D8.9 House of Energy didactic areas

Renewable and Waste Heat Recovery for Competitive District Heating and Cooling Networks

REWARDHeat

Project Title: Renewable and Waste Heat Recovery for Competitive District Heating and Cooling Networks

Project Acronym: REWARDHeat

Deliverable Title: D8.9 House of Energy didactic areas.

Lead beneficiary: ENSOL

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Due date: 30 March 2022 (due)

QUALITY CONTROL ASSESSMENT SHEET			
Issue	Date	Comment	Author
V0.1	08/02/2024	First draft sent to reviewers	Christian Keim - EDF
V1.0	16/02/2024	Submission to the EC	Roberto Fedrizzi

This document has been produced in the context of the REWARDHeat Project.

This project has received funding from the European Union's Horizon 2020 research and innovation programme under grant agreement No. 857811. The European Commission has no liability for any use that may be made of the information it contains

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Acronyms

DHCN	District Heating and Cooling Network
LT	Low Temperature
HoE	House of Energy

1 Summary

D8.9 House of Energy didactic areas is part of the Task 8.7. ENSOL being in charge for the design, installation and management of the didactic areas and related activities, has collaborated through the project together with DALKIA and EDF to define and adjust the overall HoE concept and media design.

ENSOL has led the activity together with the designers and construction company and has been able to deliver the HoE by October 2023, when a first public visit of the site has been organised and ENSOL has recovered feedback from the involved public. The deliverable summarises the design process and the result, through visual media, juxtaposing the designs plans with the photos of the final realisation.

The HoE entails REWARHeat results, informing visitors about the HAWK Serious Game, displaying the Thermaflex piping and Danfoss substation.

2 House of Energy overview

The HoE is designed as a succession of 2 main spaces: the introductive area and the accessible substation. The visitor experience starts form a general introduction to the matter of energy and environment and deepens through-out the visit the theme of energy towards local energy systems, as DHCN and smart grids are. Whilst the first area keeps explanations more general and abstracts, the accessible substation showcases technical details and indeed, literally, put light on the substation and its various assets themselves. The mediatic content has been adapted to a general public, with attention to enable visitors to discover contents by themselves and stimulate curiosity via different interactive desks and screens.

