

# Green Business Models for an electrical integrated solution in buildings

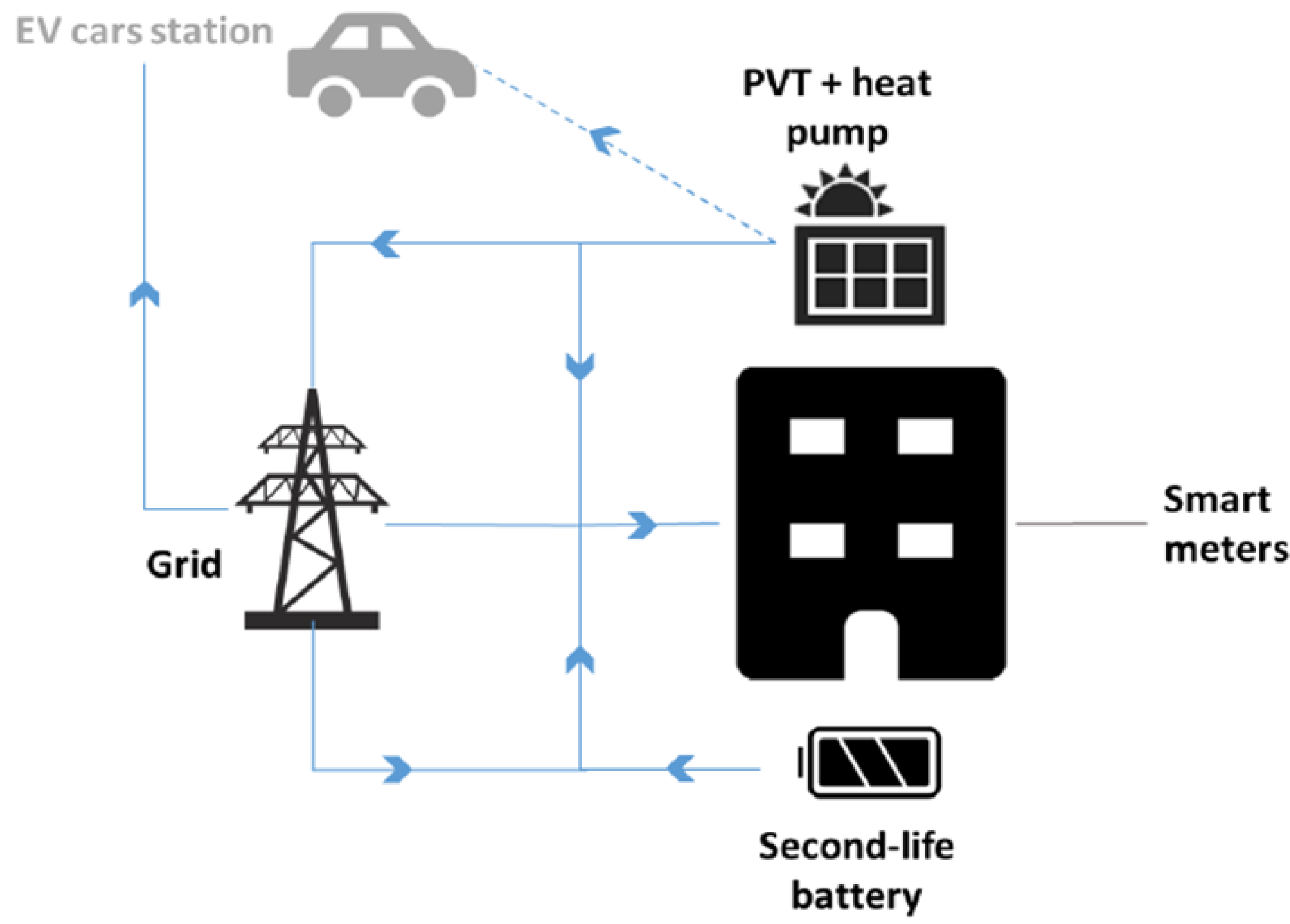


## OBJECTIVE & FOCUS

The READY project aims at developing and implementing creative technical solutions that increase buildings' energy efficiency and reduce the needs for fossil fuels. The concept of **Green Business Models** tackles these initiatives by proposing business models that deliver value to customers while encouraging sustainability, a reduction of resource use/waste and promoting environmental benefits.

