

ENERGY IN MOTION (FOR INTERWOVEN IDENTITIES)

Improving local eco-mobility and strengthen appropriation of the territorial identity through locally-produced energy.

Situation

Over the last three decades, the multi-century agricultural identity of Plateau de Saclay had to cope with the urban sprawl generated by Paris metropolis, as well as with the airdrop of an advanced research base seeking for its world recognition as “French Silicon Valley”. The proposal *Energy in motion* is questioning the physical borders of those three strong identities to bring forward the emergence of a common ground. To do so, it appears crucial to offer an active project where the members of each territory of the Plateau (the farmers, the inhabitants and the students & researchers) could engage and mingle in.

Keeping this citizen-oriented scope in mind, various available natural resources have been identified at the scale of the energetic landscape of Plateau de Saclay as potentialities: water, soil, wind and solar. For this workshop, we would especially focus on the solar question and how it could improve the cycling mobility. Indeed, the socio-ecological transition is requiring a shift from our daily life habits. If cycling can first appear as an individualistic practice, it calls for thinking and planning collectively the practical solutions of its diffusion.

Solution

Energy in motion is aiming to create a solar bicycle lane accompanying the current bicycle network program with the aspiration to become a network used for daily commuting. During the day, those solar lanes will harvest the energy from the sun. When night comes, a LED technology enlights the lanes and a tactile sensor recognize the position of the pedestrian. Thus, only a specific fraction of the bike road will be lighten up. Without illuminating all the site, the dark corridors required in the evening for biodiversity are preserved.

To encourage travels between the Plateau and the Valleys, an electric bike sharing program is here proposed. Charging stations will be implemented in the main clusters and villages of the Plateau. From a leisure perspective, the solar bicycle network is also an opportunity to stride the Plateau. This practice is supported by the erection of several solar towers on the Plateau, each offering a specific viewpoint on a beautyspot of the landscape (such as Étang Vieux du Saclay, Aéroport de Toussus-le-Noble, etc.). As the name specify, these towers are able to produce energy and eventually they could become a series of new landmarks in the territory. Whilst *Energy in Motion* would make the Plateau a desirable landscape, on the other hand it could also reinforce the idea of “French Silicon Valley” which is not limited only to companies and offices but can also offer a connection to nature in the long run.

Technological input

The cut-edge technology of the tower accounts charging station for bikes. Towers are equipped with a battery allowing to store overproduced energy. The energy surplus is also re-injected in the territorial grid occasionally. A visible alert device could make people warned about the amount of energy produced and consumed during the day. The whole system is more than a bicycle lane producing electricity through solar energy, it is an experimental smart grid at the scale of the Plateau. In the future, we could imagine that more solutions to harvest other natural resources will appear. In that case, the grid might become more resilient in case of a shock reduction of the producing capacity of one resource.