

# PRISON ADMINISTRATION RESPONSES TO THE CLIMATE CRISIS

A study on how prison administrations around the world account for climate change and implement the ecological transition

FEBRUARY 2024

# PREFACE AND METHODOLOGY

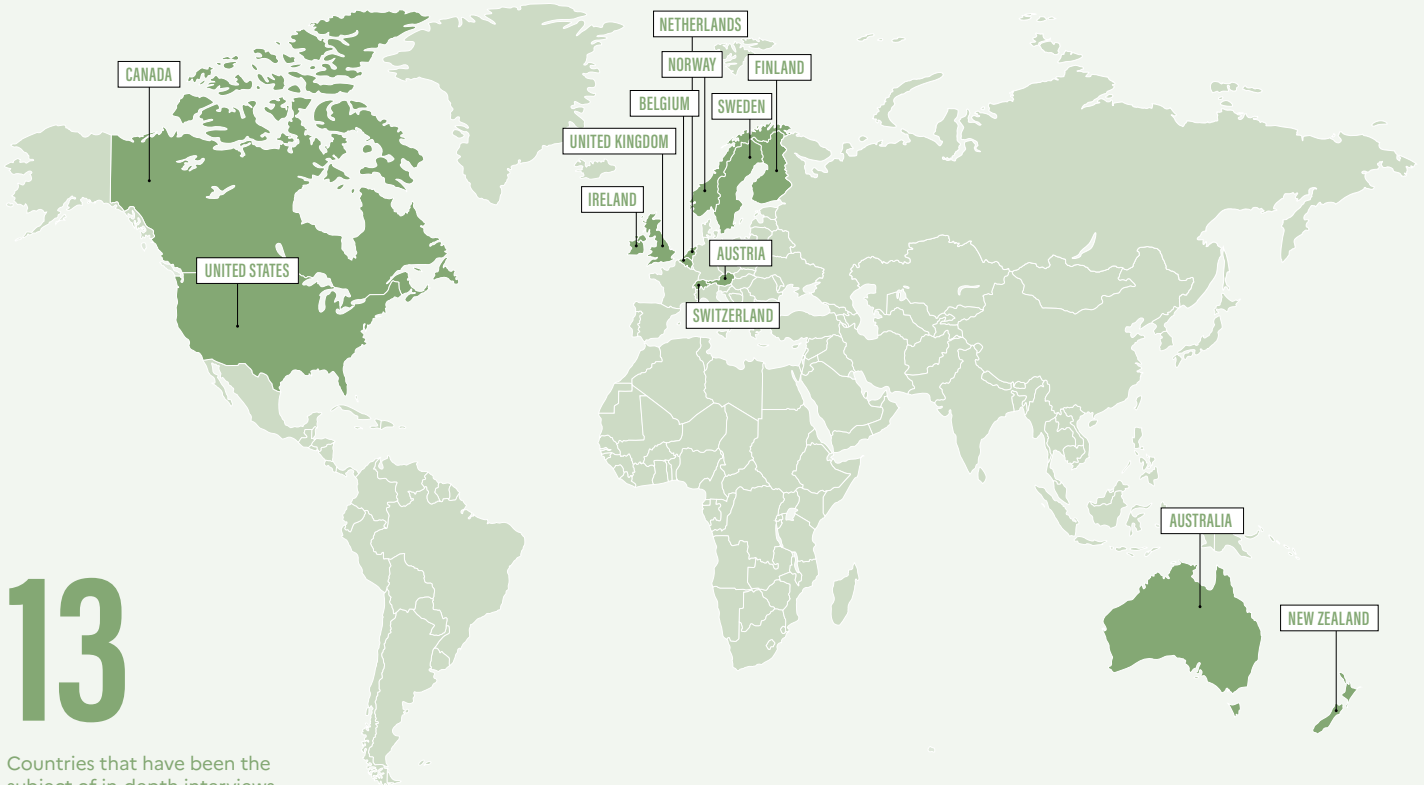
Climate change and the need to adopt more sustainable practices are forcing public institutions to radically revise their operating methods. Prison administrations are no exception, and they are currently facing unprecedented challenges. Prison facilities, most of which are old and were not designed for sustainability, contribute greatly to the carbon footprint.

**They are also being hit hard by the devastating effects of climate change, which exacerbate prisoners' daily struggles and make work more difficult for prison staff.**

Plans, procedures, measures and schemes are gradually being prepared to address these challenges. Progress is being made, but its effects remain limited, as prisons are often neglected in the considerations, policies and guidance for emergency management or the ecological transition – when they are not excluded entirely.

This is the context in which the French Directorate of Prison Administration requested that Prison Insider carry out a study on how prison administrations around the world account for climate change and implement the ecological transition.

As part of this study, Prison Insider conducted in-depth documentary research. Perspectives were gathered from people with recognised expertise through a total of **15 interviews** carried out via videoconference and **16 written exchanges**. These experts included members of prison administrations, academics and members of international organisations and civil society in 13 countries (**Australia, Austria, Belgium, Canada, Finland, Ireland, the Netherlands, New Zealand, Norway, Sweden, Switzerland, the United Kingdom and the United States**). The study also drew from articles and reports produced at the national and international levels, providing precise and up-to-date observations.



# 13

Countries that have been the subject of in-depth interviews or exchanges with members of prison administrations, academics, and/or members of international organisations and civil society



This research resulted in a number of key findings.

**The action-reaction dynamics observed within the vast majority of prison administrations for responding to the consequences of climate change leave little room for forethought.**

**The findings are similar in all the countries examined: accounting for climate change has not been a priority for the authorities. It comes well behind security concerns. This is reflected in insufficient resources being attributed to environmental measures and stakeholders in the ecological transition having trouble imposing a solid agenda.**

Numerous initiatives are being set up with a view to integrating more sustainable practices within prisons. They are still recent, and, in most cases, it is too early to assess their effectiveness and impact. They are also rather limited and are not designed to be comprehensive solutions, as most are not part of overall policies coordinated at the national or federal level.

This analysis is accompanied by seven country-specific "focus" documents (Australia, Belgium, England and Wales, Finland, Norway, New Zealand and the United States) as well as seven interviews conducted with individuals directly involved in the considerations or actions relating to environmental and climate topics in their countries' prisons\*.

None of the documents produced claim to be exhaustive.

**JULY 2023 - FEBRUARY 2024**

\*These documents are confidential and for the French Directorate of Prison Administration only.

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# 01.