### Demonstration sites

- Aarhus, DENMARK**
- A total of 43,400m<sup>2</sup> of social housing area (413 apartments)
  - 2,068m<sup>2</sup> of administrative building
  - 5,000-10,000m<sup>2</sup> private one-family houses (approximately 60)
- Växjö, SWEDEN**
- A total of 31,061m<sup>2</sup> of multi-family houses (316 apartments)
  - 11,162m<sup>2</sup> office building

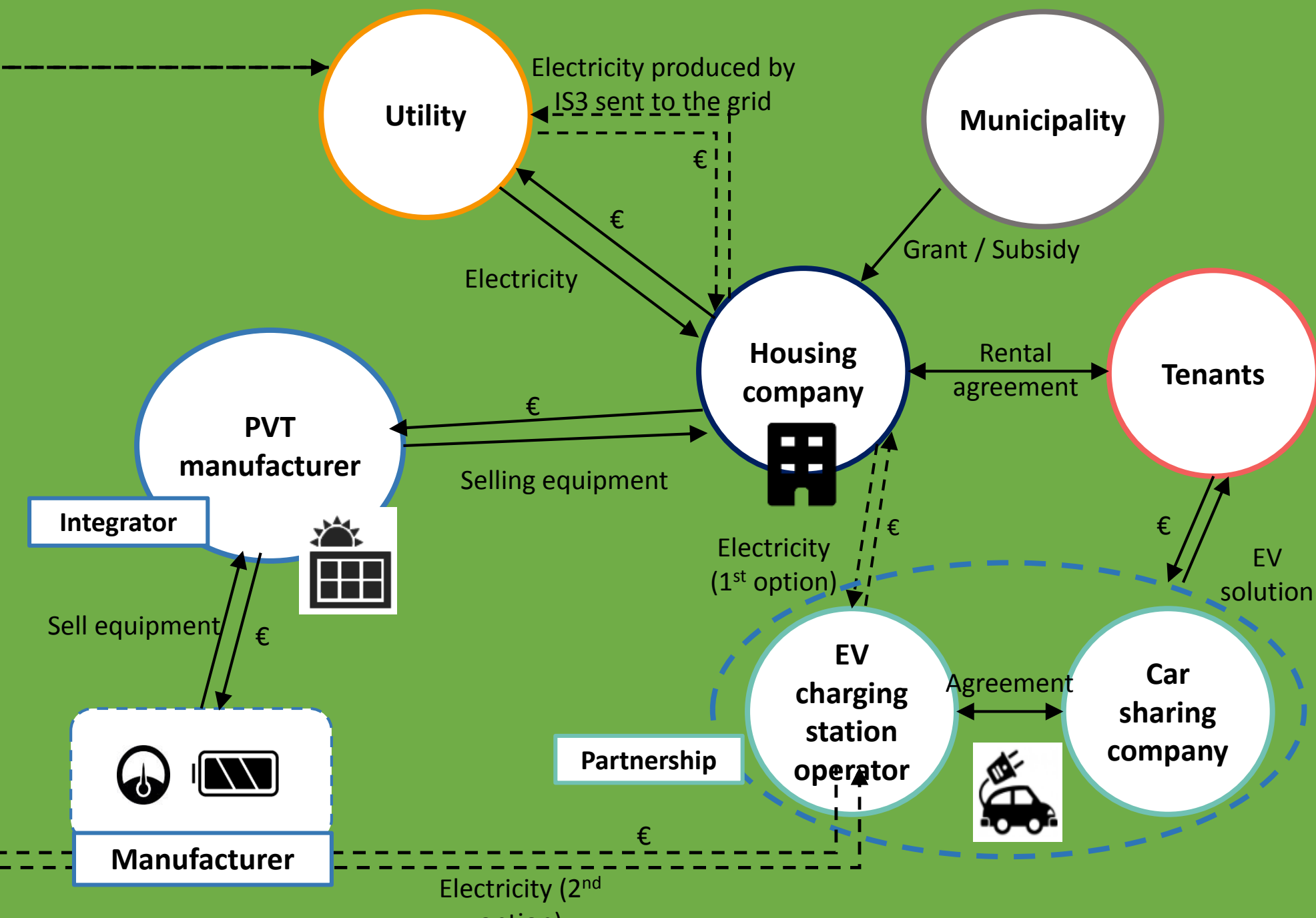


### Innovative integrated solution

- Production, monitoring and storage of electricity at building level
- Photovoltaic-thermal (PVT) panel
  - Heat pumps
  - Second-life batteries
  - Smart meters
  - EV charging stations
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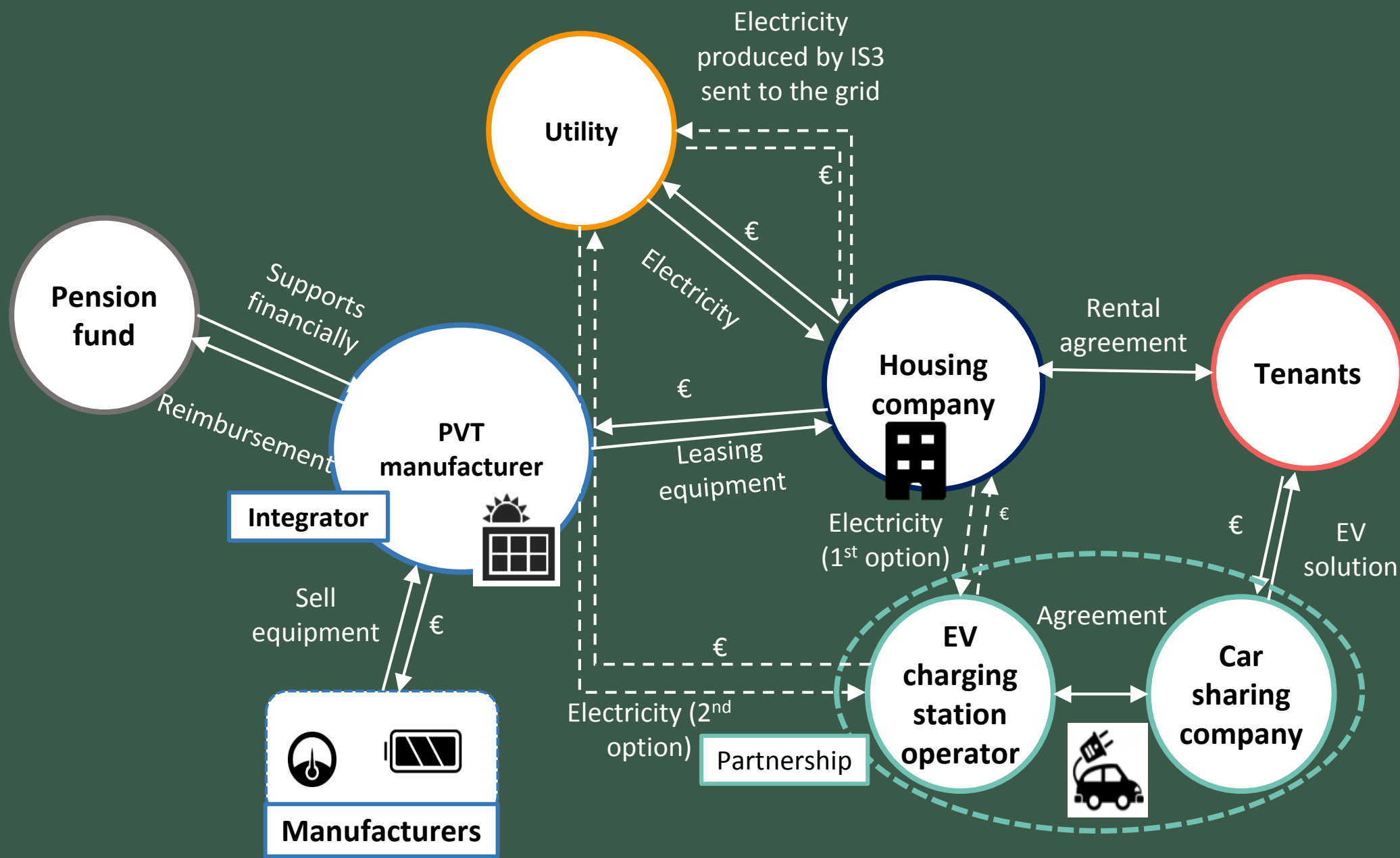
## GREEN BUSINESS MODELS

