REDEVELOPMENT TRAJECTORIES OF NUCLEAR SITES. THE CASES OF BRUNSBÜTTEL AND FESSENHEIM

Belinda Ravaz, School of Engineering and Management Vaud, HES-SO University of Applied Sciences and Arts Western Switzerland, +41 79 462 41 71, Belinda.ravaz@heig-vd.ch

Overview

Around the world, more than 100 nuclear power plants will be shut down in the coming decades. Many articles focus on the socio-economic aspects of nuclear site closure. These articles mainly highlight the economic and demographic damage caused by the shutdown and the opposition to their closure (Pasqualetti and Pijawka, 1996; Kotval and Mullin, 1997; Garcier and Le Lay, 2006; Greco and Yamamoto, 2019). Many of these studies focus on specific cases without comparison. They generalise the consequences of the shutdown for all sites. However, the intensity of the impacts varies according to the characteristics of the host territory (Meyer, 2015). It is therefore relevant to analyse the territorial trajectories followed by nuclear territories with fundamentally different characteristics.

This communication proposes to highlight the factors that influence the post-nuclear territory trajectories. Since nuclear power plants have left their indelible mark on their land over a long period of time, the debate, the decommissioning and the redevelopment projects vary significantly from case to case. The projects may be a continuity of industrial practices by suggesting, for example, the implementation of new factories . They can also be a negation of the industrial and nuclear heritage by destroying all traces of the plant in order to return to the greenfield. Or they can be reinterpreted through a new project in the field of energy, for example. Considering this dynamic, we will focus on two contrasted cases: Fessenheim (France) and Brunsbüttel (Germany).

Methods

Our methodology is based on documentary research, and interviews with actors involved in the territory project. First of all, we reconstructed the history of the nuclear power plants from its construction to the present day. We mainly used grey literature and articles from the local and regional press. Then, we carried out semi-directive interviews with various local stakeholders involved in the project of redevelopment.

Results

Our analysis revealed three factors de three factors that influence the redevelopment trajectories: socio-political interests ; nuclear heritage ; and waste issues.

In Brunsbüttel there are no socio-political interests. No project was developed to plan the area's future. The energy company only announced a return to the greenfield without giving further explanations. The plant was not important from an economic, social or demographic point of view. In contrast, the Fessenheim plant was deeply connected to the local socio-economic tissue. Consequently, we find strong competition between local actors, the state and the energy company to impose their vision of the region's future.

In Brunsbüttel, there is a desire to make the nuclear heritage invisible. We want to go back to greenfield as soon as possible. Both the city and the energy company are on the side of green energy. In Fessenheim, there are two conflicting visions. On the one hand, some actors want to continue to live with nuclear by creating a recycling factory for low-level radioactive waste or by exhibiting parts of the plant in museums. On the other hand, some actors are lobbying to prevent this and want the region to become nuclear free.

This low-level waste recycling plant, called technocentre, is the subject of numerous debates. The issue of waste can be found in both case. In Fessenheim, the technocentre is not unanimously supported. French law considers all waste from a nuclear power plant to be hazardous. However, the use of the technocentre implies the introduction of a derogation and the implementation of a radioactivity limit of 10 microsieverts. This limit is also being discussed in Brunsbüttel. In Germany, the law stipulates that if the waste has a radioactivity level of less than 10 microsieverts, it must be managed by a public dump. So the waste has to be sent to Lübeck, about 100 km from the plant. Lübeck refuses the waste. There are many debates about the accuracy of the radioactivity level, or the citizens' right to be consulted. No agreement has yet been reached. The management of decommissioning is completely out of the hands of the energy company, because this waste is subject to a different regulatory scale.. A battle between the different levels of regulation (city, Land, country) is in progress.

Conclusion

In our two cases, we are faced with new processes. There is little or no experience of post-nuclear territory redevelopment. The redevelopment projects are linked to the absence of a discussion on the way in which the decommissioning of the site and the territory redevelopment is managed. These questions escape the attention of the stakeholder. Their ability to grasp the transition issues is therefore weak. We have observed that three factors have an influence on this redevelopment : the local dynamics prior to the closure ; the place of nuclear power in the socio-economic environment ; and the waste issue.

References

Garcier, R. J., Lay, Y.-F.L., 2015. Déconstruire Superphénix. EspacesTemps.net Revue électronique des sciences humaines et sociales.

Greco, A., Yamamoto, D., 2019. Geographical political economy of nuclear power plant closures. Geoforum 106, 234–243. https://doi.org/10.1016/j.geoforum.2019.08.017

Kotval, Z., Mullin, J. R., 1997. The Closing of the Yankee Rowe Nuclear Power Plant: The Impact on a New England Community. Journal of the American Planning Association 63, 454–468. https://doi.org/10.1080/01944369708975939

Meyer, T., 2015. Une analyse comparative des géopolitiques locales du nucléaire civil en Allemagne et en France. Trajectoires. Revue de la jeune recherche franco-allemande. https://doi.org/10.4000/trajectoires.1533

Pasqualetti, M. J., Pijawka, K.D., 1996. Unsiting Nuclear Power Plants: Decommissioning Risks and Their Land Use Context. The Professional Geographer 48, 57 – 69. https://doi.org/10.1111/j.0033-0124.1996.00057.x

Ravaz, B., Meyer, T., Bombenger, P. — H., Martin, B., Capezzali, M., 2021. Les effets ambivalents des héritages dans la reconversion des anciens territoires nucléaires. VertigO — la revue électronique en sciences de l'environnement.