# COPING WITH CLIMATE CHANGE AND DISASTERS

## The vulnerability of prison facilities

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The 2004 tsunami in **Indonesia** swept away two prisons in Meulaboh and Banda Aceh and led to the deaths of nearly one thousand people. Only one guard in Banda Aceh survived.<sup>1</sup> In 2019, Cyclone Idai badly damaged several prisons in **Mozambique**, making it necessary to transfer hundreds of prisoners. At the Buzi prison, around forty prisoners and staff members were stranded on the roof without food or water. In 2021, tropical storm Elsa flooded Florida's Dixie County in the **United States**. Prisoners from the Cross City prison were stuck in rubbish-laden water.<sup>2</sup>

The water came up to their ankles by the time they were eventually transferred.<sup>3</sup> In February 2024, temperatures rose to 43°C in the cells of Roebourne Regional Prison in **Australia**.<sup>4</sup>





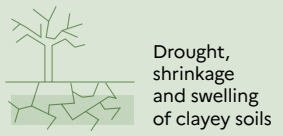


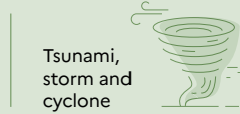
Prisons are directly affected by the consequences of climate change. The severe impact of climate change on infrastructure and prisoners stands in stark contrast to the little attention, particularly political, paid to the subject.<sup>5</sup> This disinterest is reflected in the limited resources made available by governments and their agencies, in particular for infrastructure, and in prisons' unimportance in government policies for disaster management.<sup>6</sup>

# Climate change: risks, vulnerabilities and impacts for prison administrations

Source: Prison Insider – Study "Prison administration responses to the climate crisis" July 2023 – February 2024

## CLIMATE RISKS

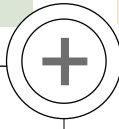
Non-exhaustive list of climatic risks whose frequency, intensity and geolocation are increasing in the context of climate change (extracts from the study)

 Heatwave	 Flood
 Sea-level rise and marine submersion	 Forest fire
 Drought, shrinkage and swelling of clayey soils	 Earthquake
 Increase of technological risks	 Tsunami, storm and cyclone

## VULNERABILITIES











Non-exhaustive list of prison administrations' vulnerabilities to climatic risks (extracts from the study)

 Ageing prison facilities	 Overcrowding	
 Security measures	 Inadequate prison infrastructure	 Geolocation
 Prisoners dependent on the prison system	 Staff with little experience in crisis management	
 Shortage of prison staff	 Shortage of medical staff	



## IMPACTS

Non-exhaustive list of the impacts of climatic risks on prison administrations (extracts from the study)

 Appeals	 Inhuman and degrading conditions of detention	 Damage and destruction of prison infrastructure	 Riots
 Weakening and destruction of security systems	 Breakdown of electrical systems that often guarantee the facilities' safety	 Breakdown of water and food supply chains, shortages	
 Emergency evacuations and transfers of prisoners	 Working conditions that endanger staff	 Substantial financial costs	
 Deaths of prisoners	 Deaths of prison staff		

**Yet on a global scale, the prison estate is particularly vulnerable to the effects of climate change, especially due to where prisons are located.**

In recent decades, a large number of prisons have been constructed without taking into account the inherent risks of climate change. Other criteria took precedence, such as cheaper site prices or the opportunity to create jobs in semi-urban or rural areas, which are economically and socially disadvantaged and more exposed to environmental or climate risks.<sup>7</sup> They are often difficult to reach in case of emergency, as they are generally located far from urban centres. Access is further complicated by security measures such as high walls, barbed wire, multiple systems of security for the cells and armoured doors. Quickly evacuating prisoners in the event of a disaster is difficult, as is the arrival of emergency services.<sup>8</sup>

**Another challenge is the lack of resources allocated to prison administrations to address ageing buildings and the growing number of prisoners. Widespread overpopulation heightens the vulnerability of prisons.**

The prison of the City of Pasig in the **Philippines**, for example, was intended for 200 people but was holding 859 when it experienced heavy flooding in September 2009. Around one hundred women had to crowd together in two cells, and over 250 men in four cells.<sup>9</sup> In **New Zealand**, the beds reserved for potential emergency transfers are ultimately assigned to ordinary prisoners due to overpopulation, rendering the risk reduction strategy ineffective.<sup>10</sup>

**Chronic understaffing heightens prisoners' vulnerability. Prisoners are entirely dependent on prison administrations for their safety, as they are unable to individually adopt basic risk reduction measures such as removing themselves from harm's way, stockpiling emergency supplies or making efforts to increase self-sufficiency in order to meet their own basic needs.<sup>11</sup>**

## Risk reduction policies with limited effects

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Specific plans for the prevention and management of natural disasters and other climate events have been developed for prisons in the countries that are currently most exposed to climate phenomena. The vast majority focus on floods caused by storms and/or tsunamis and on fires. The degree to which prison administrations are prepared to anticipate and limit the impact of these phenomena depends on the resources allocated to them. Climate disruption is increasing the frequency and intensity of these disasters, making certain basic measures insufficient or even inoperative.

In Asia, the International Committee of the Red Cross (ICRC) carries out risk mapping exercises on the risks prisons face. This follows the heavy flooding in **Cambodia** in 2020, which led to the evacuation of nearly 3,000 incarcerated persons. The aim is to use a cartographic approach to assess the environmental and climate risks in detention facilities, combined with a range of vulnerability criteria.

Jean-Marc Zbinden, an architect, water and habitat advisor for the persons deprived of liberty unit at the ICRC, reflects on the vulnerability of correctional facilities:

**A prison's geographical location is not the only vulnerability factor that must be taken into account. Other elements can contribute to a facility's vulnerability: who is incarcerated there (for example, older people or women with young children) and its level of overpopulation. These vulnerability criteria must be taken into account even if the facility is not located in a very high-risk area. In the event of rapid flooding, the consequences could be very serious because these people could not be easily transferred.**<sup>12</sup>

Some countries have established procedures and protocols, but they are often largely unavailable, incomplete or inoperative. In the **Philippines**, for example, a standard procedure in the event of natural disaster was drafted in January 2018.<sup>13</sup> In **Taiwan**, prisons have always been expected to be self-sufficient. The disaster response plans of the national, county and municipal governments rarely mention them. They are not included in the aid process in the event of a disaster.<sup>14</sup>



In **New Zealand**, a 2017 research note presented an overview of disaster risk reduction and emergency management in the country's prisons.<sup>15</sup> It highlights the absence of an overall plan for reducing disaster risks. Each prison has its own local emergency management plan. The authors note that the country's prison system is particularly hierarchical. They reveal a critical lack of collaboration between the stakeholders for prison management and those working for disaster risk reduction and emergency management. Concerns have been voiced relating to "[the prison administration's] ability to quickly evacuate a large number of prisoners".<sup>16</sup>

In **Australia**, as no national policies exist and no directives have been issued by the government, the facilities must establish local measures. Several stakeholders have criticised the absence of a coordinated policy, which forces facilities to implement measures on a case-by-case basis. Monitoring bodies and civil society organisations alike are concerned by the Australian prison services' flagrant lack of interest in heat management in detention. This is reflected in their failure to implement various recommendations issued on the subject.<sup>17</sup>

In the **United States**, several research studies found that the majority of protocols, checklists and other documents relating to emergency response in prisons were unavailable, deficient or unenforceable.

