



WeForming

Empowering Buildings. Energizing the Future.



EU Forschungsprojekt WeForming

Empowering Buildings. Energizing the Future

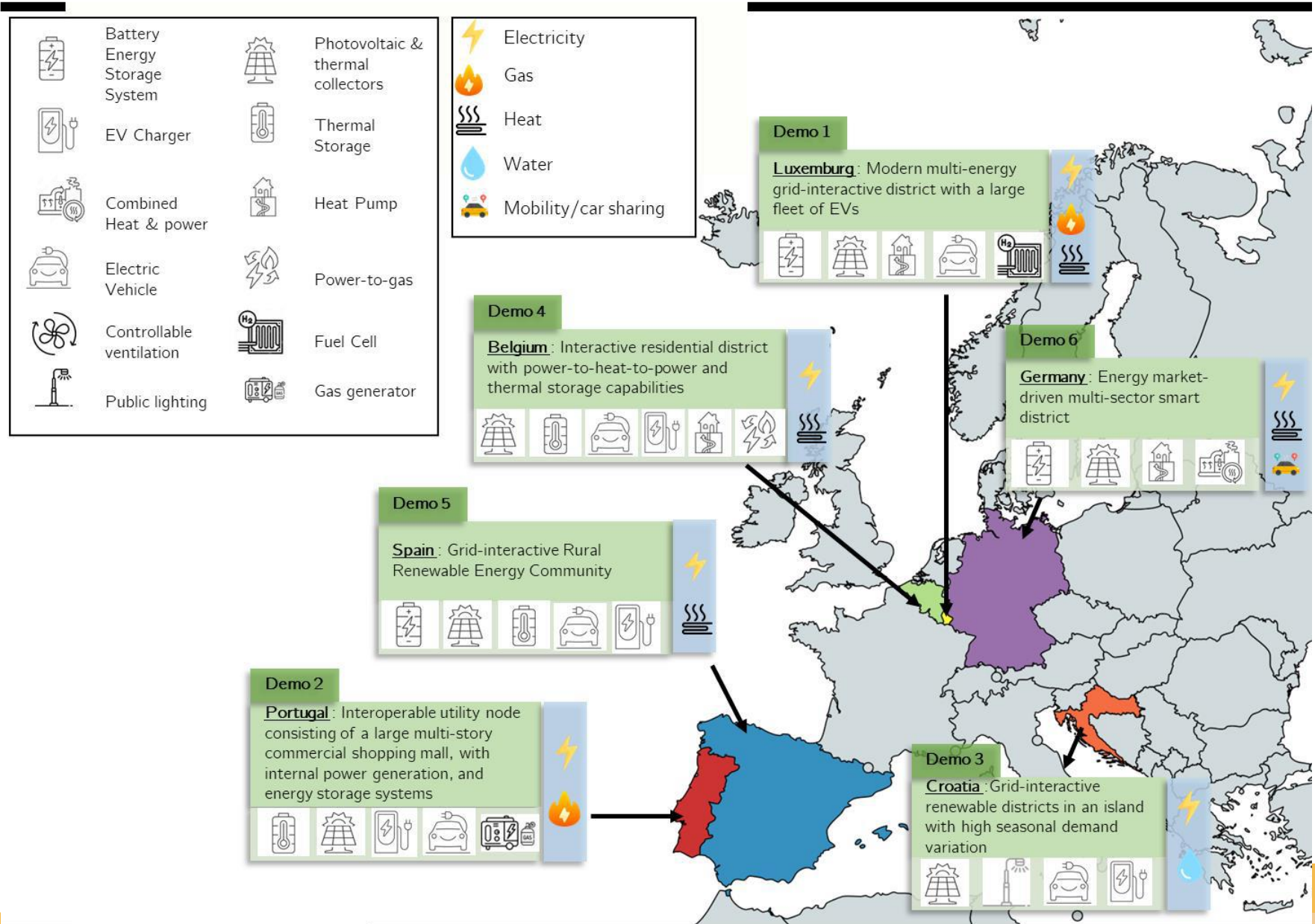
Das Reallabor Smart East geht weiter bis 2026!

- Smart East wird Teil des EU-Horizon-Forschungsprojekts „WeForming“
- Zusammen mit fünf weiteren Quartieren
 - Luxembourg, Portugal, Kroatien, Belgien und Spanien
- Das smarte Quartier wird zum Netzstabilisator weiterentwickelt
 - Batteriespeicher
 - bidirektionales Laden von E-Fahrzeugen mit Rückspeisung
 - dynamische Stromtarife
 - Green Carsharing
 - Sektorkopplung durch eine optimierte Wärmeversorgung mit z.B. Wärmepumpen

Project Objectives

- Platform for building-integrated renewable energy systems
- Demonstration and evaluation of building-integrated storage options
- Energy management with market-based optimization of consumption flexibility
- Building-integrated sustainable car-sharing services
- Implementation of business models for operating smart commercial buildings

Sechs Demonstratoren in Europa



Ziele des Demonstrators Smart East in Karlsruhe

- Netzstabilisierung ermöglichen
- Energiemanagement erweitern
 - Bidirektionales Laden
 - Wärmepumpen
 - Stationäre Batterie
- Geschäftsmodelle im Quartier ausbauen
- Flexibilitätspotentiale und Wirtschaftlichkeit ermitteln
- Zuverlässigkeit und Skalierbarkeit der Messinfrastruktur erhöhen

Energy market oriented smart commercial buildings with car-sharing e-mobility”

5) Implementation of business models for operating smart commercial buildings

- Renewable community tariff for tenants
- Green car-sharing
- Smart charge point operation
- Contracting of renewable energy

2) Demonstration and evaluation of building-integrated storage options

- Creation of a digital twin for the district power grid and the buildings
- Using electric vehicle batteries as electricity storage for buildings
- On-site electric district battery storage system
- Integration of a battery-based fast charging hub

3) Energy management with market-based optimization of consumption flexibility

- PV self-consumption
- Power constraints within the site / Peak shaving
- Support for the distribution grid
- Dynamic tariffs (resulting from the electricity market)
- Balancing power market

4) Building-integrated sustainable car-sharing services

- E-mobility based car-sharing
- Car-sharing service offered for tenants and external customers
- Green smart charging considering car-sharing reservations
- Usage of additional telematics information

1) Platform for building-integrated renewable energy systems

- On-site PV electricity generation
- Bi-directional smart charging infrastructure
- Sector-coupling with heat pumps