Self-consumption in France and in Germany: definition and applications

Dr. Tobias Lehberg - Ernst & Young Law

Alexis Gazzo - Cleantech & Sustainability

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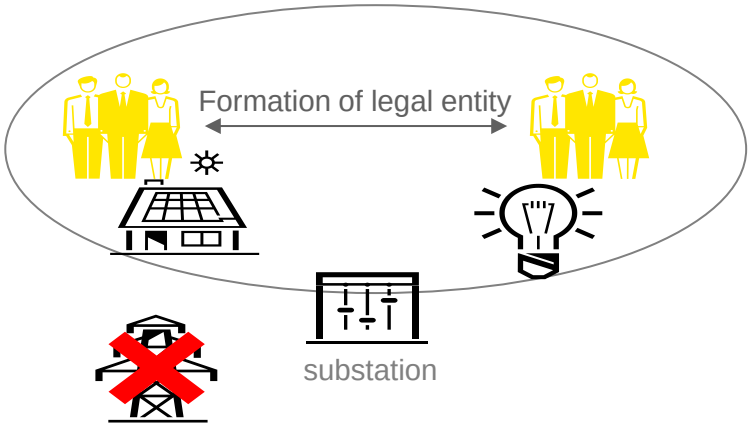
Keynote

- Attempt to compare two very different support schemes
  - „*Autoconsommation collective*“
  - „*Mieterstrom*“
- Very different legal framework and support schemes due to characteristics of the domestic electricity markets
  - 1,5 million self-consumption installations (individual and collective) in Germany at end 2017 vs 20.000 in France*
- Approach
  - Overview on support schemes in France and in Germany
  - Comparison: Legal requirements
  - Comparison: Commercial incentives / support scheme
  - Comparison: Business and legal relationships
  - Overview on main similarities and differences
  - Conclusion and Outloook

*source: CRE

Overview

Autoconsommation collective



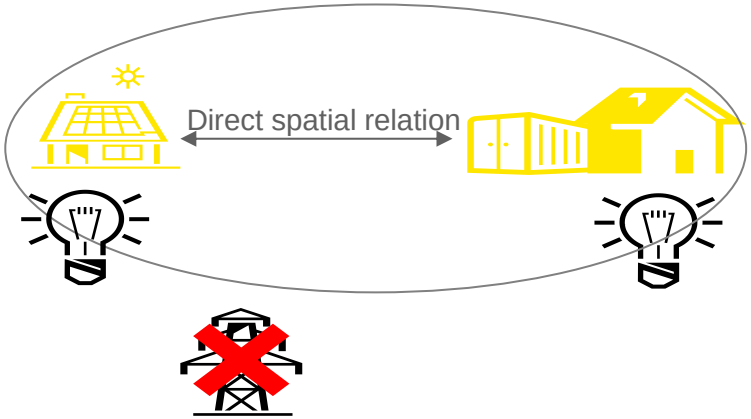
As of May 2018:

- **1 project in operation**
- **2 projects likely to start in the next 3 months**
- **40 projects in preparation**

Source: DGEC

- Main caracteristics
  - Regime established by the self-consumption ordinance (July 2016)
  - One or more energy producers
  - One or more energy consumers
  - Producers and consumers must form a legal entity
  - Connection points behind the same MV/LV substation
  - A contract must be established between the DSO and the legal entity to identify the participants and determine how the electricity generated is shared (pro rata by default)
  - Subsequent definition of new grid regimes to allow indirect connection of consumers: closed distribution network (December 2016) and internal building network (December 2017)

Overview
Mieterstrom



As of April 2018:

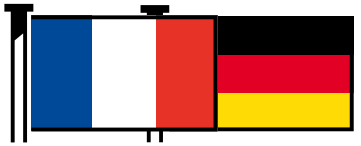
- **108 PV installations for *Mieterstrom* have been registered**
- **Capacity installed: 2.838,775 kW**

Source: BNetzA

- Main characteristics
  - PV installation < 100 kW
  - Production on, at or in a housing building (at least 40 % of use)
  - Electricity consumed within the same building or in buildings with direct spatial relation to the building
  - Delivery of electricity within microgrid (use of public grid not allowed)
  - Electricity price limited to 90 % of the tariff of the local base supplier
  - Mandatory provisions for the *Mieterstrom* supply agreement (duration, termination, …)
  - Package of *Mieterstrom* supply agreement and lease agreement not allowed