**Furthermore, the facilities and staff are not sufficiently trained for disaster response and recovery, which differs from the practices that exist for schools, hospitals and other institutions.**<sup>18</sup>

Of the 47 states who have planning documents for public emergencies, only one third consider prisoners a vulnerable population. Some states go so far as to identify prisoners as a risk, a "threat to public safety".<sup>19</sup>

The media organisation Grist notes that in Louisiana, there are no directives to protect incarcerated people in the event of a disaster in the state's 130 or so detention centres. Those in charge of these facilities – the parish (county) governments, the sheriffs and the state's Department of Public Safety and Corrections – must prepare their own emergency response plans.<sup>20</sup>

In California, forest fires are frequent occurrences. Few evacuation plans are in place, in particular due to the logistics required to handle moving a high number of prisoners. A 2023 research project reviewed the operations manual of the California prison administration: the Department Operations Manual (DOM). The project found that the manual hardly describes the evacuation processes and remains too vague regarding how the administration would ensure the safety of incarcerated people in the event of an emergency. It does not seem to include a clear emergency plan in the event of forest fires, extreme temperatures or floods. The researchers point out that little information is available on the training received by personnel on emergency management.

Despite their unique situation, prisoners receive no particular mention in California's emergency plan, which describes the roles and responsibilities of the state's agencies before, during and after an emergency.<sup>21</sup>

# Heatwaves: impacts and initiatives in prison facilities around the world

Source: Prison Insider – Study "Prison administration responses to the climate crisis" July 2023 – February 2024

## IMPACTS

Non-exhaustive list of the impacts of heat waves on prisons around the world (extracts from the study)



Complaints and appeals



Increase in acts of violence in detention (riots)



Increase in cases of suicide in detention



Increase in the number of deaths in detention (worsening of chronic illnesses)



Inhuman and degrading conditions of detention



Working conditions that endanger staff



Emergency evacuations of prison facilities



Electrical system failure



Water and food supply problems

## Prevention



Display and awareness-raising



Dissemination of national instructions



Identification and close health monitoring of people vulnerable to heat



Transfer of people vulnerable to heat to air-conditioned cells



Shorter working day for staff



Adaptation of daily monitoring

## INITIATIVES

Non-exhaustive list of initiatives implemented to counter the impacts of heat waves on prisons worldwide (extracts from the study).

## Adaptation



Installation of misting systems



Creation of "indoor recreation" spaces in refreshed areas



Making exercise yards available at night



Installation of solar shading equipment



Combating heat island effects



Insulation of facilities

Building and renovating facilities to ensure thermal comfort in summer



Action research to improve summer thermal comfort in prisons



Design and implementation of crisis management plans

## Anticipation

Maryland uses a "heat stratification" protocol to assign cells/beds. Medical examinations are performed on every new arrival to a correctional facility in order to determine the prisoner's "vulnerability to heat related illness" if they are placed in housing without air-conditioning. Each prisoner is assigned one of three "heat risk codes". They are then periodically reevaluated to determine if this code needs adjustment due to factors such as chronic illnesses and medication usage.<sup>22</sup>

**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, and by an additional 30% when temperatures rose further. 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 additional acts of violence per year among the prison population, a 20% increase.

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Sources : Inside Climate News, *Suicide Watch Incidents in Louisiana Prisons Spike by Nearly a Third on Extreme Heat Days, a New Study Finds*, 2023 / Anita Mukherjee & Nicholas J. Sanders, *The Causal Effect of Heat on Violence: Social Implications of Unmitigated Heat Among the Incarcerated*, 2021.

## Prisoners' ability to take action, involvement and initiatives

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Prisoners have the ability to make significant contributions in the event of an emergency or natural disaster.

**Jean-Marc Zbinden points out that, although it is obviously essential to involve personnel in the process of preparing protocols and emergency plans, it might be equally important to communicate with prisoners.**

### He explains:

*[Prisoners] must be able to prepare themselves as well. They are less likely to feel excluded if they see the actions being put into place, which is very important given their total dependence on the system. The role of "representatives" or "cell leaders" is crucial in this context. These individuals can talk with the authorities and also train their fellow prisoners.*<sup>23</sup>

However, prisoners' ability to take action is highly dependent on what is allowed and encouraged by the prison administration. In **New Zealand**, as in many other countries, their room for manoeuvre remains limited.

The country's centralised approach to disaster and emergency management "plainly excludes prisoners from decision-making and prevents them from playing an active role, both prior to and during disasters".<sup>24</sup> The prisoners do not seem to have access to any information on emergency management, and their role is limited to following instructions from prison staff during practice exercises. In theory, prisoners can play valuable roles as resources in the event of an emergency. But in practice, prisoners' abilities are only put to use if the prison administration "sees the necessity and relevance".<sup>25</sup>

In the **United States**, the rise in climate events has led to greater prisoner engagement in Arizona, Georgia, Nevada, Texas and Wyoming. In the state of California, prisoners fight forest fires alongside civilian firefighters. Due to the dual problem of increasingly numerous fires and a shortage of civilian firefighters, involving prisoners is considered a "seductive answer".<sup>26</sup> There are financial incentives as well: California saves every year hundreds of millions of dollars thanks to prisoners. In fact, "for each incarcerated firefighter earning a few dollars a day, the state avoids paying a civilian thousands of dollars each month".<sup>27</sup> However, this activity entails certain risks for prisoner-firefighters: an investigative report by TIME revealed that they are four times more likely to be injured than professional firefighters working on the same fire.<sup>28</sup> Some injuries are fatal: three firefighters died between 2016 and 2017. During training, many people fell ill or even died from heat exposure.<sup>29</sup>

In **Australia**, the **United States** and **New Zealand**, prisoners are also involved in recovery work and clearing damage in the aftermath of disasters.

