Oakland EcoBlock

Summary
Using a team-based, cross-disciplinary, whole-systems approach, the Oakland EcoBlock will incorporate state-of-the-shelf solar, water, and wastewater solutions to repurpose homes into high-performance dwellings that are maximally efficient, comfortable and secure. This requires: (1) individually retrofitting the energy, water, and waste-water systems of 28 contiguous houses in a block situated in North Oakland, a historically distressed neighborhood, and (2) linking them into an ‘intelligent’ operating aggregate that uses onsite renewable energy generation, storage, and management to create a net-positive energy and net-positive carbon neighborhood that reduces water use by 80% and minimizes waste from all sectors.

Expected project CAPEX: 8’903’000 €
Mandating Authority: City of Oakland, CA, USA
Project Type: Solar

Location and population
Oakland, CA, USA
42’000 inh.

Social and environmental impact
Environmentally, the project will result in a carbon positive neighborhood that will not only lower GHGs, but will provide inspiration and example for cities across the world. To ensure that the model is replicable, the team is working with California State Legislators and Commissioners to help design new regulations to accelerate sustainable neighborhood retrofitting and engage financial institutions to create financing solutions that stimulate the scaling of sustainable neighborhood-block repurposing at affordable cost.

Main stakeholders
University of California Berkeley, City of Oakland, Lawrence Berkeley National Laboratory, Stanford University, NASA Ames Research Center, and a myriad of non-profit organizations and community organizations.
Project maturity (IFC / World Bank Categories)

STAGE 1: Concept Development, Site identification

STAGE 2: Pre-Feasibility Studies

STAGE 3: Feasibility Studies

STAGE 4: Permitting / Financing / Contracts

STAGE 5: Engineering/Construction/Commercial Operation

**STAGE 1: Concept Development, Site identification**

Site identified: Yes

Site access:
- ✔ Adequate road
- Rail access
- Port facilities

Expected installed capacity:
0.220 MWp (220 kWp)

Technology:
Rooftop, rack mounted monocrystalline photovoltaic panels, 100 kW Flywheel energy storage, DC Fast Charging Electric Vehicle charging stations for shared vehicles

Energy resource data
Energy specifications and outputs determined by University of California, Berkeley Energy and Resources Group, Dr. Dan Kammen, lead author

Expected type of contract:
On-site consumption of energy through communal ownership of energy systems (DC Microgrid); grid connected to PG&E (private utility)

**STAGE 2: Pre-Feasibility Studies**

Pre-feasibility study:
Yes

**STAGE 3: Feasibility Studies**

Feasibility study:
Yes

**STAGE 4: Permitting / Financing / Contracts**

Land concession signed:
No

Grid Connection:
Under Negotiation

Building permits signed:
No

Environmental impact study:
No

Power Purchase Agreement:
No

Off-Taker:
No

Tenor:
No

Price of electricity:
No

Identified sources of fundings:
No

**STAGE 5: Engineering/Construction/Commercial Operation**

Engineering, Procurement and Construction Contractor:
No

Operation and Maintenance Contractor:
No

Comments:
No comment