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A Positive Energy Block (PEB) is a group of at least 3 connected neighbouring buildings that annually produce more energy than required in terms of lighting, heating, cooling and ventilation.
Aim: to launch 100 PEB projects by 2020.

At least 1 PEB per Member State
50% in “Small Giants” (<150,000 inhabitants)

Focus: mixed & complementary usage of buildings
ICT for design & management
local renewable energy production
new & retrofitted buildings
public and private actors

Financing: exploring Smart Specialisation Strategy (S3) at regional level, EIB, Private investors...

Location: Identification specific to each city with preference given to central area for demonstration purposes
“Setting the Bar” for the PEB Initiative

Clear case and plan

**What:** 100 PEB

**Why:** Tackling energy issues together + social & economic urban regeneration

**Who:** local authorities, private partners & citizens

**How:** Action plan + Promotion through cities associations

**When:** NOW - identification of partners and content definition

Will it support our EIP goals?

**Pace:** progressive, adapted to capacity, launched end 2015

**Scale:** EU wide, all Member States involved, all cities sizes may participate

**Impact:** high replicability, adapted solutions; pull toward positive energy

**Integrated solutions:** innovative materials and design; ICT from conception to management; renewable energies and storage

**Common (repeatable) approach:** YES with geoclimatic and sizes adaptation
Introduction: a real case in Lyon

Towards PEBs: the example of HIKARI in LYON (France)

JOIN US!
Field visit of the Positive Energy Block HIKARI
Lyon
8 November 2016

Photographic credit:
HIKARI designed by Kengo Kuma and Associates

12,000 m² zero energy building in the Lyon-Confluence area
Introduction: a real case in Lyon

A block integrated in a district:

The Lyon-Confluence urban project

- 150 hectares (70 renewed)
- 1,000,000 m² net floor area to be built
- 20,000 residents (7,000 in 2000)
- 25,000 jobs (7,000 in 2000)

Existing neighbourhood
Phase 1: 2003-2018
Phase 2: 2012-2030
Commissionning of Hikari: September 2015
Introduction: a real case in Lyon

Hikari: a mix-use block

Total floor area: 12,300 m²

- Dwellings
- Office spaces
- Shops
Introduction: a real case in Lyon

Hikari: a positive energy block
Introduction: a real case in Lyon

Hikari: a positive energy balance

Energy production of Hikari
1.485 GWh of primary energy

Energy consumption of Hikari
1.482 GWh of primary energy

+2.8 MWh (0.2%)
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PEB = Circular Economy
When considering the PEB concept, a series of elements naturally come into place: the need for a smart grid; local renewable energy production; advanced materials, digital design; energy storage and connection to electromobility solutions...
Collaborative Platform

75 partners
19 countries
19 cities & regions
=
Dedicated community
UNIQUE Platform

- Cities & Regions: 25%
- SMEs & Consultancies: 12%
- Private Companies: 5%
- Government Agencies & PPPs: 5%
- Transport Services Providers: 5%
- Research organisations: 14%
- NGOs, EU projects & Indust. organisations: 14%
Connecting the “dots”

CITIES & REGIONS • =demand

FINANCING • =supply

SOLUTIONS PROVIDERS
Replicate solutions

- E-bus
- E-fleet
- E-freight
- E-mobility planning & smart charging

Other actions:
- Give the lead to cities and regions
- Address the barriers and find ways to overcome them
- Find the right partners
- Unlock financing
Urban mobility: Why to act at building/block level

“Real estate owners are the only real stakeholder when you want to create change (in home to work trips): companies tend to change location every 8 years, political legislations last 4 to 5 years, and people change jobs on regular basis. The real estate owners are the only ones who last for a longer period (10 to 15 years)”. (Minze Walvius, Advier)
Enable low energy mobility: spatial planning

EV4SCC
Enable low energy mobility during construction – the SUCCESS project

- **Thematic area:** Reduction of costs and negative impacts of the construction supply chain
- **Topic:** To what extent and how can the supply chain management and Construction Consolidation Centres (CCCs) concepts bring about generic solutions to improve the construction supply chains?
- **Duration:** 36 months *(Start 01/05/2015)*
- **Total budget:** 3.2 M €
- **Funding:** European Commission, Horizon 2020 programme, MG-5.2-2014: Reducing impacts & costs of freight & service trips in urban areas
- **Pilots:** 4 pilots in Luxembourg, Paris, Valencia and Verona
- **Partners:** 11 partners with different backgrounds and interests into an optimized construction supply chain, including construction companies and associations, public institutions, research centres with a strong public mission

http://success-urbanlogistics.eu
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http://success-urbanlogistics.eu
Enable low energy mobility: building design and operation

