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Imagining the future of prison administration in response to the climate emergency

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***The Sustainability, Innovation and Best Practices Laboratory** at the Directorate of French Prison Administration is a public innovation laboratory. It focuses in particular on implementing ecological transformation within the French prison administration which, answering to the Minister of Justice, participates in the enforcement of judicial decisions, social reintegration of people entrusted to it by the courts, prevention of reoffending, and public safety.*

Prison authorities around the world are already confronting the direct and indirect consequences of climate change. Heatwaves, coastal and inland floods, storms, droughts and swelling-shrinking of clay soils are the main climate hazards identified as posing risks to French prisons. After a brief overview of the possible impacts of climate change on prisons, this article presents actions taken by the prison administration's laboratory to co-create a much-needed strategy for transformation that seeks to adapt to climate change as well as mitigate its impacts. The strategy, created by examining future environmental trends, aims to anticipate and suggest actions for different timescales: acquiring data and producing knowledge; visualizing what future prisons might look like and possible trajectories for their transformation; organizing collective discussions about prisons to establish a shared vision, and supporting appropriation of the results to assist in decision-making and action-taking.

INTRODUCTION

In 2024, over 250,000 people[2] are supervised by the prison services, which employs close to 42,000 staff. At the time of writing, 78,397[3] people are imprisoned. As well as prison staff, prison premises host a great number and variety of other users, including healthcare workers and teachers, trainers, arts teachers and religious representatives, employees of companies involved in running the establishments, prisoners' families and friends, and lawyers.

But climate change has, and will continue to have, direct impacts on the physical and mental health of all the people who live and work in prisons. These effects will also impact the prison administration's missions, how it carries them out, and the infrastructures and environments it relies on.

1 Public innovation laboratories. Interministerial Directorate for Public Transformation. https://www.modernisation.gouv.fr/diffuser-linnovation-publique/les-laboratoires-dinnovation-publique.

2 Close to 170,000 people are subject to open custody, meaning that they are persons awaiting trial or already convicted who are supervised outside the prison environment by the social insertion and probation services. Prior to judgement, they may be subject to judicial control with or without electronic surveillance. After judgement, they may be sentenced to public service work, home detention under electronic surveillance, etc. Open custody can also entail setting up training or discussion groups on specific topics such as addictions or spousal violence.
Source: Ministry of Justice – Justice in France – Open custody.

3 Ministry of Justice. (2024, August 1). Imprisonment numbers, key indicators.

Now that the need for transformation has been acknowledged,[4] what is the best way to jointly construct a strategy for transformation that takes sufficient account of future threats, reflects the specific nature and constraints of the prison environment, includes all stakeholders, and adopts an approach rooted in adaptation and mitigation?

DETERMINING THE IMPACTS OF CLIMATE CHANGE ON PRISON ESTABLISHMENTS AND THEIR USERS

Prison authorities around the world are already confronting the direct and indirect consequences of climate change and its specific impacts on prisons.[5] In France, risks and impacts related to climate hazards facing prisons, which are located in all parts of the country, vary in nature and degree of severity according to the geographical location, exposure, and specific vulnerabilities of each establishment.

A few key details about penitentiary establishments

There is not one prison, but many prisons
Although they may share a functional program, prisons are very diverse in terms of where and when they were built, their size, capacity, architecture, internal organization, and detention conditions.

For example:
- **Gap jail (37 places) is housed in a building that dates back to 1790;**
- **Caen-Ifs prison (691 places) entered service in 2023;**
- **Mauzac detention center (332 places) entered service in 1986 and comprises living quarters made up of 21 separate houses.**

Different detention conditions
Detention conditions vary according to the type of prison establishment: jail (provisional detention and short sentences), detention center (sentences longer than two years), prison (long sentence, suitable for certain prisoner categories), restricted freedom centers, establishments for minors, and halfway houses.[6]

Public management, delegated management
A series of support activities and services relating to penitentiary operations, other than management, registrar,[7] surveillance, and overseeing social insertion and probation, may be entrusted to a private operator or consortium of operators. These are essentially care services, and maintenance and cleaning services.