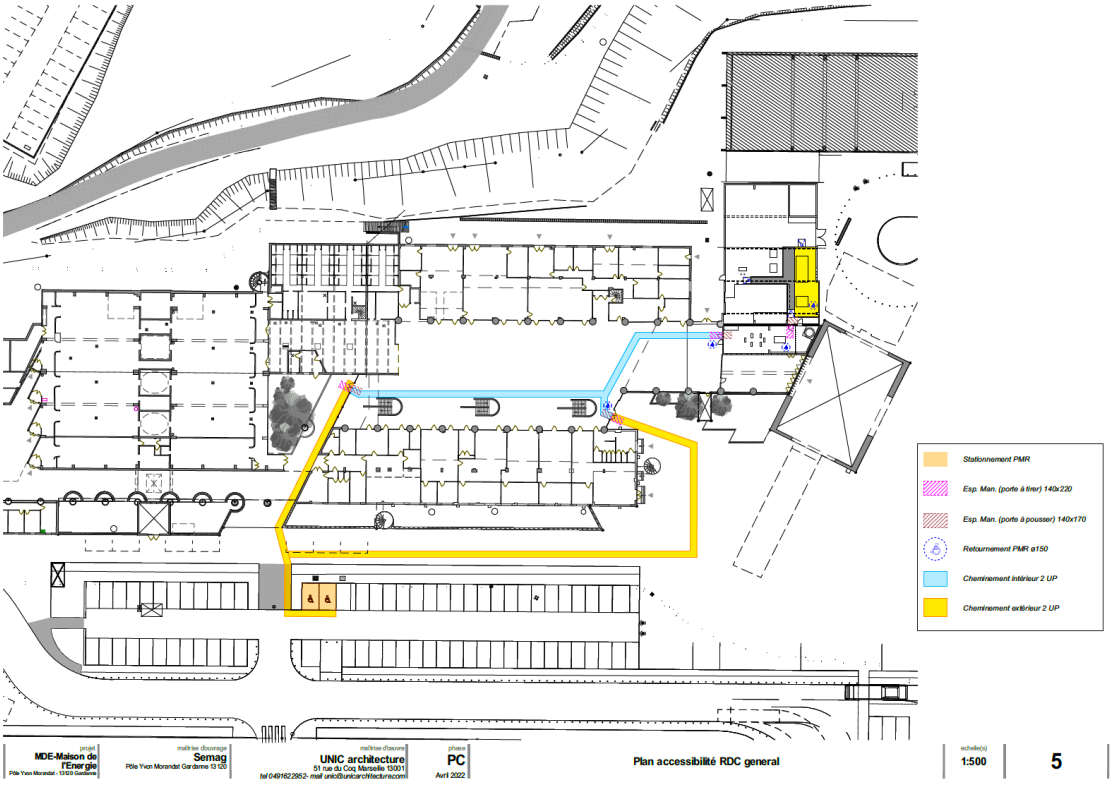

Figure : Overall access plan of the site and integration of the HoE into the building (yellow for exterior access and blue for the interior one) . Source: ENSOL

