

## Renovation of Place Henri Becquerel with the creation of an innovative demonstrative platform - Pontarlier (25)

by [Eric Vermot](#) / 2018-06-19 09:48:34 / France / 5274 / FR



**Green energies** : Thermal solar, Geothermal, Heat  
**Sustainable mobility** : Roads  
**Circular economy and waste management** : Reuse



540 521 €

**Builder**  
Eurovia

### GENERAL INFORMATION

As part of the overall renovation of the Place Becquerel in the city of Pontarlier (25), the Vermot company (a subsidiary of Eurovia) installed Power Road® in

August 2017 in order to clear and de-ice the parking lot of the Lycée Xavier Marmier ( located on the square), the bus dock and some sidewalks in winter.

The source of energy provided for its operation is the use of the Pontarlier heat network whose energy is generated by the combustion of household waste from the energy recovery unit of waste (Valopôle). The installation of the self-clearing roadway in the Xavier Marmier high school car park (4,400 m<sup>2</sup>, including 3,500 m<sup>2</sup> equipped) is an opportunity to reconcile the extension of the heating network and the refurbishment of an aging car park. This demonstrator will define the connection protocols to a heat network and measure and optimize the energy balance on this mode of operation ... while improving the comfort and safety of users (accident risk reduction, safety of students, staff and visitors).

## Progress Status

Delivered

## Data Reliability

Self-declared

## Funding Type

Public/Private Partnership

## Website Enterprise / Infrastructure

<https://www.power-road.com/>

## Sustainable Development

### Attractiveness :

This innovation, thanks to the combination of local know-how and the research capabilities of a large group, illustrates the development of pavement functionalities. This type of device could also be implemented for sensitive installations whose operation must be kept operational in all weathers (airport for example) or to secure roads made dangerous by the ice storm. Other uses are also possible such as heating homes or buildings or reducing the effects of urban heat islands

### Well Being :

Power Road helps secure the mobility of pedestrians and vehicles in winter.

### Social Cohesion :

By offering optimal conditions of movement in winter, it secures the movements of users and especially pedestrians on the public space. The risks of falls by slips are removed and induced effect, the consequences sometimes heavy and expensive, they generate for victims but also for insurance, are also.

### Preservation / Environmental Improvement :

The use of de-icing of the roadway and its dependencies using calories from the district heating circuit return network, significantly limits the environmental impact that snow removal operations would generate with, on the one hand, the elimination of pollution caused by the use of salt, and on the other hand, the removal of greenhouse gases from salt-carrying vehicles and those responsible for snow removal.

### Resilience :

Power Road allows a normal maintenance of the roadway without means or special precaution. In addition each section of the circulation system of the heat shield can be neutralized and repaired in case of degradation.

### Responsible use of resources :

Power Road is a totally recyclable process (mixes and tubes).

## Governance

City of Pontarlier

**Holder Type :** Local Authority

Eurovia

**Builder Type :** Construction Industry

Alongside the Eurovia teams, the involvement of specialized partners complements Eurovia's expertise in the three specific areas of mechanical behavior of the Power Road® roadway under traffic, energy performance and the design of thermal systems. using Power Road®.

- The IFSTTAR (French Institute of Science and Technology for Transport, Planning and Networks), a public scientific and technological institution, is associated with the project for the analysis of the mechanical behavior of Power Road®. IFSTTAR has equipped one of the demonstrators with a fatigue carousel (FABAC) that tests the mechanical behavior under simulated traffic of the Power Road® pavement. It monitors the results and will participate in their analysis.
- CEA Tech, the "technological research" pole of the CEA (Commissariat for Atomic Energy and Alternative Energies), is supporting Eurovia on the energy side of the project, in order to model and optimize the performance of Power Road® in this area. Studies and experiments are carried out on the platforms of the National Institute of Solar Energy (Ines), whose CEA is one of the partners.
- BURGEAP, an engineering office specializing in the environmental professions, is Eurovia's partner for the geothermal design of the project. BURGEAP is responsible in particular for studying the recoverable performance of the inter-seasonal vertical geothermal probe (SGV) storage method, coupled with the Power Road® concept.

## Sustainable Solutions

Power Road - The Positive Energy Road

### Description :

Power Road® is based on a simple concept: a road that has all the usual safety, durability and recyclability characteristics for a roadway and that adds to these performances a thermal energy production capacity, capturing the heat of the sun. This heat is stored and transmitted to the surrounding infrastructure. The application of this concept is based on the integration, in the upper layers of the roadway, of a heat exchanger, consisting of tubes in which circulates a coolant. Power Road® is reversible: it can be either a thermal energy sensor linked to solar radiation during the summer; a heat emitter in particular to guarantee the viability of roads (snow removal and de-icing of roads) in winter.

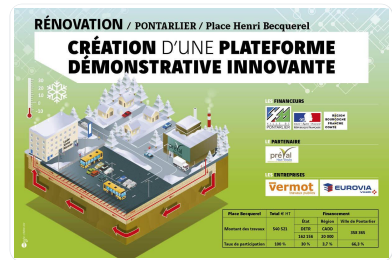
- Energy/climate :

<https://www.power-road.com/>

Company (es) Website :

Company (es) Website :

Company (es) Website :



## Contest

### Reasons for participating in the competition(s)

L'un des enjeux principaux de Power Road® est de développer l'utilisation de la géothermie et de l'énergie solaire thermique : la route devient ainsi un producteur et un vecteur de chaleur renouvelable, en limitant le recours aux énergies fossiles, sources d'émissions de gaz à effet de serre. Cet enjeu est pleinement en phase avec l'objectif fixé par la loi pour la transition énergétique de 2015, qui est d'augmenter de 50 % la capacité des énergies renouvelables en France d'ici 2023. Power Road® participe également à la lutte contre le changement climatique en contribuant à réduire les effets d'îlots de chaleur urbains (ICU) grâce au rafraîchissement des chaussées. Il permet de limiter la demande en énergie relative aux systèmes de climatisation.

### Building candidate in the category

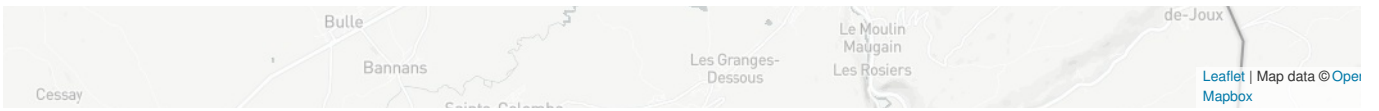


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