At this stage of the laboratory's work, heatwaves, coastal and inland floods, storms, droughts and swelling-shrinking of clay soils are the main climate threats identified as risk vectors French prisons are exposed to. Technological hazards related to human activities (industrial, nuclear and biological), some of them amplified by climate hazards, also increase the vulnerability of penitentiary establishments. Since these hazards are linked to the prisons' locations, imagining how they might adapt necessarily requires adjustments to the overall diagnosis by taking account of local parameters and phenomena in every case.

There are also variations in the **vulnerabilities** of prison establishments, as a function of:

- a set of characteristics specific to each establishment: year of construction, how rundown it is, architectural layout, category of security arrangements, detention conditions, prisoner capacity, occupancy rate, management method, staff availability, etc.
- a set of external factors: supply of energy, water and food (three daily meals per detainee), and access to the road network (primarily for access to courts and medical services, staff journeys, etc.).

Cross-referencing climate hazards with vulnerabilities makes it possible to identify **potential risks and impacts** that climate change will have on prison services, ***(Figure 1)***.

This means that any examination of how to adapt prison establishments in response to climate change involves dealing with a complex and highly variable system, its scale made all the greater by the diversity of the prisoner population. Prisoners have many different profiles, habits, behaviors, desires and needs that can be at odds with each other. An additional complexity lies in the fact that the prison population is very diverse in terms of age, gender, state of health, social, financial and cultural background, etc.

Prisons have to adapt, just like any other infrastructure. This effort to adapt prison services to climate change entails an approach that combines an overall vision with local characteristics, meaning the ability to set an overarching trajectory for transformation and to translate it into action plans tailored to the specific situation.

Given this goal, and challenge, which methods should be adopted to support the adaptation of prison services to climate change and roll out their ecological transformation?

ADAPTING AND TRANSFORMING PRISON ESTABLISHMENTS IN RESPONSE TO CLIMATE CHANGE: FROM METHODS TO ACTIONS

To support the adaptation of prison services to climate change and roll out their ecological transformation, the laboratory conducts several complementary approaches simultaneously, all of them ultimately aimed at moving to the action phase.

From environmental forecasting to taking action

The laboratory's environmental forecasting approach is designed to produce knowledge, suggest actions to take for different timescales, organize a collective conversation, encourage decision-making, and offer visions for the future of the prison administration based on transformation trajectories shared by all actors involved.