**In the absence of initiatives from the authorities, prisoners also engage in various forms of protest in efforts to compel governments to enact measures to improve prison conditions, which are worsened by climate disasters, in particular periods of extreme heat.**

In the United States, Think Global Health recorded that over 1,200 legal actions were filed in the country between 1980 and 2019, due to the impact of high temperatures on prison conditions, pursuant to the Eighth Amendment, which prohibits cruel and unusual punishment. Prisoners in Arizona, Mississippi and Wisconsin won their cases.<sup>30</sup> In 2017 in Texas, a historic court decision required that air-conditioning systems be installed for prisoners deemed vulnerable to heat.<sup>31</sup>

Prisoner complaints relating to heat have risen in recent years, as pointed out by several inspection mechanisms for prison conditions in Australia.<sup>32</sup>

In addition to legal action, prisoners are also taking protest action. In summer 2023, around one hundred prisoners at the Minnesota Correctional Facility – Stillwater in the **United States** refused to return to their cells. Personnel shortages had resulted in limitations to the time spent outside cells, which were not air-conditioned, and limited access to showers and ice, despite the extreme temperatures.<sup>33</sup> In December 2018, temperatures reached over 40°C in central **Australia**, and prisons were not spared the consequences. A riot broke out at the Alice Springs Correctional Centre in the Northern Territory. The prison administration stated that it was triggered by the prisoners' refusal to return to their cells due to the heat.<sup>34</sup>

# 02.

# POLICIES AND INITIATIVES FOR THE ECOLOGICAL TRANSITION

## Building momentum within prison administrations

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The prison administrations draw up environmental action plans or roadmaps, often in response to governmental obligations.

**Sweden**, for example, established an environmental management policy for the prison service (*Kriminalvårdens policy för miljöledning*) as well as an action plan.

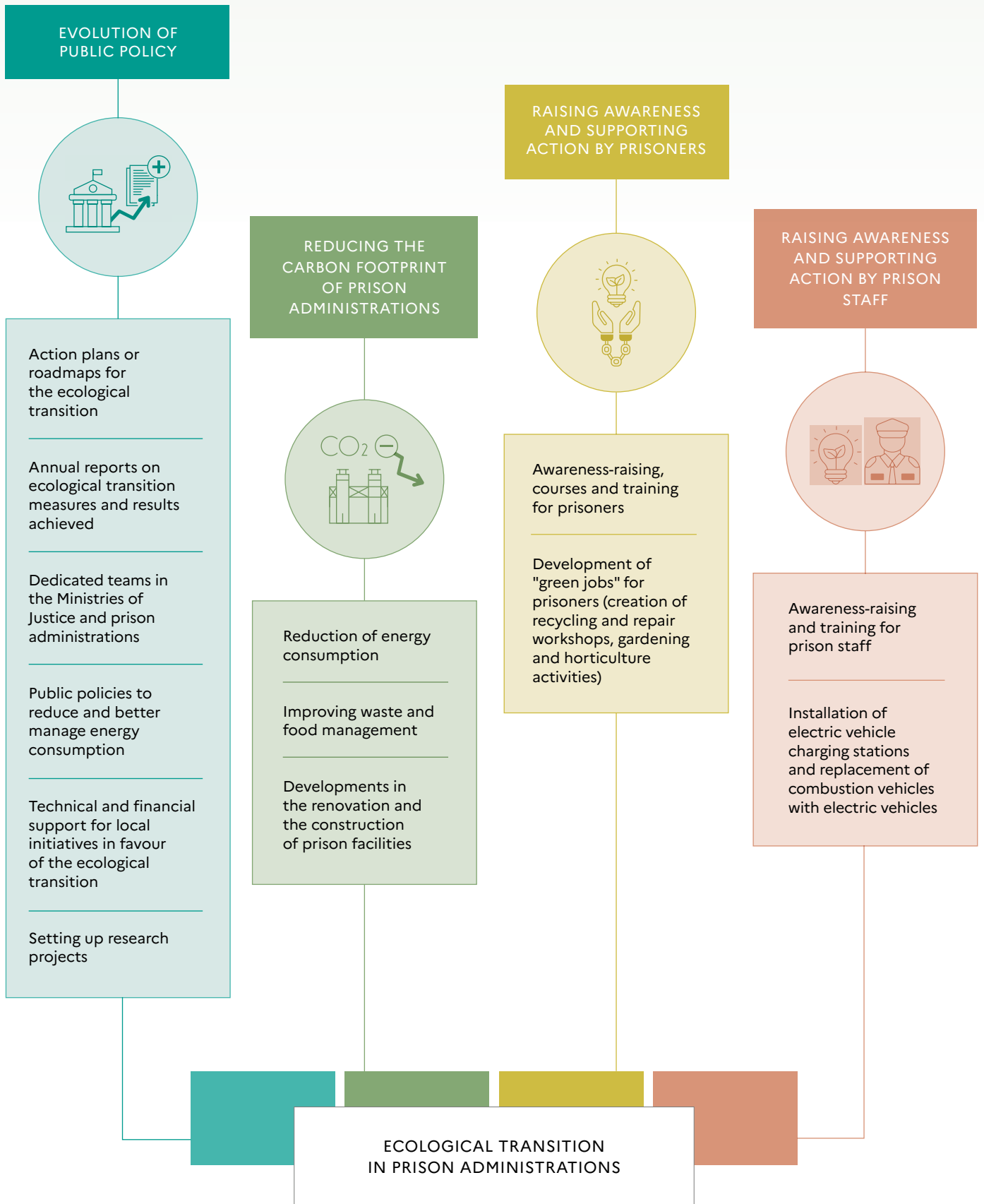
Some prison administrations devote part of their activity reports to a review of the ecological transition measures adopted during the year and their results.

