Executive Summary of the Interview Report on PV Financing Schemes

PV Financing Project

Deliverable 3.4

This project has received funding from the European Union’s Horizon 2020 research and innovation programme under grant agreement No 646554

Executive Summary

The goal of the PV Financing project is to help stakeholders from specific application segments with the implementation of PV projects based on new PV business models while applying innovative equity and debt financing schemes. The countries covered by the project are Austria, France, Germany, Italy, Spain, Turkey and UK.

As part of the tasks focussed in the analysis of the financing schemes, interviews were carried out by the national implementation partners in order to understand the requirements for financing PV projects when applying different financing schemes. Equity investors as well as banks were interviewed in order to include the point of view of different investor types. Where necessary, multipliers (e.g. PV installers) were consulted to obtain an insight on several of the schemes.

The following (major) financing schemes were covered:

- **Equity schemes**
  - Private equity
  - Leasing
  - Crowdfunding (crowdfunding can be a debt scheme as well)
  - Energy cooperatives
- **Debt schemes**
  - Project finance
  - Loans
  - Bonds

The interviews showed that the schemes differ with respect to the financing cost and cost of obtaining the financing, the perceived risks and related guarantees as well as the suitability for the application segment or project size. The different elements are related (e.g. higher perceived risk demands more extensive guarantees and higher financing costs). Generally, it could be seen that in those markets where Feed-in-Tariff (FiT) schemes are still available, this incentive influences the structure as well as the usage of the different financing schemes (e.g. it marks the duration of the financing as well as the financing costs).

Summarizing the information recollected during the interviews, the following general conclusions could be drawn:

- **Private equity** is mainly used for small installations in the residential and commercial segments, although cases of private equity financing of large installations were found as well. The scheme is being used because of the relatively low investment costs of the smaller installations as well as the avoidance of financing costs.
- **Leasing** as well is mainly found in the residential and small commercial segment. In Turkey, it has been used for industrial installations as well. Leasing is usually related to a “worry-free” service package which includes all investment and operation expenses and where the consumer pays a fixed monthly rate or is billed according to consumption.

- **Crowdfunding** is used for projects that are searching public acceptance or local participation in the commercial or utility segment. The interviews have shown that crowdfunding can be organized through online platforms or banks as well as directly by the company wishing to install the system. Some crowdfunding schemes are based on equity others on debt.
- The **energy cooperative** scheme has been found in several countries. It has been used for larger installations. The structure of the cooperative and the participation of the investor depend on each case (e.g. investors can buy shares of the company as well as generated electricity of the installations of the cooperation).
- **Project finance** is mainly used for utility installations, in some cases for commercial systems. This is due to the effort involved in the extensive approval process (covering audits, certification, etc.) which is only justified for larger investments. This scheme is especially based on stable positive cash-flows and has therefore been used a lot in markets with a FiT scheme. PPA contracts are not always considered reliable enough by the financing party.
- **Loan schemes** could mainly be found in the commercial and utility segment, although in some countries residential investors are making used of this financing mechanism. The relative costs for residential users are higher than for commercial and industrial. The financed sum has to be guaranteed by other assets.
- **PV bonds** have been used in several countries for medium and large plants and are backed by the issuer's balance sheet. The bonds are usually used for a portfolio of projects which might include other renewable installations (e.g. wind).

Apart from these rather traditional schemes, other mechanisms were identified. These included **mezzanine capital** and **portfolio financing** as well as country specific schemes (e.g. enterprise investment schemes in the UK) which have usually been implemented because of a favourable regulatory situation.

In general the schemes are adapted to the country and market specific situations where the regulation plays an important role (e.g. some schemes have not been used on a general scale because of a missing regulatory framework).

The schemes will be further analysed in the following tasks of the PV Financing project.