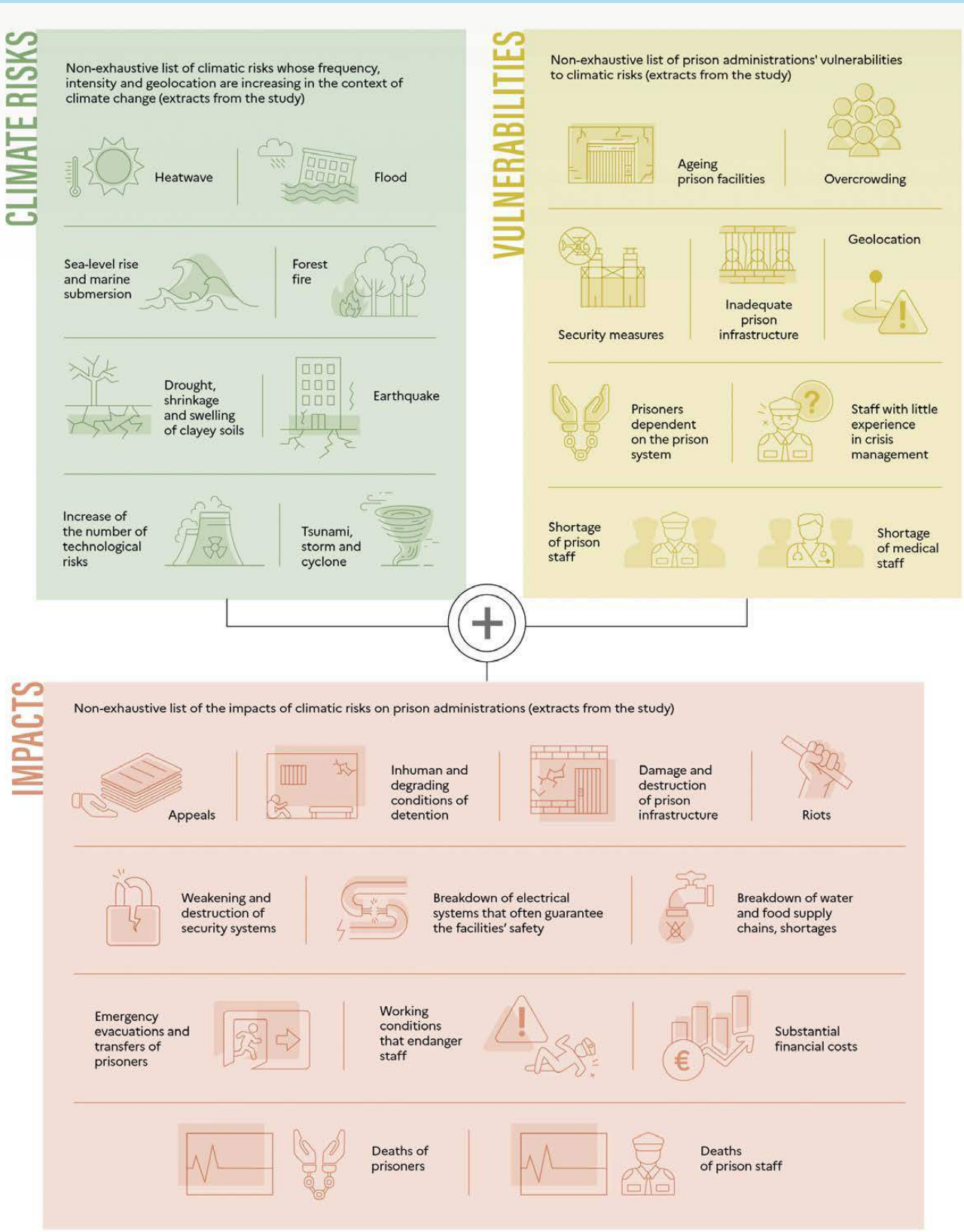
4 National plan for ecological transformation (2024). Interministerial Directorate for Public Transformation. https://www.modernisation.gouv.fr/presse/plan-de-transformation-ecologique-de-letat.

5 For example, "the Committee against Torture and the European Court of Human Rights have both stated that any temperature beyond the median, be it high or low, is considered inhuman and degrading treatment. Overcrowding further exacerbates hotter temperatures. This combination of problems can lead to higher rates of violence and suicide." Source: Prison Insider. (2024, March 12). If you neglect your prisons, you do that at your own peril. Prison Insider. https://www.prison-insider.com/en/articles/if-you-neglect-yourprisons-you-do-that-at-your-own-peril.

6 For more information, see: Guide to detention. Ministry of Justice. https://www.justice.gouv.fr/justice-france/prise-charge-personnes-condamnees-ou-prevenues/prise-charge-detention.

7 The primary responsibility of the prison registrar is to understand prison law, penal law and procedures, and how to use specialist software, including for managing prisoners' status.

Figure 1: Climate change: risks, vulnerabilities and impacts for prison administrations



Source: Prison Insider – Prison Administration Responses to the Climate Crisis.
Study financed by the French Directorate of Prison Administration, July 2023 to February 2024 / Graphic design: Elise Milonet.

Methodology: production of knowledge, exploratory exercises and collective intelligence

Based on the complementarity between user expertise[8] and professional expertise[9] in terms of studying climate change, the approach centers on three phases, deployed from 2023 to 2027.