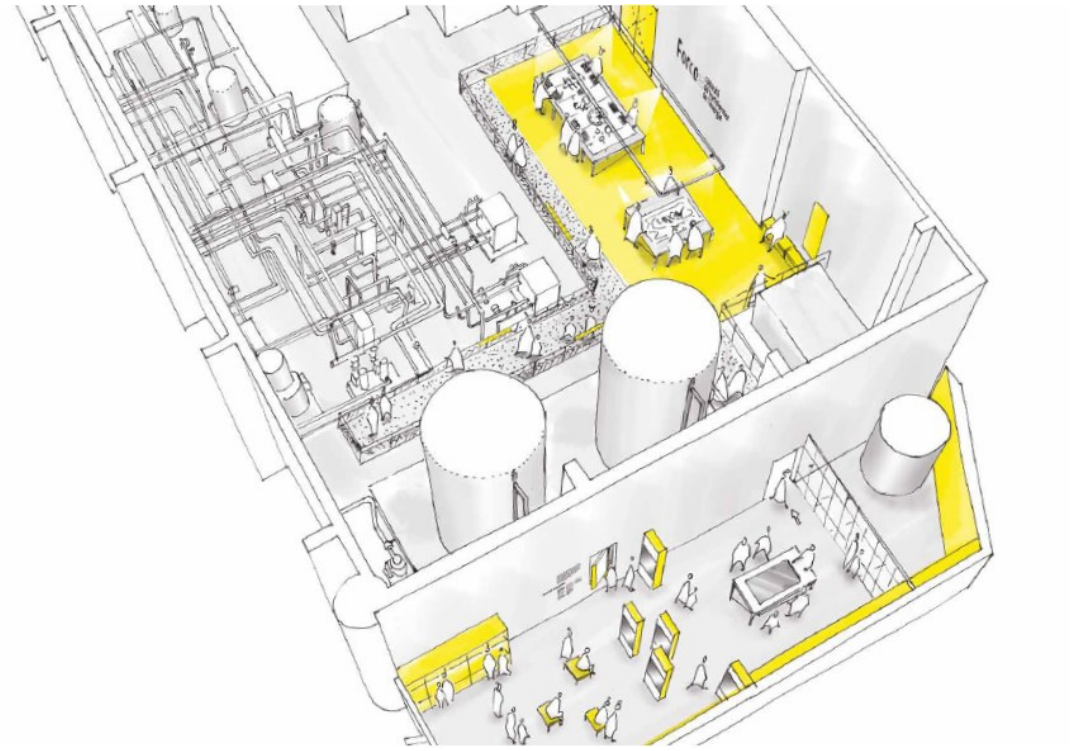

Figure 1: Overall axonometric view of the HoE. Source: ENSOL

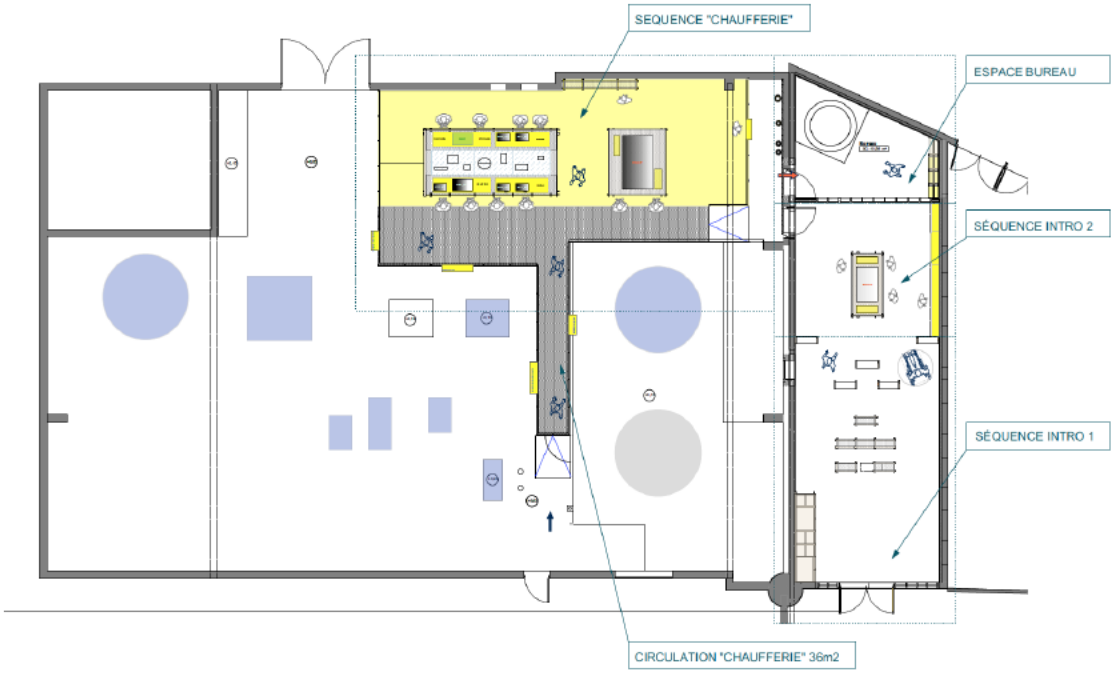

Figure 2 : Overall layout of the HoE and identification of main spaces (content wise). Source: ENSOL

Figure 3: visual identity of the HoE. Source: ENSOL

2.1 Introductive area

The introductive area is the first space a visitor reaches once accessing the HoE. The objective of the area is to accompany the visitor into the large and complex theme of energy. This is done via a combination of two main spaces and related items and media, visualising short videos explaining main aspects of energy and local energy systems, alternated by booth and other areas on walls, explaining via illustration and texts complementary aspects. The media content is mixing general and abstract aspect of energy, with specific items as for e.g. renewables, environmental impact of the energy sectors, enabling to prepare the visitor towards the subsequent, more technical area of the accessible substation.

