









**INTERNATIONAL CONFERENCE ON CONCESSIONS IN THE POWER SECTOR –** LEARNING FROM PRACTITIONERS

February 28th, March 1st–2nd (Online)

2pm-5pm GMT; 3pm-6pm CET; 9am-noon EST







#### INTERNATIONAL CONFERENCE ON CONCESSIONS IN THE POWER SECTOR February 28 & March 1 & 2, 2022

### **Lessons learned**

#### Ignacio Pérez-Arriaga

Sloan School of Management, MITEI & CEEPR, MIT Institute for Research in Technology (IIT), Comillas University Florence School of Regulation, European University Institute







We have learned that...

#### ... the topic of concessions in the power sector attracts interest

206 people registered (invitation only) from 32 countries 47 panelists, speakers & moderators among the best experts in the field



# Has the conference answered (until now) the questions posed at the beginning of the first day?

Note that:

- The first two days have reviewed relevant experiences & discussed the features that concessions must have to succeed & how to implement them; these will be summarized now
- However, it remains to debate the hard question of where (in which countries) concessions should be adopted or extended, in which of their several formats (segment of the power sector, functions covered, & geographical scope) & how to insert concessions in the electrification agenda; the introduction of this topic will follow this presentation.

### **Questions regarding the suitability of concessions for the distribution segment** (on- & off-grid)

#### **Key questions:**

- Do concessions help **improve the distribution segment** of the supply chain?
- Can concessions contribute to improving energy access, and if yes, in which contexts?
- What are the **key factors** that allow concessions to achieve their potential? What are the major pitfalls? What are the **lessons** that can be learned from the experiences?
- Can concessions be a solution to financial viability of utilities? What are the conditions required for the concessions to succeed?
- **Off-grid concessions** & their interaction with the incumbent disco. How to best **integrate** the three electrification modes?

#### For grid extension

- Examples of successful concessions at all functional levels; & sub-franchises
  - Metering-billing-collection, affermage (O&M), or full management
- Success factors
  - Collaboration government + regulator + operator + users; plan with clear targets; cost-reflective remuneration; legal security based on comprehensive contracts & trustworthy institutions; acceptable reliability & QoS is a must
- Failure factors:
  - Misleading information about status of discos (losses, reliability & QoS); remuneration below costs; biased or arbitrary regulation
  - Access in rural areas is neglected unless mandated by contract or properly incentivized, as it must be subsidized

#### For grid extension

- Open questions
  - How far to go at functional level, i.e., which functions could improve if left to a concessionaire, which ones to retain without jeopardizing the success of the concession
- Challenges
  - Improve reliability & QoS for customers of the existing grid
  - Establish realistic targets consistent with a viable financial plan
  - Reduce unnecessary costs, use cost-effective suitable-for-purpose solutions
  - Integrate other electrification modes

For mini-grids ("full" concessions)

- **Examples**: Mostly deployed at "project level" by multiple initiatives; not for all mini-grids in a national plan
- Success factors
  - Mini-grids offer a wide range of innovative possibilities, because of their flexibility with size, location, & supply capabilities
- Failure factors
  - Lack of sound regulation protecting from grid arrival & financial sustainability; lack of a national plan, leading to scattered projects, dispersion of donors & potential compatibility issues with the main grid

For **mini-grids** ("full" concessions)

- **Open question**: business model to be adopted
  - RBF improves upon plain investment subsidies; both are simple & can be quick, but have sustainability problems & leave customers behind
  - Tenders for utility-like concessions are slower, but can be sustainable & inclusive
  - How to combine both approaches?
- Challenges
  - How to ensure that off-grid solutions do **not leave anyone behind**?
  - How to ensure that off-grid **solutions are sustainable** (i.e., permanent)?
  - How to make compatible the private initiative with regulations that promote inclusive & sustainable solutions?
  - How to avoid **discrimination** with grid-connected customers?