1) The scientific phase produces or deepens knowledge about the impacts of climate change on prison services. Its main features include:

- a ***comparative study*** looking at how prison authorities around the world take account of climate change;[10]
- a ***retrospective study***;
- a ***literature review***;
- ***immersive visits and enquiries in the field***;
- an ***analysis of vulnerabilities*** to climate hazards.

2) The forecasting phase sets out to construct and describe threat scenarios as well as explore what a desirable future for the prison administration might look like. To deliver these results, this phase includes:

- ***scenarios*** using data from the scientific phase to define hypotheses for change according to a range of different timescales;
- ***impact assessments for the scenarios***;
- ***production of narratives*** and ***artifacts***: manifestations of the scenarios produced to transform them into narratives.

3) The activation phase aims to draft a strategic and operational roadmap. This phase is divided into three main stages:

- ***retro-projective analysis of the scenarios***: constructing transition trajectories relating to each of the chosen scenarios; imagining the various stages needed to achieve them;
- ***choice of a trajectory***: defining a desirable transition trajectory for prison administration services;
- producing and implementing an ***action plan***.

This comprehensive environmental forecasting approach is multidisciplinary. It has to be put into operation in very close collaboration with the people who use prisons on a daily basis, prison service stakeholders,[11] and ultimate decision-makers. This is one of the keys to successfully producing a transition trajectory that is desirable and deliverable.

An example in practice: heatwaves in prison establishments

Summer is often a relatively complex time of year for prison establishments: lessons and workshops run by the national education service cease during school holidays, there are fewer activities offered by outside providers, and families and friends are not always able to come during visiting hours. The combined effect of these factors means that time seems to pass more slowly than at other periods in the prison year. High temperatures are an additional factor directly impacting the conditions under which prisoners work and are detained, leading to countless problems in prison establishments: mental and physical health problems, an uptick in staff absenteeism and sick leave, an increase in the number of prisoners requiring off-site medical attention, a rise in tension and violence, vulnerability of IT systems, difficulties in accessing water, etc.

"High temperatures are an additional factor directly impacting the conditions under which prisoners work and are detained, leading to countless problems in prison establishments : mental and physical health problems, an uptick in staff absenteeism and sick leave, an increase in the number of prisoners requiring off-site medical attention, a rise in tension and violence, vulnerability of IT systems, difficulties in accessing water, etc."

To tackle these issues, since summer 2023 the laboratory has been running a forecasting project looking at heatwaves in detention. The project encompasses a research phase, forecasting phase and activation phase. The first two phases are run in collaboration with Laboratoire des Déviations Ecologiques and Strategic Design Scénarios. The joint project team is made up of specialists in design, design fiction, and cognitive science.

The project team began the research phase with a retrospective study to document literature on heatwaves, a comparative study of prisons around the world,[12] a review of literature on the topic in France and internationally, and enquiries in the field. Learnings from this phase were then used to map the vulnerabilities to heat of prison establishments.[13]

Consequences of heatwaves in prisons around the world

Extract from the study Prison Administration Responses to the Climate Crisis, Prison Insider.[14]

"Numerous studies have highlighted the consequences of high temperatures on the health of prisoners. Some have found a correlation between extreme heat and increased cases of suicide in detention. In Louisiana (United States) between 2015 and 2017, the number of people placed under surveillance due to the risk of suicide increased by 36% when the temperature was above 32.2°C [...].[15] In addition to impacting rates of self-inflicted violence, heat tends to result in increases in other acts of violence in prison. A study conducted on the facilities in Mississippi (United States) indicates that days with temperatures of over 26°C, with no way to mitigate the heat, result in 44[16] additional acts of violence per year among the prison population, a 20% increase."

8 User expertise corresponds to day-to-day expertise gained through lived experience.

9 Professional expertise is gained through more advanced skills and insights, reflecting a high degree of knowledge.

10 Prison Insider. (2024). Prison administration responses to the climate crisis: A study conducted by Prison Insider and ordered by the French Directorate of Prison Administration (July 2023–February 2024). Prison Insider. https://www.prison-insider.com.