The **New Zealand** prison administration dedicated an entire chapter of its annual report to its carbon footprint and steps taken to reduce its emissions and protect the natural environment.<sup>35</sup> Also included are various case studies and graphics showing the change in consumption. The **English** Ministry of Justice does the same, including tables for the analysis of its progress, in particular relating to greenhouse gas emissions, emissions from flights, water consumption and even waste management and recycling.<sup>36</sup>

# A momentum within prison administrations

Non-exhaustive list of initiatives common to several countries in favour of the ecological transition (extracts from the study)

Source: Prison Insider – Study "Prison administration responses to the climate crisis" July 2023 – February 2024



**In March 2023, the Irish prison service published its Climate Action Roadmap.<sup>37</sup> The document, around 20 pages long, identifies how the prison service plans to achieve the targets set in the Irish government's Climate Action Mandate.**

The roadmap notes that the government set "ambitious targets" that will be "challenging [...] to deliver", in particular due to the condition of the prison estate, which includes old buildings. The prison administration says that promoting a culture of sustainability within the organisation is central to its strategy. New roles were created, such as the Climate and Sustainability Champion and the Energy Performance Officer, and Green Teams and a Climate Action Committee were established. In addition to a general pilot group, each prison has a local green team, made up of diverse stakeholders from the facility. Their role is to set up projects within their prison relating to, for example, biodiversity or rainwater harvesting. The chairpersons of the local committees meet regularly as part of an "Action Forum for the Climate" to share their knowledge and experiences in the field.<sup>38</sup>

In late 2022, the **Dutch** prison administration assembled a team responsible for sustainable development (*team Duurzaamheid*). The team was given two primary missions: reduce energy consumption in the short-term and map the consequences of sustainable development targets, in particular those set by the government, for the prison administration.<sup>39</sup>

In **Northern Ireland** as well, the energy crisis reinforced the need for the work already begun behind the scenes by several members of the prison administration to reduce energy consumption and develop better methods for managing it. A steering committee was created four years ago to address these issues. Its members meet four times a year and propose the adoption of decisions and guidelines on sustainable development initiatives for the entire prison administration. It also reviews energy performance, budgets and the coordination of measures to continue reducing consumption and carbon emissions.<sup>40</sup>

In **England** and **Wales**, a Climate Change and Sustainability Unit has existed within the Ministry of Justice for around ten years. The thirty or so members of this multidisciplinary team are responsible for the integration of sustainable development in all the departments of the Ministry and its independent bodies.<sup>41</sup> In addition, the Ministry of Justice regularly opens positions relating to the ecological transition.<sup>42</sup>

The teams dedicated to sustainable development formulate various strategies to make their voices heard, guide decisions and find resources in contexts where security concerns are often given precedence over environmental measures. In the **Netherlands**, the team tasked with sustainable development plans to work with a university to produce research on the influence of green spaces on the well-being of the country's prisoners. It aims to demonstrate to the prison administration the benefits of allocating money to such projects, which help prisoners and staff alike.<sup>43</sup>



In **England** and **Wales**, the Climate Change and Sustainability Unit also invests in research. This includes, for example, studies that have established an inverse correlation between the quantity of green spaces and the level of interpersonal and self-inflicted violence in prisons, which could be used to persuade the Ministry to envisage such spaces as well as horticulture programmes in the facilities. Because they reduce violence within facilities, they ultimately create savings. The unit also commissioned research, which has just been completed, on the impact of excessive temperatures and their role in inciting violence. In the coming months, this research will serve as evidence to demonstrate to the prison administration the cost of excessive heat in prisons.<sup>44</sup>

Despite this wind of change, prison staff still receive little training on the environment and the ecological transition. Yet, a research study carried out in Hawaii (**United States**), showed that: "Correctional facilities that have successfully implemented waste management programs, focus on training and classes for staff. A common barrier to implementation of a waste management program is a lack of knowledgeable personnel".<sup>45</sup> Despite this finding, training seems to be the exception rather than the rule at the moment. Although training modules exist, they are primarily directed at senior management and management teams in the prison administrations. This is the case in **Ireland**, where senior management must now receive comprehensive training in the climate actions being introduced.<sup>46</sup>

The same is true in **Northern Ireland**, where certain senior officials in the prison service can complete a one-hour session to raise overall awareness on managing carbon and sustainable development.<sup>47</sup> In **England** and **Wales**, investments are beginning to be made in the field of training. A training course on carbon is offered to functional personnel (sales staff, project implementation, HR, etc.). A programme for prison instructors is being developed. Once ready, it will provide guidance on the measures to adopt regarding access to green spaces, kitchen management, and workshops, with a view to reducing the facility's carbon emissions.<sup>48</sup>

**To date, there seem to be few, if any, training modules focused on environmental matters and the ecological transition in training centres for prison staff.**

The **Swiss** Centre of Expertise in the Execution of Penal Sanctions does not address the ecological transition during basic training for personnel or during in-service training.<sup>49</sup> In **Sweden**, the prison administration has not included the subject in its training programmes, and there are no plans to do so in the near future.<sup>50</sup>

## Changes in architecture and infrastructure

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To comply with obligations, particularly at the national level, prison administrations are adopting new methods and procedures for constructing and adapting facilities with a view to reducing their carbon footprints. For the construction of new prisons, many administrations follow the Building Research Establishment Environmental Assessment Method (BREEAM). In **Belgium**, the Buildings Agency requires BREEAM certification with a minimum level of "Very Good" or "Excellent", depending on the project.<sup>51</sup> In **Northern Ireland**, the prison service is also aiming to achieve BREEAM's "Excellent" level for its new buildings. It notes that for renovations, the target is BREEAM "Very Good" due to the inherent limitations of existing buildings.<sup>52</sup>

**In Finland, carbon neutrality must be taken into consideration as early as the planning stage for all new infrastructure.**

The aim is both to build in areas where facilities can be linked to lines of public transport and to favour short distances for trips to and from the prison. The building's air flow direction and general location must be accounted for in the architectural design.