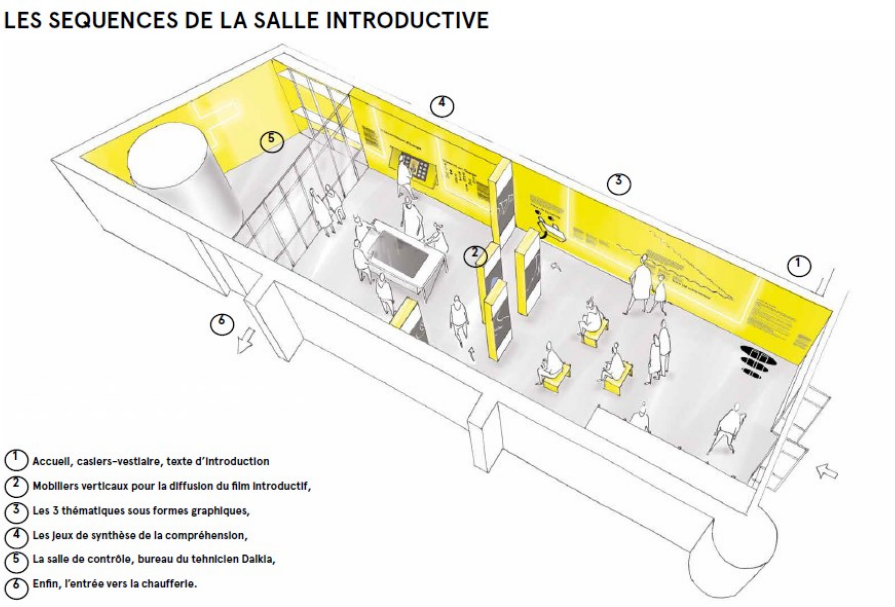

Figure 4 : design axonometry of the introductive area. Source: ENSOL

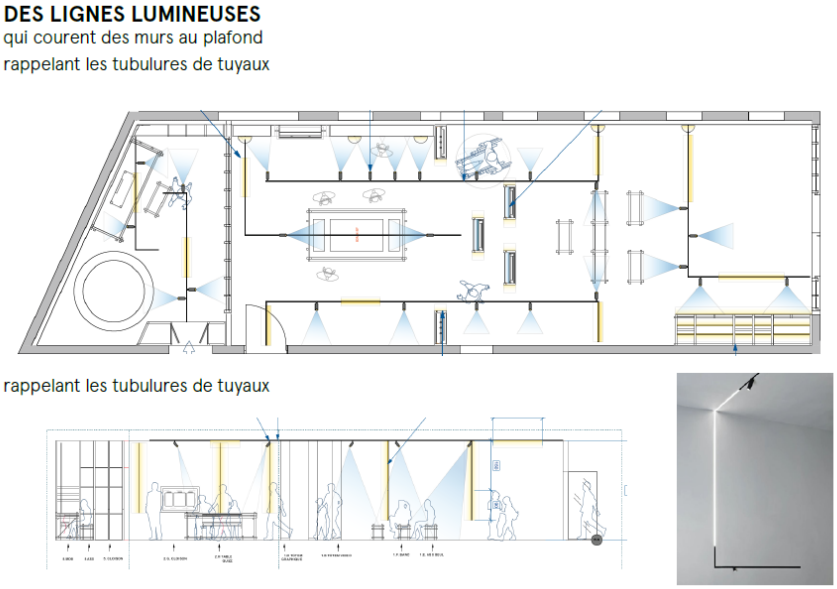

Figure 5: lighting design of the introductive area. Source: ENSOL

Figure 6: entrance to the introductive area. Source: ENSOL

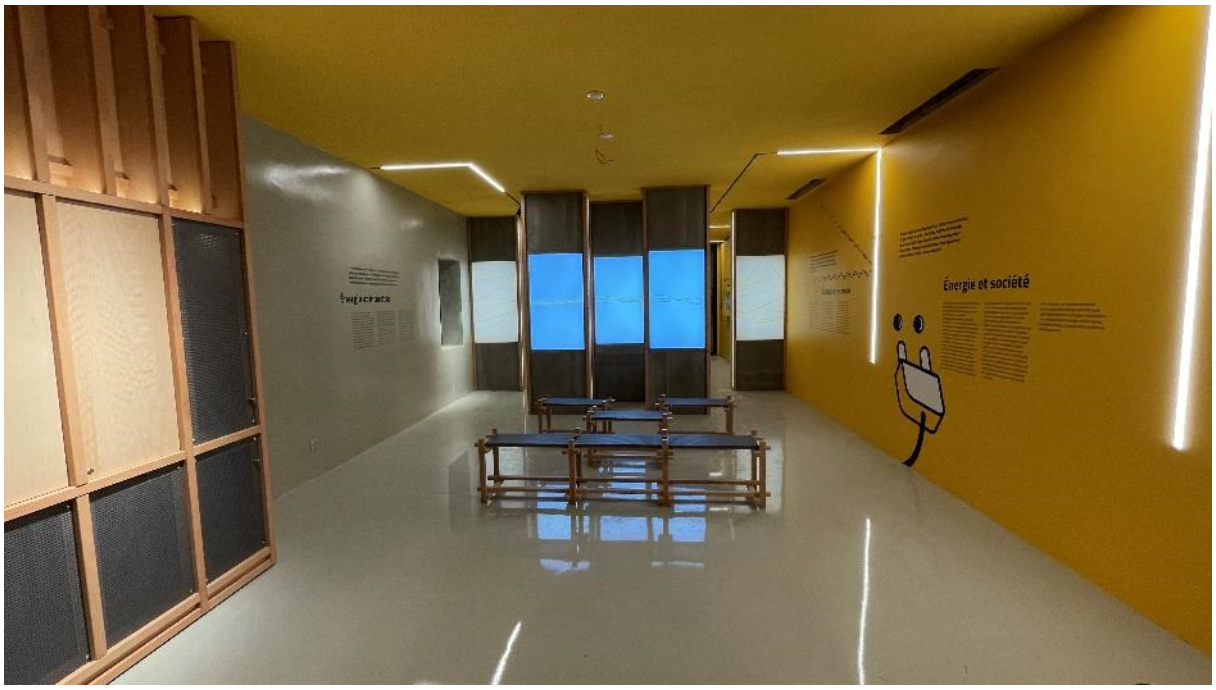

Figure 7: view once accessing the introductive area. To notice the central panels, enabling to divide the space into two distinct areas.