Comparison

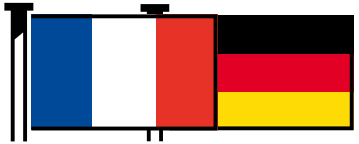
Legal requirements



	Autoconsommation collective	*Mieterstrom*
Source of energy	All RES technologies, no explicit capacity limitation	Only PV, max. total output 100 kWp
Geographical restriction	MV/LV substation	Consumption only in buildings with direct spatial relation to the building on which PV installation is installed
Contract partners	Consumers, producers, storage installation (if any)	*Mieterstrom* supplier
Producer	Not specified	Owner of the building or third person
Consumer	Not specified	Tenants/occupants
Surplus production	Not eligible for support	Eligible for support (market premium)
Additional supply	Consumer is responsible	To be provided by the supplier of Mieterstrom
Metering	Each participant is equiped with a smart meter	Metering instruments as prescribed by German Metering Act

Comparison

Commercial incentives / support schemes



Autoconsommation collective

- **Direct support**
  - Collective self-consumption installations may benefit from the feed-in-premium (FIP) support scheme applicable to individual installations (100-500 kW) provided that producers and associated consumers are located on the same site
- **Indirect support**
  - Collective installations are not eligible to exemptions from public charges (CSPE) and local energy taxes (TCFE) for self-consumed electricity applicable to individual installations
- **Adaptation of network tariffs**
  - The regulator (CRE) will apply from August 1st an optional network tariff distinguishing local and network flows, expected to reduce the draw-off component* by 13% for collective installations

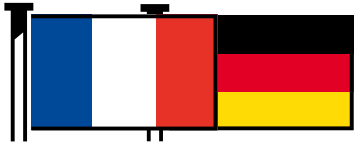
*TURPE/composante de soutirage

Mieterstrom

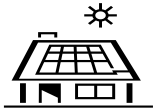
- **Direct Support**
  - *Mieterstrom* premium: incentive of feed-in PV installations minus deduction of 8,5 ct/KWh
- **Indirect Support**
  - grid charges including surcharges do not incur, but full EEG-surcharge is owed
  - exemption from electricity tax for small installations applies (only for *Mieterstrom*, not for fed-in electricity)
- **Cap**
  - Mieterstrom premium will be capped on a yearly basis, if PV installations exceed 500 MWp/year

Comparison

Business & contractual relationships



Autoconsommation collective



Energy producer

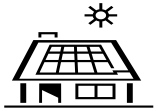
Legal entity

collective self-consumption contract

Energy consumer

Distribution system operator

Mieterstrom



Energy producer

Mieterstrom supply agreement

Agreement grid usage

Energy consumer

Distribution system operator

Conclusion

Overview on main similarities & differences

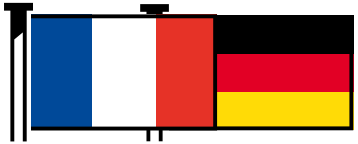
Similarities

- Limited perimeter of collective self-consumption (not up to the district)
- No use of public grid allowed for *Mieterstrom* and *autoconsommation collective*, only delivery within microgrids
- Support schemes (to a various extent)

Differences

- Focus on collective housing in Germany vs office and public buildings in France
- Role and tasks of DSO
  - Key function for *autoconsommation collective*
  - Usual functions within *Mieterstrom*
- Establishment of an entity required for *autoconsommation collective*
- Various degrees of flexibility regarding the supply agreements (e.g. price limit in Germany)

Conclusion & Outlook



Conclusion

- Both support schemes create first statutory incentives for prosumers
- High administrative effort in both systems
- Both systems are in an early market stage
- Neither system is yet fully stabilized:
  - Support schemes: in France, solar working group established by Ministry may lead to a support scheme for collective self-consumption in the form of a dedicated auction (Final measures to be released on June 19th)
  - Perimeter of self-consumption: in France, some stakeholders want to broaden the scope to an entire district. This is strongly opposed by the regulator (CRE)
- Local energy communities are under discussion as part of the Clean Energy Package

Outlook

- *autoconsommation collective* and *Mieterstrom* in the smart energy world
  - Impact of blockchain technology
  - Physical microgrid optimization (Software, Big Data)
  - Visualisation of production and consumption
  - Integration to smart homes and smart (micro)grids
  - Combination with storage devices and e-mobility charging stations

Contacts

Dr. Tobias Lehberg
Avocat
Ernst & Young Law

tobias.lehberg@de.ey.com
+ 49 211 9352 25854

Alexis Gazzo
Partner
EY Cleantech & Sustainability

alexis.gazzo@fr.ey.com
+ 33 1 46 93 63 98

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