**Carbon-neutral or low-carbon materials must be used. The walls and roofs are especially thick in order to limit temperature variations, and geothermal wells and heat pumps are installed.**

Lastly, renewable energy sources are used in the buildings, in particular solar energy.<sup>53</sup>

**In Norway, Statsbygg<sup>54</sup> states that the new facilities are designed to conserve energy. They are built like passive houses and must respect precise standards that go beyond those required by the Norwegian construction code.**

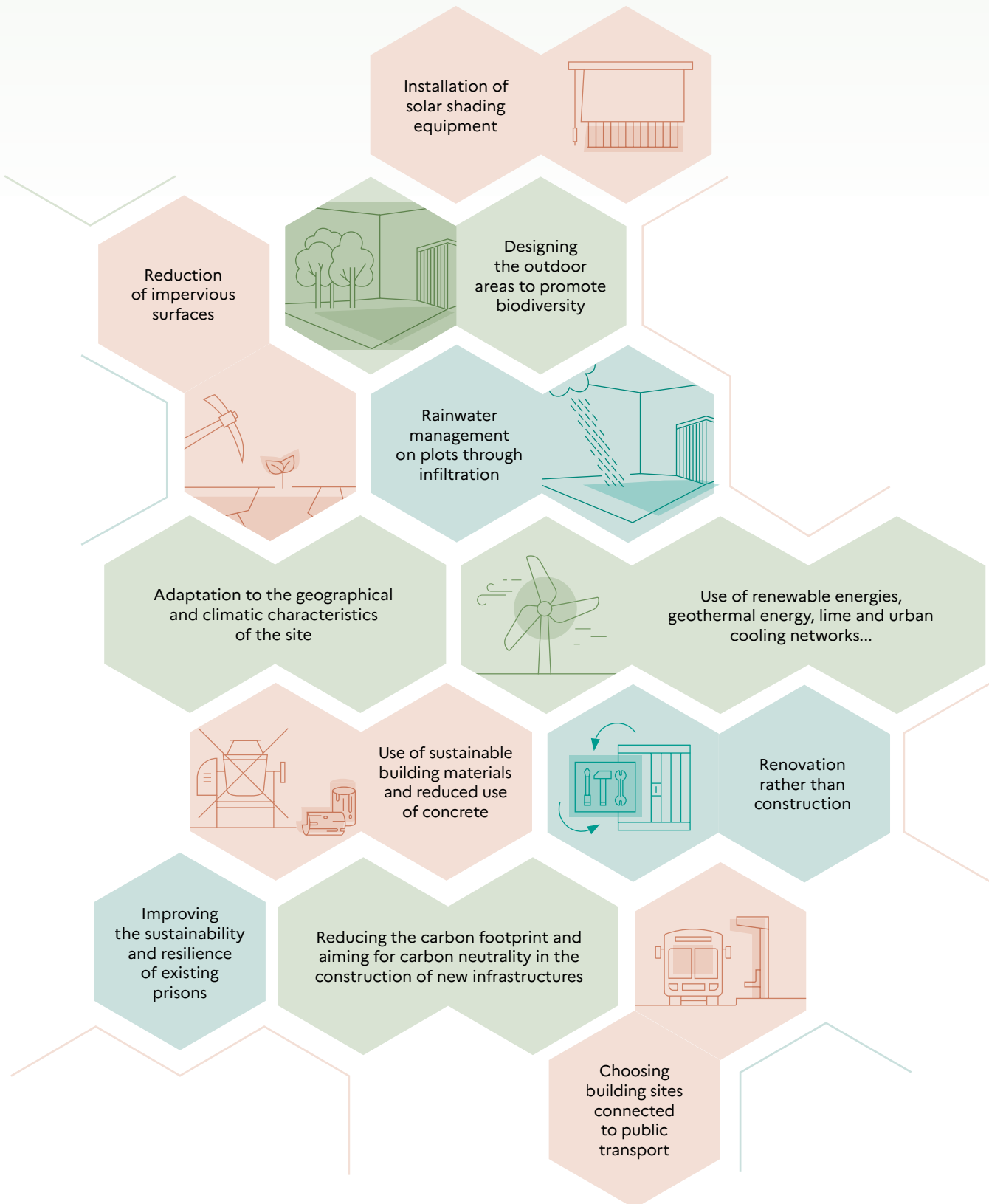
These include insulation at least 30 cm thick; sealed joints; the installation of geothermal wells, heat pumps, an energy monitoring system and LED lighting; equipping the facility with energy-efficient devices; and the implementation of a waste management system. All energy sources must be sustainable, and the use of solar panels must be considered systematically. The new facilities consume less than 65 kWh/m<sup>2</sup> per year and reduce greenhouse gas emissions by 30% (compared with the reference building).<sup>55</sup>

In **England** and **Wales**, the new facilities under construction will be the first to be "net zero". This will be made possible by expanding net-zero measures. The prisons are designed to be entirely electric, with the installation of heat pumps, efficient lighting systems and thousands of solar panels. The Ministry of Justice notes that the buildings are being constructed with recycled concrete and steel, thus avoiding 40,000 tonnes of carbon emissions.<sup>56</sup>

# Developments in prison architecture and infrastructure to better cope with climate change

Source: Prison Insider – Study "Prison administration responses to the climate crisis" July 2023 – February 2024

Necessary measures that struggle to make a significant impact due to the expansion of the prison estate in numerous countries (non-exhaustive list, initiatives common to several countries in the study)



Numerous prison administrations mention the adoption of the following measures: using sustainable materials (in particular more wood); reducing the use of concrete; installing solar panels or even solar farms as well as boreholes, green rooftops and better insulated windows; replacing lighting with LED bulbs; and implementing decarbonisation plans for the vehicle fleet as well as monitoring and control systems for energy and water consumption.

On this last point, the **Northern Ireland** prison service uses, for example, a monitoring and targeting system, which allows it to see energy performance in real time, around the clock, measured via counters.<sup>57</sup> In **Norway**, Statsbygg recommends dividing the counters in the new buildings: heating of rooms (heated floors / radiator), hot ventilation, sanitary hot water, cooling ventilation, lighting, and technical equipment for the building's operation. The company says that dividing the counters makes it easier to manage energy, as it becomes possible to record energy consumption separately for each system.<sup>58</sup>

Biodiversity action plans and landscaping plans are increasingly being drawn up. Several prison administrations say they plan to construct their new prisons so that the staff and visitors feel encouraged to use eco-friendly means of transport and active transportation modes. It is no longer uncommon to see electric vehicle charging stations and covered bicycle parking in the facilities. In **Finland**, trains are also a favoured method for moving prisoners.<sup>59</sup>

Although these measures are necessary, they nevertheless struggle to make a significant impact due to the expansion of the prison estate in numerous countries.

In **Belgium, England, and New Zealand**, prison administrations have trouble reducing their carbon footprint, given ongoing construction projects.<sup>60</sup> In **Northern Ireland**, the recent increase in the number of prisoners has resulted in an overall increase in water and electricity consumption despite a decrease in previous years.<sup>61</sup>

In fact, the prison service of Northern Ireland has stressed the importance of improving the sustainability and resilience of existing prisons, rather than constructing new facilities and inflating the Ministry's carbon footprint.<sup>62</sup>

Construction projects for new prisons touted as sustainable are regularly subject to subsequent criticism. A notable example is Haren prison in **Belgium**, which was presented by the prison administration as a new, eco-friendly facility but which has, since the beginning, been written about extensively. Authorities are particularly criticised for destroying a 20-hectare plot of arable land, which hosted significant biodiversity, so that the facility could be built.<sup>63</sup> Additionally, the prison is not accessible by public transport: the project design did not include space for a bus terminal near the prison compound.<sup>64</sup>

## Green jobs for prisoners

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The idea of more sustainable prisons is generally accompanied by a greening of the facilities and their operations.