Figure 8: second space of the introductive area, with the interactive desk, at the interface towards the accessible substation. Source: ENSOL

Figure 9: detail of the interactive desk – based on a Quiz game to be explored by visitors. Source: ENSOL

Figure 10: examples of the different explanatory content the visitor can explore through its visit in the introductive area, all dedicated to specific topic related to energy. Source: ENSOL

Figure 11 : visitor interacting with the interactive desk. Source: ENSOL

Figure 12: visitors watching the explanatory video in the transition among the two spaces of the introductive area. Source: ENSOL

2.2 Accessible substation

The accessible substation is designed as to host more technical aspects related to the Gardanne site, explaining the overall concept of local energy systems (DHCN and smart grids). The visitor experience is mainly sequenced in two main moments: one represented by the interactive model and desks, enabling visitors to discover more details about local energy systems and the past and present of the Gardanne site itself, and the second, represented by the substation and its assets itself, guided through explanatory panels and the dynamic lighting.

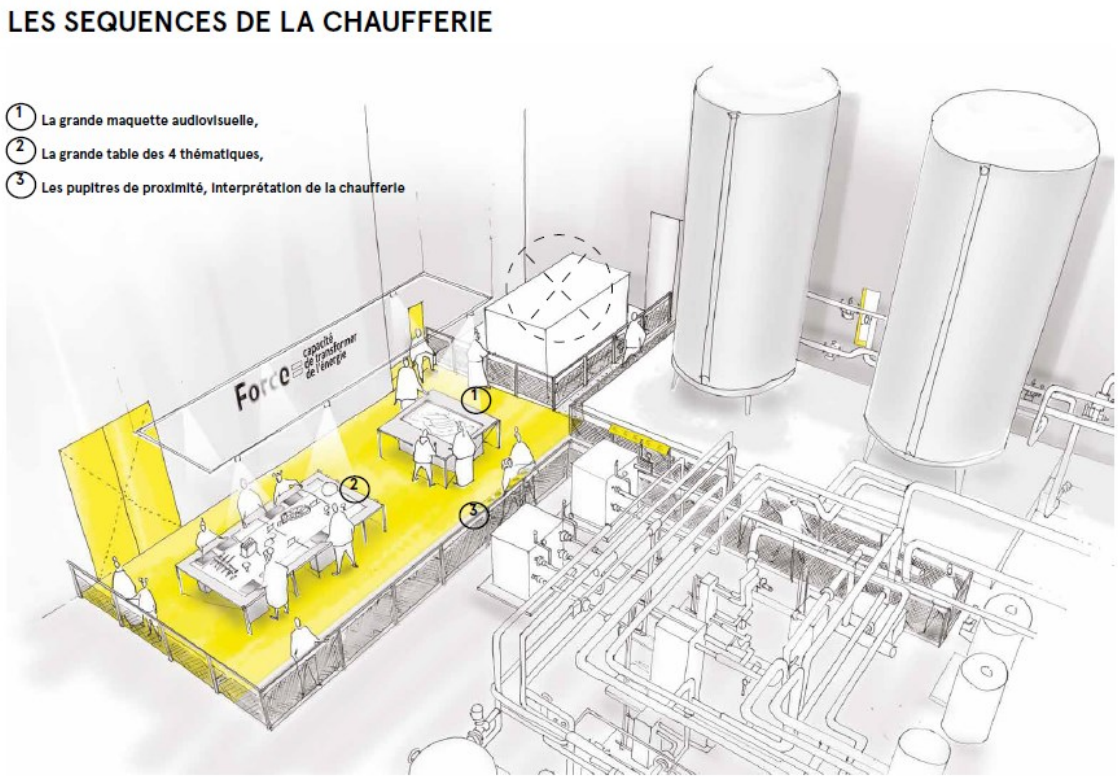

Figure 13: axonometric view of the design for the accessible substation area. Source: ENSOL

