started operations and only five have started construction. Note in figure 2 that *Sonora* represents an optimistic permitting case, while *Yucatan* an average one. Awarded firms will face more difficult, longer and more expensive processes in other states.

**COFEMER ASSISTING IN IMPROVING REGULATION AND STREAMLINING PROCEDURES**

EDF came to an agreement with the municipality, but firms in *Yucatan* did not. Projects not being able to deploy will discourage competitive firms to enter further auctions and this will hurt their outcomes.

COFEMER has been involved at different stages of the Energy Reform, but surprisingly, not at the implementation stage. The State and Municipalities Department has the expertise in working together with local governments in improving regulation and streamlining procedures. The learning curve in effectively engaging in renewable energy projects' dialogue with local governments will be lower compared to creating a unit within the Energy Ministry, as the SunShot initiative is in the US. Moreover, the agency also has departments that focus on federal permits' efficiency. The agency can either reallocate human capital or establish cross-support mechanisms, but there is no need for massive resources' mobilization. Politically speaking, COFEMER does not have a bias

in working only with PRI local governments. Two out of the five agreements signed with state governments during 2016 and 2017, are with PAN states –Puebla and Veracruz– and one with a PRD state –Tabasco.

The lack of coordination and information sharing across agencies is the main reason why no substantial progress in solving auctions' permitting issues has been made. COFEMER can lead simplification and reform efforts to ease renewable projects' deployment. Generators need transparent information as to the number of permits, time and cost they will incur obtaining permits. Projects' development should not be hindered neither by rent seeking authorities, nor by overloaded –or inefficient– agencies.

**Figure 3. EDF had to request duplicated permits across different government levels in Sonora. It took the firm over a year to obtain construction permits.**