11 Employees (prison service, medical, education service, delegated manager, etc.), friends and families of detainees, members of the justice system, actors from civil society, researchers, etc.

12 Prison Insider. (2024). Prison administration responses to the climate crisis: A study conducted by Prison Insider and ordered by the French Directorate of Prison Administration (July 2023–February 2024). Prison Insider. https://www.prison-insider.com.

13 The results of this work have not been made public at this stage.

14 Prison Insider. (2024). Prison administration responses to the climate crisis: A study conducted by Prison Insider and ordered by the French Directorate of Prison Administration (July 2023–February 2024). Prison Insider. https://www.prison-insider.com.

15 Inside Climate News. (2023, August 18). Suicide watch incidents in Louisiana prisons spike by nearly a third on extreme heat days, a new study finds. Inside Climate News. https://insideclimatenews.org/news/18082023/louisiana-prisons-heat-suicide-study/

16 Mukherjee, A., & Sanders, N. J. (2021). The causal effect of heat on violence: Social implications of unmitigated heat among the incarcerated (NBER Working Paper No. 28987). National Bureau of Economic Research. https://www.nber.org/system/files/working_papers/w28987/w28987.pdf.

Subsequently, all the material collected was used to create a design-fiction workshop to jointly construct other futures capable of mitigating the impact of heatwaves on France's prisons. These forecasting workshops are now open to various groups: detainees, prison staff, employees, civil society, etc. Feedback gathered during workshops is used to identify topics to work on and ensures enhanced understanding of the topic and potential blind spots. The working topics are then explored during the activation phase via specific working groups.

At this stage of the project, a number of working groups have already been identified, including:

- action research looking at how to combat heat islands in exercise yards;
- a working group shared across several organizations (gendarmes, Paris fire service, etc.) examining changesto personal protective equipment;
- action research looking at changes in how cells are fitted out to improve adaptation to winter and summer temperatures;
- a focus group examining changes to the typical operating model of a prison during a heatwave.

Led by the laboratory, these working groups are intended to create bridges between research and the rollout of concrete actions in prison establishments.

Supporting projects initiated by individual prisons

The laboratory also supports the rollout of concrete projects initiated in the field by different structures and prison service agents. Support can take the form of funding or assistance with technical or logistical aspects, and may concern experimental projects with a high potential for transformation, as well as more everyday initiatives that provide a solution to a clearly identified problem.

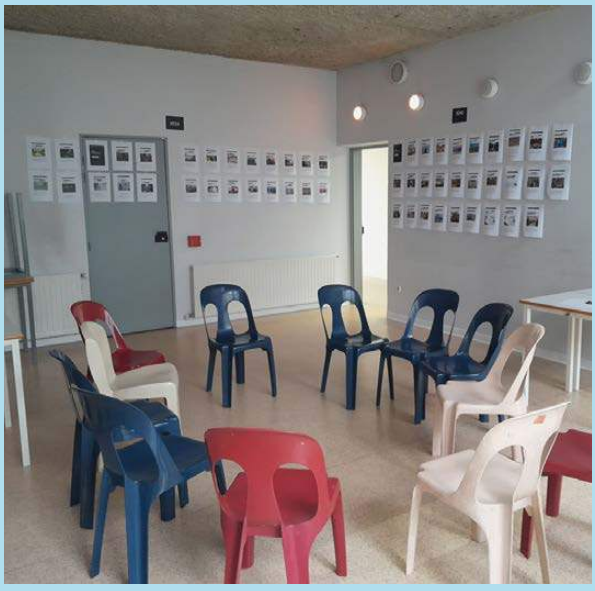
> *"Support can be provided to an extremely broad range of projects: evaluation of greenhouse gas emissions; creation of ornamental and vegetable gardens; installation of equipment designed to reduce the environmental footprint; etc."*

In this way, support can be provided to an extremely broad range of projects: evaluation of greenhouse gas emissions; creation of ornamental and vegetable gardens; installation of equipment designed to reduce the environmental footprint (e.g., prison composting stations, rainwater collection tanks, collection and recovery of cigarette butts, electric cycles and electric-vehicle charging stations, etc.); plantings in certain areas to promote biodiversity and combat heat islands; halting the use of pesticides to maintain green spaces; installation of bee hives; conducting workshops to raise awareness among detainees, and training prison service directors in ecological challenges and creating digital tools.

