

Carbon-neutral EcoDistricts

Pillars of energy transition



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So, an eco-district is not:

- ✓ Strictly a real estate development with eco-energy buildings;
- ✓ An island built in a natural setting;
- ✓ A showcase for high-performance technological solutions;
- ✓ A bastion reserved for wealthy people and isolated from its surroundings

To the contrary, an eco-district should be:

- A living environment that is as complete as possible, meeting the various needs of a varied population;
- A district connected to its environment;
- An opportunity to improve on the status quo, for the district itself and for its surrounding areas;
- Structuring and efficient long-term solutions.

An eco-district is meant to represent a model of urbanization, ensuring the quality of life of its residents and making it possible to significantly reduce the use and natural, energy and financial resources, during its construction and through the lifestyle of its residents.

Eco-district objectives

OVERALL PRINCIPLES

- O.1 Optimization of equipment and infrastructures
- O.2 Equity, solidarity and democracy
- O.3 Eco-systemic development approach
- O.4 Resilience and adaptability

AT AN AGGLOMERATION LEVEL

- A.1 Consolidation and contiguity of urbanization
- A.2 Protection of agricultural lands
- A.3 Protection of natural environments
- A.4 Linkage of urbanization and the structuring public transit network
- A.5 Connections and complementarity

AT A DISTRICT LEVEL

- D.1 Compactness and density
- D.2 Mix of activities
- D.3 Proximity and diversity of commercial and service offerings
- D.4 Permeability of the urban fabric
- D.5 Variety, quality and strategic distribution of public spaces
- D.6 Diversity of housing types
- D.7 Access to public transit
- D.8 Continuity and efficiency of bicycle path network
- D.9 Efficient management of resources and external elements

Eco-district objectives

AT A STREET LEVEL

- S.1 Priority to active transportation: walking
- S.2 Priority to active transportation: cycling
- S.3 Reduction of street widths
- S.4 Easing of traffic
- S.5 Quality of public developments
- S.6 Vertical mix of activities
- S.7 Continuity of the built environment
- S.8 Reduction and optimization of ground-level parking lots

AT A BUILDING LEVEL

- B.1 Comfort and quality of life of users
- B.2 Efficient building: healthy and user-friendly
- B.3 Efficient building: bioclimatic strategy
- B.4 Recycling and energy production
- B.5 Architectural diversity and quality of the built environment
- B.6 Openness to the street
- B.7 Equipment promoting sustainable mobility

EVALUATE RESULTS, NOT INTENTIONS

VIVRE EN VILLE (2014). Objectif écoquartiers : Principes et balises pour guider les décideurs et les promoteurs. 64 p.

Governance is key

2020: Pivotal year for the Montréal EcoDistrict process

The **public consultations** held by the Office de consultation publique de Montréal (OCPM) **upstream of projects** are becoming more and more frequent.

We are witnessing the birth of innovative co-construction processes, where local communities are involved in the overall design process of new neighbourhoods.

Formulas vary, we are experimenting. We are laying the foundations for the creation of a Montréal EcoDistrict program with projects like Louvain-Est, quartier des Faubourgs, Lachine-Est, **Namur-Hippodrome** and others.



An aerial photograph of a modern residential development. The buildings feature a mix of materials, including light-colored concrete and vertical wood slats. Many units have balconies with glass railings and some have rooftop gardens or green roofs. The overall aesthetic is clean and contemporary.

From the Sommet de Lachine-Est to the Montréal-Strasbourg partnership

- March 9, 2019: 200 participants in the Sommet de Lachine-Est:
 - Alain Jund, Strasbourg elected official and president of the Commission ÉcoQuartier française
- Partnership agreement between Lachine and Strasbourg
- July 2019: Montréal delegation to Strasbourg
- October 2019: Strasbourg delegation to Montréal

Photo: Ville de Strasbourg (2018) *L'Eurométropole et ses ÉcoQuartiers, un territoire en transition*, p. 25.

Montréal must launch its own EcoDistrict certification

The success of the French program demonstrates its relevance



4 steps:

1. EcoDistrict project
2. EcoDistrict under construction
3. EcoDistrict delivered
4. EcoDistrict confirmed

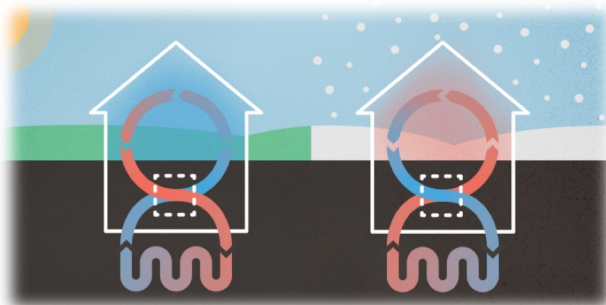


Photo: JF Lefebvre, 2016

Clichy-Batignolle EcoDistrict, Paris:

600 French EcoDistricts already certified
or to be certified in 2019.

To work towards **carbon neutrality** the EcoDistrict approach must first focus on some major structuring issues



- Priority to renewable energies
- Energy management on a district-wide scale
District heating and cooling systems (DHCS), district geothermal systems and more.

- Developments focused on active and collective transportation (often tramways)
TOD (Transit Oriented Development)
POD (Pedestrian Oriented Development)

- Greening made possible by limited automobile use and structured by a Biotope Area Factor (BAF):
Targeting a greening rate of around 60% for new developments
GOD Green Oriented Development

Structuring modes of public transportation, essential to the development of EcoDistricts



- ❑ The pedestrian-attraction distance of buses is short, at approximately 250 metres.
- ❑ That leads to numerous low-frequency routes and mediocre service outside of rush hours.
- ❑ Even hybrid buses do little in terms of reducing GHG emissions.



- ❑ The pedestrian-attraction distance of tramways is greater, up to 750 metres
- ❑ Tramways are quiet and comfortable, and redefine urban development.
- ❑ They are electrified without involving the GHG emissions caused by battery manufacturing.



- ❑ Every dollar invested in the tramway rather than the metro (or the REM skytrain) allows the development of 10 times more electrified public transit stations accessible on foot.

What is a **carbon-neutral** EcoDistrict?

A development applying highly environmental qualities contributing to city redevelopment to reduce GHG emissions while increasing adaptation to climate change...

...and carried out as a co-construction to meet the needs of the population while promoting an inclusive energy transition.

ÉcoQuartiers Western Harbour et Bo01, Malmö, Suède (photos : JF Lefebvre, 2015)



A Montréal EcoDistrict process in the making, possible certifications

- BREEAM Communities – Building Research Establishment (BRE) Global
- BREEAM New Construction – Building Research Establishment (BRE) Global
- Equilibrium Communities – Canada Mortgage and Housing Corporation (CMHC)
- **EcoDistrict – Ministère de l'Écologie, du Développement durable, des Transports et du Logement, France**
- EcoDistricts Framework – Portland Sustainability Institute
- **LEED-AQ – Canada Green Building Council**
- **LEED Housing – Canada Green Building Council**
- Living Community Challenge – International Living Future Institute
- **And many others**





Imagine Lachine-Est

- NPO created in October 2015 aimed at supporting the development of an EcoDistrict in the Lachine-Est sector while promoting Eco-Districts in general.
- www.imaginelachineest.org