For **solar home systems (SHS)** ("full" concessions)

- **Examples**: Successful cases of concessions from Latin America, for rural isolated communities
- Success factors
  - Regulated as a utility, under cost-of-service, regulated social end-consumer tariff plus permanent regulated subsidy to the operator, strong community engagement
- Failure factors
  - Lack of interest of local authorities, absence of participation of the beneficiary communities, no supply for productive or community uses

#### For solar home systems (SHS)

- Open questions
  - Business model: fee-for-service vs. rent-to-own
  - Should regulation specify and enforce a minimum level of electricity access (e.g., tier 2)? Context dependent?
  - Integration with mini-grids or main grid arrival
- Challenges
  - How to ensure that the off-grid solutions do not leave anyone behind?
  - How to ensure that off-grid solutions are sustainable (i.e., permanent)?

### **Questions regarding the suitability of concessions for the distribution segment** (on- & off-grid)

For territorial & technology neutral concessions

- Examples
  - 1. National integral plans using all electrification modes
  - 2. New concessions in non previously assigned & non-electrified territories
  - 3. Sub-franchises resting on appropriate mix of C&I & residential customers
- Success factors
  - Sound plans, governmental support & cost-reflective remuneration of operators (1, 2); flexible / favorable regulation & viable cross-subsidization (3)
- Failure factors
  - Absence of clear targets (1, 2); financial risk, substantial improvement of supply from main grid (3)

### **Questions regarding the suitability of concessions for the distribution segment** (on- & off-grid)

For territorial & technology neutral concessions

- **Open questions:** How to integrate the three electrification modes?
  - Integrated techno-economic planning, complemented with allocation of responsibilities, a business plan for each activity & a financial plan to verify viability for each activity & from a governmental perspective
  - comprehensive regulation addressing the interfaces among modes
  - consistency with a long-term vision of the power sector
- Challenges
  - Examine possible role for the concession model & a fully integrated approach

### Can concessions offer an attractive alternative to the present situation? Under which conditions?

#### At country level

- A least-cost techno-economic **integral plan** including all modes
  - with clear targets consistent with a viable (if possible) financial plan,
    - where viability of plan is based on cost-of-service remuneration established by regulation with transparent rules, & with firm legal guarantees
  - with decided cooperation of Government, Regulator, Operator,
  - & with a coordinated joint effort of development partners
- Attention paid to key aspects
  - Reliability & cost of service, community engagement, gender issues, productive & community uses, linkages with other sectors

### Implementation topics not fully addressed in the conference

- Is OK to look for **second-best concession solutions** when first-best solutions are not currently possible?
  - E.g., sub-distribution franchises, or mini-grids under the grid
- Can concessions be established **just for the distribution segment** of a vertically integrated utility? Under which conditions?
- How to deal with **existing off-grid developers** when implementing off-grid concessions?
- Roles and responsibilities of the public vs. private sector for a concession to succeed?
- Integration of **community and productive uses** in concessions design
- Coordination of rural electrification concessions with **other economic sectors**

### The future of this debate

- Is there a need for a **continued expert interaction** around concessions design and specifically about distribution concessions?
  - What should be the **goal** of a potential network of practitioners?
  - Operations: How to structure and operate this network or networks?
    Who could lead the initiative?





Richard Hosier, Morgan Bazilian, Tatia Lemondzhava, Kabir Malik, Mitsunori Motohashi, and David Vilar de Ferrenbach Energy and Extractives Practice | Africa Region, World Bank

#### Learnings

- "When supported by the government, properly incentivized, and placed within an appropriate legal framework, concessions can be a useful tool for attracting private resources, managerial expertise, and technical know-how to address the enormous challenge of rural electrification."
- "Indeed, concessions can potentially accelerate rural electrification in ways that neither the public nor the private partner can accomplish on its own."











**INTERNATIONAL CONFERENCE ON CONCESSIONS IN THE POWER SECTOR –** LEARNING FROM PRACTITIONERS

February 28th, March 1st–2nd (Online)

2pm-5pm GMT; 3pm-6pm CET; 9am-noon EST