An inside-outside citizens' project:
Moving Toward Paris 2050 at La Santé Prison

In the autumn of 2023, the laboratory supported a teacher from La Santé prison in Paris to enable a group of detainees

The workshop starts by introducing scenarios illustrating the impacts of heat domes on French prisons in a few years' time. Participants are encouraged to invent and describe a world where actions have been taken to ensure that the scenarios described will not recur or get worse. To support their reflection, inspiration cards are provided to them - some examples are presented below.



Inspiration scenario (season 2)

Topic(s): internal layouts, cooling system

What if there was a system to create shade and limit sunlight entering cells?



☐ *Invented scenario*
☐ *Generic illustration*

On its south-facing side, the prison is forced to invest in a system to protect people from sunlight that makes conditions unbearable for detainees in their cells. This flexible canopy solution is easy to fit and designed to improve conditions inside the building without compromising security.

Inspiration scenario (season 2)

Topic(s): operation

What if there were more frequent staff changeovers during a heatwave?



☐ *Invented scenario*
☐ *Generic illustration*

Violence in prison increases after a heatwave lasting several days, among detainees as well as staff, who have trouble staying calm. Shift lengths are reduced to allow staff more time to rest.



Some of the items produced by detainees that were exhibited at Pavillon de l'Arsenal

to take part in Moving Toward Paris 2050, a project run by the city council that culminated in an exhibition at the Pavillon de l'Arsenal.[17] The laboratory created and led a series of forecasting workshops where participants were invited to create fragments of a future where the city of Paris had adapted to climate change. This project, which examines larger issues than simply the future of prison services under the new climate realities, gave participants a chance to discuss and construct a critical viewpoint and contribute to thinking about how society can adapt, offering their personal visions of possible futures that were exhibited to the general public alongside proposals from other private individuals and groups. This project illustrates another approach to using forecasting adopted by the laboratory.

CONCLUSION

Although the laboratory's projects are part of the general field of action defined by state ecological planning, they are rooted in the close attention paid to weak signals and actively listening to the experiences, needs and desires of people who live and work in prison establishments. These actions have to find their place amidst day-to-day practices and expertise born of hands-on experience. The idea is to shift from a top-down method to a collaborative approach.[18] In terms of efforts to combat the effects of environmental and climate change and promote ecological transformation, responsibility is shared between the different levels (prison establishments, regional management and national administration), which makes collaboration indispensable. One of the laboratory's roles is to act as a catalyst or trigger, pushing these issues up stakeholders' agendas and giving them a chance to discuss them, informed by the data its work generates. Activating all these levers is no simple task. It takes human and financial resources, time, attention, and action. While these questions can appear hard to grasp because they are too technical, distant or disheartening, creating narratives is proving to be a promising mechanism that allows everyone concerned to feel involved and play a role in constructing government policy.

By developing this forecasting approach, the laboratory offers a temporary space within which new ways of thinking become possible, allowing people to think in terms of "and if... then..." This act of exploration allows people to step outside the hard-to-escape present and to return there with more insight and agility, reconnecting with the concepts of long-term timescales, heritage, dependencies, and sustainability.

It offers a horizon. The greater the number of people involved in deciding which paths to take to reach it, the safer, more peaceful and profitable those paths will be.

17 Moving Toward Paris 2050 | Exhibitions | Pavillon de l'Arsenal (pavillon-arsenal.com).

18 Escach, N. (2024, July). Forecasting for ecological action: Toward other territorial narratives [Symposium presentation]. Symposium, Cerisy, France.