

# Lessons learnt about PV financing in Hungary

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# 1. Background

- Late blooming sector in Hungary
- Total installed PV capacity in Hungary

| in MWp            | 2012 | 2013 | 2014 | 2015 | 2016 | 2017 | 2018 |
|-------------------|------|------|------|------|------|------|------|
| Total PV          | 12   | 35   | 77   | 168  | 225  | 300  | 640  |
| Household size PV |      |      | 68   |      |      | 240  |      |

Source: [https://hu.wikipedia.org/wiki/Napenergia\\_Magyarorsz%C3%A1gon#cite\\_note-7](https://hu.wikipedia.org/wiki/Napenergia_Magyarorsz%C3%A1gon#cite_note-7) (24 June 2019)

## 2. Reasons for delay

- Regulatory background
  - Mandatory off-take prices were relatively low compared to the CAPEX need of PV projects before 2015
  - Offtake prices in other CEE countries were multiple times that of Hungarian offtake prices before 2015
    - Romania (6 GCs + power): cca.: 200 EUR/MWh-370 EUR/MWh
    - Bulgaria, Slovakia: Offtake price > 200 EUR/MWh
    - Hungary: Offtake price = cca. 100 EUR/MWh
- Other renewable energy projects offered better IRR to equity investors before 2015

## 3. Consequences

- Over-subsidisation of PV sector has not been an issue
- Mandatory offtake system has been relatively stable in Hungary
- Moving towards METÁR makes the sector more sustainable in the long term

## 4. Main points of concern in PV financing/1

- Regulatory risk
  - Change of offtake scheme
  - Bundling of multiple 0,5 MW projects
  - Land issues
    - Movable or immovable
    - Owned or leased

## 5. Solutions/1

- Change of offtake scheme:
  - Sponsor selection
  - Cash-sweep
  
- Bundling of multiple 0,5 MW projects
  - Physical and legal separation
  
- Land issues
  - Owned land is strongly preferred
  - Additional comfort factors needed in case of leased lands

## 6. Main points of concern in PV financing/2

- Technological risk
  - Panel manufacturer long term solvency risk
  - Inverter replacement costs
  - Overproduction

## 7. Solutions/2

- Panel manufacturer long term solvency risk
  - Insurance hardly available
  - Careful selection
  
- Inverter replacement costs
  - Technical dd
  - MRA
  - Extended inverter warranty
  
- Overproduction
  - Significant gap between loan maturity and offtake maturity
  - Cash-sweep



## 8. Main points of concern in PV financing/3

### → Commercial issues

- EPC or O&M Contractor part of Sponsor's group
- EPC and O&M capacity

## 9. Solutions/3

- EPC or O&M Contractor part of Sponsor's group
  - Strong covenants
  - Availability of benchmarks
  
- EPC and O&M capacity
  - References
  - Careful selection

# 10. METÁR

- Winner's curse
- Difference between reference price and real power sale price
- Shorter support period
- Bundling of 0,5 MW projects?

# Questions & answers

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