**This is notably reflected in the development of projects for protecting biodiversity and the rise in "green" training and/or work programmes for prisoners.**

Numerous organisations have joined this dynamic and involve prisoners in activities more or less closely related to environmental issues.

For several years now, the **English** Ministry of Justice has encouraged the reintroduction of vegetable gardens in order to supply the kitchens of the facilities. These initiatives are seen as training and labour opportunities for the prisoners and a way to combat recidivism. The Ministry's 2018 sustainable operations strategy notes the importance of offering reintegration opportunities through experience in two particular fields: waste management and the environment.<sup>65</sup> Numerous British organisations offer training in gardening and horticulture in prisons in order to improve the health and well-being of people who are incarcerated and to encourage their reintegration.<sup>66</sup>

In **Norway**, many facilities have green spaces, and prisoners are generally involved in their upkeep. Berit Johnsen, head of the research department of the University College of the Norwegian Correctional Service, notes that one of the goals in creating green spaces is for prisoners to receive training in landscape gardening.

### She explains:

*In addition to giving the prisoners possibilities in the labour market after they have served their sentence, engaging them in the preservation and further design of the prisonscape may affect them and give them new experiences of the prisonscape. It may also give them a sense of ownership, responsibility and pride in ensuring that the prisonscape is well kept.<sup>67</sup>*

In **New Zealand**, the prisoners can receive training and obtain professional qualifications in sectors relating to agriculture, horticulture, forestry, pork production, and more.<sup>68</sup> They can also participate in activities connected to the preservation and restoration of natural environments, in particular via a partnership called Good to Grow, organised in collaboration with the Department of Conservation.<sup>69</sup>

In New South Wales, in **Australia**, the prisoners grow all the ingredients necessary for their food and participate in raising livestock. The prison administration notes that this reduces spending by four million dollars per year and enables prisoners to obtain professional qualifications that can be leveraged after their release.<sup>70</sup> The prison administration states that this programme "offers inmates diverse training and employment opportunities in primary food production and food processing. Inmates participate in agriculture, hospitality (kitchen operations), food processing and business administration traineeships. There are also short courses for inmates in workplace hygiene, food safety, horticulture, animal care and management."<sup>71</sup>

Prisoners in the **United States** are also involved in agricultural work. US facilities supply food for around 1.2 million people every day.<sup>72</sup> Although the practice of involving prisoners in this work is common, it nevertheless leads to various abuses. An investigation by the Associated Press brought to light the ways in which certain major corporations use labour from prisoners without declaring it, concealing the origin of the products sold.<sup>73</sup> Furthermore, the incarcerated people are often excluded from protections offered by labour laws, such as compensation for workplace accidents and federal safety standards.<sup>74</sup> They are also paid very little – if they are paid at all. The Prison Agriculture Lab, which describes itself as "a collaborative space for inquiry and action that focuses on agriculture in the criminal punishment system", launched the ArcGIS interactive map. It "presents data from a first ever nationwide study of prison agriculture in the United States and places it within local socioeconomic, demographic, and agricultural contexts."<sup>75</sup> Its goal is to offer a critical perspective of agricultural practices and analyse the carceral consequences and the conditions of food production, livestock production and vegetable production in prisons.

In the United States and elsewhere, food production in prisons does not translate to improved food quality for prisoners, as the food produced is often sold or distributed outside of the prisons, to charities for example. Likewise, the presence of farms and agricultural projects does not necessarily reflect environmental awareness or a desire to decrease the carbon footprint.<sup>76</sup>

**The same observation applies to the training of prisoners in these fields, which remains extremely rare around the world. A handful of initiatives have nevertheless come into existence. Among them is the Sustainability in Prisons Project (SPP), which**

**gives prisoners access to a wide range of science, sustainability and environmental education programmes in 12 prisons across the State of Washington, in the United States.**

This partnership, established in 2003 between Evergreen State College and the Washington prison service, now brings together a large number of stakeholders: prisoners, prison staff, scientists, civil society organisations and students. Prisoners can earn university credits from certain courses. Generally speaking, SPP programmes seem to help prison personnel and prisoners build smoother relationships and increase staff members' overall job satisfaction.<sup>77</sup>

**In addition to the projects directly linked to farming and biodiversity, recycling workshops have also popped up in many prisons around the world.**

In **Northern Ireland**, recycling activities are organised in each facility, which creates an activity for prisoners and helps reduce the general waste levels.<sup>78</sup> In **Peru**, one of the objectives of the prison administration's Productive Prisons (*Cárceles Productivas*) policy is to develop entrepreneurship workshops in the country's correctional facilities, using recycled materials.<sup>79</sup> In the **Netherlands**, the prison administration aims to create a recycling station in each facility: the pilot project, run in one prison, was able to achieve a percentage of less than 5% of residual waste.<sup>80</sup> Recycling workshops are also increasingly common in **England** and **Wales**. Nevertheless, it should be noted that these recycling programmes, like those focusing on biodiversity, are not necessarily designed from an environmental or sustainable development perspective.<sup>81</sup>

# WHAT NEXT?

**Studying how prison administrations around the world account for climate change and implement the ecological transition naturally encourages reflections on the future of prisons. Stakeholders must work together to consider the future of the criminal justice system, as its evolution has a direct impact on them. The number of prisoners around the world will undoubtedly be further increased by the creation of new offences related more or less directly to climate change<sup>32</sup>, as well as rising rates of certain offences related to climate events (looting, theft, illegal fishing, etc.) and rising inequality<sup>33</sup>.**

There have been many calls to recognise the limits of a possible greening of correctional facilities and the paradox of implementing more sustainable practices in a system characterised by mass incarceration that disproportionately affects underprivileged populations who are already being hit hard by the impact of climate change.

This study provides an overview of the practices observed up to the beginning of February 2024. Its purpose is not to definitively establish what might constitute "correct" or "incorrect" solutions but rather to shine a light on the way in which prison administrations are – or are not – taking into account climate change and responding to challenges relating to the ecological transition and the impacts that these actions (or reactions) can have.