- Car free housing/car free offices
- Easy pedestrian access
- Parking standards: minimum/maximum/ in function of PT accessibility
- Mixed use parking facilities (private and public)
- Bicycle parking (standards) + cyclist amenities
- Dedicated parking for car poolers, shared cars, electric cars etc.
- Freight partnerships
EV market is diverse
Complex geographies of EV take-up (Source: TfL)
Estimated spread of ULEV uptake in 2025 (draft)
Complex geographies of EV take-up (Source: TfL)
Transport infrastructures as energy hubs

- **Micro-Mobility**
  - Bike, pedelec
  - Segway
  - Electro scooter

- **Public Transport**
  - Trains, trams, (trolley-) buses

- **Vehicle-Sharing**
  - (E-)car sharing
  - Bike sharing
  - Mobility sharing

**Key Points**
- Electric PT as a "backbone" of transport chains
- Micro-Mobility & Vehicle-Sharing to complete start & end mile

Source: Soath, IAO, 2011
Transport infrastructures as energy hubs

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  - Bike sharing

- **Electric PT as a Backbone**
- **Micro-Mobility complete start**

Source: Spath, IAO, 2011

www.eliptic-project.eu
EV4SCC contact
EVs as energy storage units

- Smart charging models are being piloted
  - Charge when demand for energy is low
  - Charge when energy price is low
  - Use vehicle battery as storage unit during production peaks / as energy source during demand peaks
- Central / common ICT tools
- Interreg project SEEV4CITY to pilot and deploy
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http://www.northsearegion.eu/seev4-city/about/
EV4SCC contact
EIP SCC Initiative meetings, Brussels, 22 November

EV4SCC:

• eFreight: Declaration of Intent
• eBus: validation of European principles for procurement of buses
• E-Mobility Planning and Charging: getting to know SEEV4CITY
Interested?
Become part of the initiatives
By signing the manifestos!
.eu-smartcities.eu)
Join the EV4SCC meeting
On 22 November...
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Business Models

Relevant initiatives:

Action Cluster on Business Models of the EIP-SCC Market Place

CITYnvest project
Existing business models, finance & funding instruments and procurement schemes do not fit today’s challenges within our cities and communities.

There is a strong need for knowledge sharing, innovation and expertise on these areas.

**Our aim:** To create pace, scale and impact by acting along these 3 interconnected axes.
We already:

elaborated a funding guide for projects and initiatives
published a report on Local innovation ecosystems

Now we are:

engaging a Finance Expert Working Group
gathering business models case studies

Participate in our webinar on 24 Nov.

How can cities enhance collaboration with businesses?

https://eu-smartcities.eu/content/webinar-how-can-cities-enhance-collaboration-businesses
CITYnvest

Fostering the Catalyst Role of Local Authorities to Accelerate Energy Efficiency Investments

The project focuses on supporting and replicating successful innovative financing models for energy efficiency renovations in buildings. It is now in its 2nd phase where it will support 3 pilot projects in Liege, Murcia and Rodhope.
Current results: library of 24 case studies which reviews innovative financing and operational models for large-scale retrofits.

Conclusion - challenges related to energy efficiency financing in cities:

- lack of standardisation
- perceived risk of energy-related investments
- issues with the balance sheets of local authorities as energy efficiency contracts are seen as a cost item rather than an investment, meaning that investment may be hampered by the EU’s Stability and Growth Pact (SGP).
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The role of the European Commission

Speaking: Georg Houben, DG ENERGY
Responsible for the EIP-SCC Market Place
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Speaking: Paul Cartuyvels, BOUYGUES Europe
Lead of the Action Cluster on Sustainable Districts and Built Environment

Join our upcoming meeting on 22nd November!
THANK YOU!

https://eu-smartcities.eu

Contact: info@eu.smartcities.eu

#EIPSCC

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