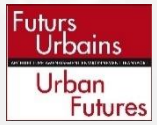
The Role of Mini-grids in Structuring Territorial Responses to Energy Transition Challenges

'Hybrid Electric Energy Systems in Low-Density Urban Environments'

City and Energy work group's seminar series

April 6th 2018



GT VILLE ET ÉNERGIE
LABEX FUTURS URBAINS

Labex Urban Futures

A research network consisting of 14 work groups
that focus on the dynamics of urbanized environments

The City and Energy work group

A collective research effort on the evolution of the energy sector
and its impact on other fields, in line with national and
international energy transition policies

⇒ focus on the territorial dimension

A vocation to foster exchange within scientific circles
and beyond

⇒ focus on cross-cutting problem issues

The seminar series

Hybrid Electric Energy Systems in Low-Density Urban Environments

This study day

The Role of Mini-grids in Structuring Territorial Responses to the Energy Transition Challenge

These processes are structuring elements of the energy transition

Hybridization processes
and their effect on territories
(combination of fossil and renewable energy, of public and private networks, multi-scalar configurations)

The increasingly central role
of low-density urbanized areas in
the evolution of energy governance,
management, financing, and use
(semi-rural, suburban areas)

=> How do these two processes interact ?

Let's start an interdisciplinary
and inter-field dialogue!

Programme

Leading enquiry for the study day :

How does the diffusion of mini-grids affect territorial development and, inversely, how do local singularities structure decentralized energy systems?

Three thematic sessions:

- *The Local Governance of Electric Energy*
- *Network Interfaces, Socio-technical and Legal Aspects*
- *Business Models and Minigrid Management Systems*

Session 1

The Local Governance of Electric Energy

JEAN-CLAUDE BERTHÉLEMY

Professor at Paris 1 Panthéon-Sorbonne University's Economic Studies department, researcher at the Foundation for research and international development studies (*Fondation pour la recherche et ledéveloppement international*).

Presentation:

Mini-grids as Examples of Application of Elinor Ostrom's Thesis on Polycentric Governance of the Tragedy of the Commons

Main points

- How can decentralized energy grids help improve access to energy ?
- Elinor Ostrom's theory on commons and design principles - a useful analytical tool to identigy best practices at the institutional level
- The 'Collaborative Smart Mapping of Mini-grid Action' project
- Examples of projects in sub-Saharan Africa and South-East Asia

Session 1

The Local Governance of Electric Energy

FANNY LOPEZ

Professor of architecture history at Architecture School ENSAVT Marne-la-Vallée, researcher at Laboratory for studies on Infrastructure, Architecture and Territory (LIAT).

Presentation:

Inverting Electric System Hierarchy.
Micro Grids in New York

Main points

- Deployment of decentralized energy systems as a response to natural disaster risks;
- The new actors and their roles;
- Impact of the digital revolution on energy production systems.

Session 1

The Local Governance of Electric Energy

RONAN BOLTON

Professor at the University of Edinburgh,
researcher at the Science, Technology and Innovation Studies department.

Presentation:

Lock-in and Lock-out: System Interfaces, Local Networks, and the Politics of Low Carbon Transition

Main points

- Understanding how interfaces between different local energy networks and other infrastructures are shaped;
- Identifying key system integrators;
- Where and how hybridization/ interfaces are emerging as a key site of technological ambiguity, contestation, and opportunity for radical innovation innovation?
- Identifying the synergies/tensions between different scales of energy systems integration.

Session 2

Network Interfaces, Socio-technical and Legal Aspects

JEAN SONNET

Director of decentralized energy generation projects for the French power company Omexom, a branch of the Vinci Energy group

Presentation:

Transforming energy systems. Locally-shared energy in the French context

Main points

- Changes in the French legal environment, and their impact on the energy sector;
- The different configurations of decentralized energy generation: total/partial, individual/collective;
- A testing ground : the 'Smart Marmagne' mini-grid project.

Session 3

Business Models and Minigrid Management Systems

MAXENCE BOQUEL

Consultant, Energy and Services division, Yélé Consulting company.

Presentation:

Presentation of an ongoing project: 'Social, Sustainable and Rural Energy in Mali'.

Main points

- How does giving access to electricity transform rural environments?
- How can we address the triple objective of sustainability in the framework of mini-grid projects?
- A testing ground: mini-grid project in rural Mali.

Session 3

Business Models and Minigrid Management Systems

JENS WEINMANN

Professor and programme director at the European School of Management and Technology, Berlin

Presentation:

New Business Models Transforming the Energy Sector in the Global North and South

Main points

- There is a diversity of new business models that enable decentralized energy production : each of them responds to specific political, legal, economic conditions.
  This presentation offers a taxonomy;
- Examples in Europe, Asia and the Americas;
- The blockchain technology – a pivotal element for the energy sector;
- Synthesis: the main characteristics of new business models.

Thank you for your attention.

Let's begin our study day !