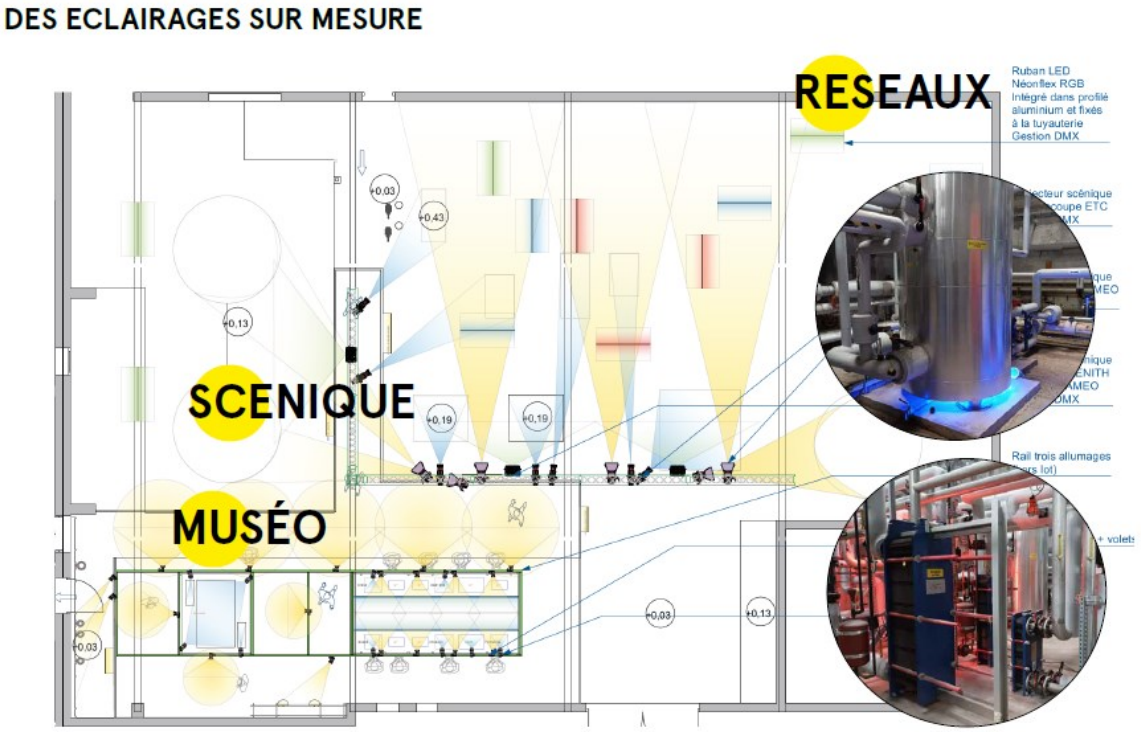

Figure 14: lighting design of the accessible substation. Source: ENSOL.

Figure 15: view once accessing the substation form the interactive area, with the two interactive desks.. Source: ENSOL.

Figure 16: view of the substation with the integrated dynamic lighting and explanatory booth detail. Source: ENSOL.