### BM1: Selling equipment



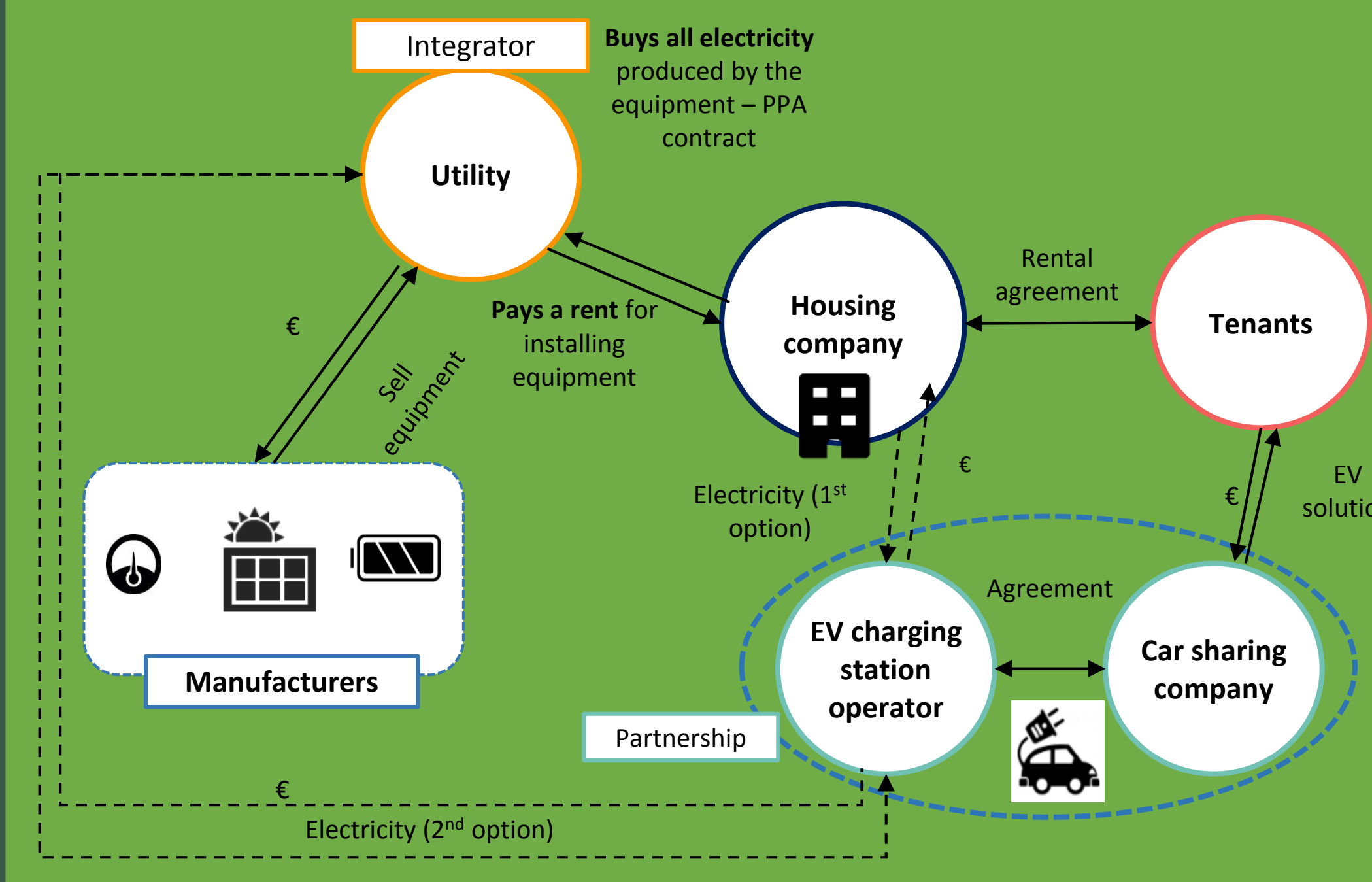
The PVT manufacturer acts as the integrator and sells the solution to the building owner  
**ROI: 12-13 years**