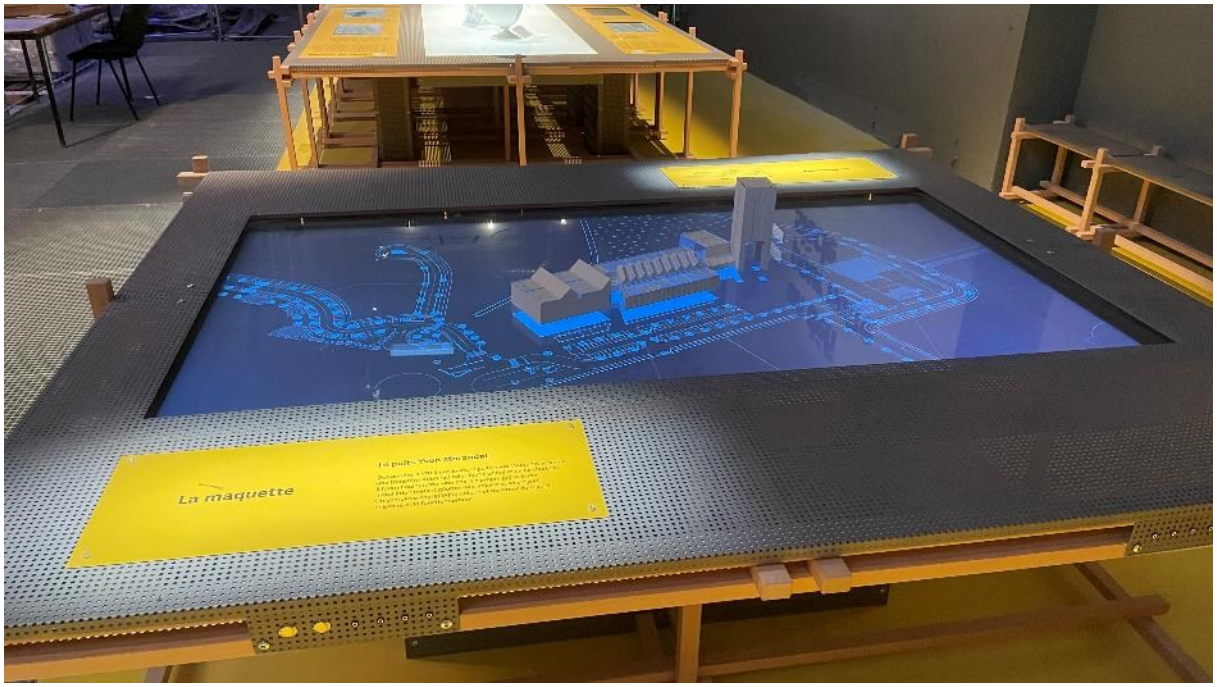

Figure 17: Interactive 3D model and display, introducing visitors to the Gardanne DHCN and its specificities. Source: ENSOL.

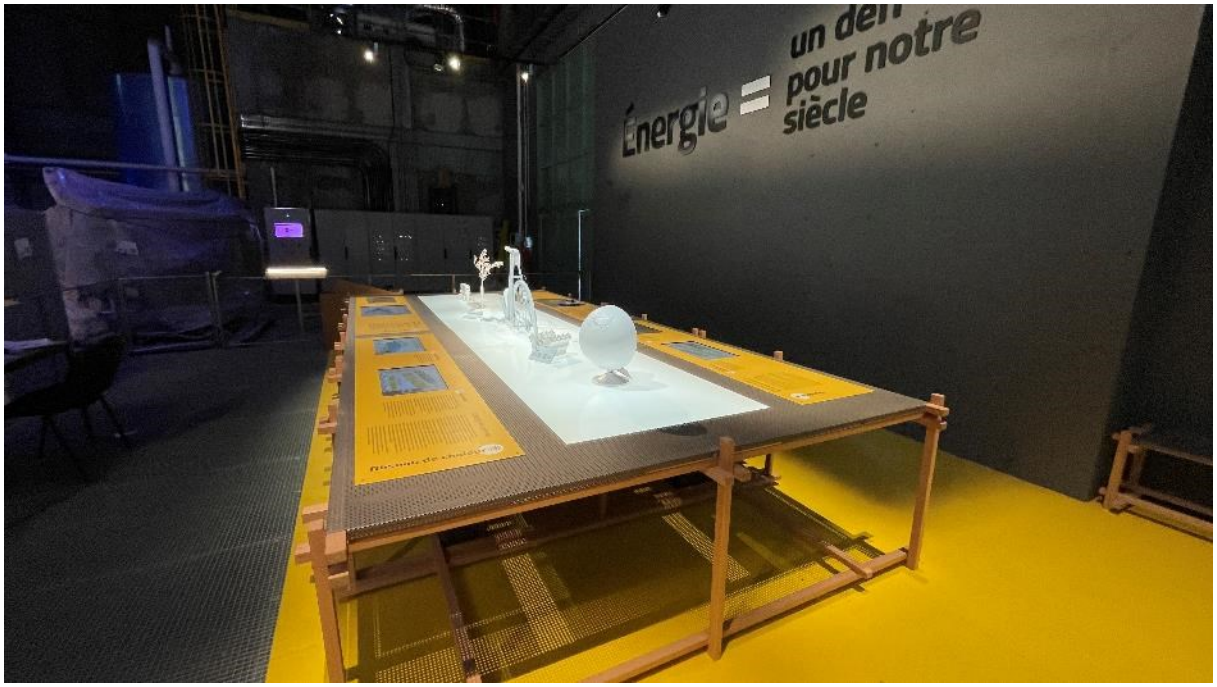

Figure 18 second interactive desk, introducing visitors to technical specificities and curiosities about Gardanne and local energy systems in general. Source: ENSOL.

Figure 19: details of the items visitors can discover t the second interactive desk – i.e. smart grids, photovoltaics or LT DHCN. Source: ENSOL

Figure 20: visitors exploring the interactive model and display. Source: ENSOL.

Figure 21: visitors exploring the content of the second interactive desk. Source: ENSOL