### BM2: Leasing equipment with a pension fund



The integrator of the integrated solution is the PVT manufacturer. All the equipment is leased to the building owner  
**ROI: 12-13 years**

### BM3: Rent roof & PPA



The utility acts as integrator. The building owner receives an incentive such a rent every month for the installation of PVT panels, battery and smart meters  
**ROI: 13 years**

	Advantages	Drawbacks
<b>Building owner</b>	<ul style="list-style-type: none"> <li>- Lower electricity bill</li> <li>- Green image</li> <li>- High flexibility with batteries</li> </ul>	<ul style="list-style-type: none"> <li>- High upfront investment</li> <li>- Performance risk</li> </ul>
<b>Integrator: PVT manufacturer</b>	<ul style="list-style-type: none"> <li>- Low involvement after the sale</li> </ul>	<ul style="list-style-type: none"> <li>- Strong competition with a widespread business model</li> </ul>

	Advantages	Drawbacks
<b>Housing company</b>	<ul style="list-style-type: none"> <li>- No high upfront investment</li> <li>- Lower electricity bill</li> </ul>	<ul style="list-style-type: none"> <li>- Long-term contract</li> <li>- Performance risk</li> </ul>
<b>Integrator: PVT manufacturer</b>	<ul style="list-style-type: none"> <li>- Larger number of potential customers → no investment</li> </ul>	<ul style="list-style-type: none"> <li>- Require important working capital or financing assisting</li> <li>- Non-payment risk</li> </ul>

	Advantages	Drawbacks
<b>Housing company</b>	<ul style="list-style-type: none"> <li>- No high upfront investment but an incentive</li> <li>- Lower electricity bill</li> </ul>	<ul style="list-style-type: none"> <li>- Long-term contract</li> </ul>
<b>Integrator: utility</b>	<ul style="list-style-type: none"> <li>- Larger number of potential customers → no investment</li> <li>- Avoid competition from PVT providers</li> <li>- Equipment at lower cost</li> </ul>	<ul style="list-style-type: none"> <li>- Performance risk</li> <li>- Financial risk</li> <li>- Market risk (must find a lot of customers to be viable)</li> </ul>

## MY SMART CITY DISTRICT

READY is part of the initiative My smart City District ([www.mysmartcitydistrict.eu](http://www.mysmartcitydistrict.eu)). This initiative gathers 7 projects and involves 21 cities from 12 different countries. They all share the common objective of promoting energy efficient renovation for cities and communities leading to large-scale replicability of sound energy efficiency solutions.



## PARTNERS