The context is evolving rapidly, and new challenges will likely emerge soon. This study makes little mention, for example, of the role of new technologies, which are rarely considered by the prison administrations as being directly linked to environmental concerns. But examining the future of prisons also entails questioning the role of technology in the near future: what about the use of artificial intelligence and virtual reality, and their impact (electricity consumption, lack of perspective, ethical issues, etc.)?

As such, the work carried out by Prison Insider is decidedly not an end in itself, but instead a first step towards inspiring action.

# MAIN FINDINGS

## Prisons facing emergencies

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- The prison estates are particularly vulnerable to the effects of climate change: exposed to environmental and climate risks, difficult to reach in case of emergency, with ageing infrastructure.
- Widespread overpopulation, chronic understaffing and training gaps exacerbate vulnerabilities.
- Prisoners are often overlooked in general disaster response plans.
- Protocols relating to the emergency response in prisons are often unavailable, deficient or unenforceable. Plans are usually drawn up regionally or locally, or even by individual facilities.
- Prisoners have the ability to make significant contributions in the event of an emergency or natural disaster, in terms of preparation, dialogue with authorities and training their fellow prisoners. For now, they remain relatively uninvolved and therefore have limited room for manoeuvre.
- Prisoners' involvement in fighting forest fires, recovery work or clearing damage is rarely compensated at its fair value and can represent a risk for them, if they do not have sufficient protection.
- The elevated temperatures during heatwaves increase violence in detention: self-inflicted injury, suicide, and assault of other prisoners and staff.
- The prisoners, experiencing prison conditions degraded by climate disasters, are increasingly taking action through protest movements.



## Prisons in flux

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→ Prison administrations are increasingly drawing up environmental action plans or roadmaps and taking stock of ecological transition measures. Security concerns and economic considerations continue to be prioritised over environmental measures.

→ The teams dedicated to sustainable development formulate strategies to make their voices heard, guide decisions and find resources, in particular using research to demonstrate the usefulness of measures, in savings and in positive effects for prisoners and staff.

→ In terms of architecture and infrastructure, new methods and procedures for constructing and adapting facilities are adopted to reduce their carbon footprint. To achieve "net-zero" facilities, carbon neutrality is accounted for as early as the planning stage, with considerations including public transport, architectural design, neutral materials, renewable energy sources, biodiversity and landscaping.

→ The expansion of the prison estate and the increase in the number of prisoners in numerous countries lessen the potential impact of measures adopted to decrease the carbon footprint.

→ The greening of facilities and their operations creates opportunities for "green" training and/or work for prisoners: waste management, gardening, horticulture. Some examples of self-sufficiency practices relating to food, livestock and harvesting are emerging. Few initiatives reflect true environmental awareness.

→ Abuses in using prisoner labour have been recorded, including insufficient compensation, exclusion from labour law protections and the lack of improvement of the food quality in prisons.

→ How prison administrations around the world account for climate emergencies and the implementation of the ecological transition is clashing with penal systems' creation of new offences related to the environment and mass incarceration, which is incompatible with degrowth.

# ENDNOTES

1. Gaillard, Jean-Christophe and Fanny Navizet. (2012). *Prisons, prisoners and disaster*. International Journal of Disaster Risk Reduction, p. 34.
2. Penal Reform International, *Natural hazards and prisons: Protecting human rights of people in prison in disaster prevention, response and recovery*, 2021, p. 5. Additional examples are, inter alia, identified in this document.
3. Harvard Law Review, "*Climate Carceralism: The Future of Climate-Linked Prison Labor*", 2023.
4. National Indigenous Times, "*Roebourne Regional Prison cells still without air-conditioning in extreme heat*", 2024.
5. Gaillard, Jean-Christophe and Fanny Navizet. (2012). *Prisons, prisoners and disaster*. International Journal of Disaster Risk Reduction, p. 33.
6. *Ibid.*, p.33.
7. Gaillard, Jean-Christophe and Fanny Navizet. (2012). *Prisons, prisoners and disaster*. International Journal of Disaster Risk Reduction, p. 35.
8. *Ibid.*, p.36.
9. *Ibid.*, p.38.
10. Le De, Loic and JC Gaillard. (2017). *Disaster risk reduction and emergency management in prison: A scoping study from New Zealand*. Journal of Contingencies and Crisis Management.
11. Wu, Paloma and D. Korbin Felder. (2022). *Hell and High Water: How Climate Change Can Harm Prison Residents and Jail Residents, and Why COVID-19 Conditions Litigation Suggests Most Federal Courts Will Wait-And-See When Asked to Intervene*, Fordham Urban Law Journal, p. 262.
12. Interview, International Committee of the Red Cross, September 2023. For more information on this project, the findings and the implementation of measures, see the full interview.
13. Bureau of Jail Management and Penology Alert Status, "*STANDARD OPERATING PROCEDURE BJMP-DO-SOP-021, January 19, 2018*", 2018.
14. Huang, Chi-Jan, Ting-Yi Chiang, and Wun-Wu Chen. (2023). *Prison Disaster Factors: A Case Study of Taipei Prison*. Engineering Proceedings.
15. Le De, Loic and Gaillard, JC. (2017). *Disaster risk reduction and emergency management in prison: A scoping study from New Zealand*. Journal of Contingencies and Crisis Management.
16. *Ibid.*, p.379.
17. See for example, Government of Western Australia, Office of the Inspector of Custodial Services, "*2019 Inspection of Roebourne Regional Prison*", 2020.
18. Golembeski, Cynthia & Dong, Kimberly & Irfan, Ans. (2021). *Carceral and Climate Crises and Health Inequities: A Call for Greater Transparency, Accountability, and Human Rights Protections*. World Medical and Health Policy.
19. Harvard Law Review, "*Climate Carceralism: The Future of Climate-Linked Prison Labor*", 2023.
20. Grist, "*Floods, power outages, no running water: Jails during Hurricane Ida*", 2021.
21. Aishah Abdala, Abhilasha Bhola, Guadalupe Gutierrez, Eric Henderson, and Maura O'Neill, *Hidden Hazards: The Impacts of Climate Change on Incarcerated People in California State Prisons*, 2023, p.22.
22. Department of Public Safety and Correctional Services, Maryland.
23. Interview, International Committee of the Red Cross, September 2023.
24. Le De, Loic and Gaillard, JC. (2017). *Disaster risk reduction and emergency management in prison: A scoping study from New Zealand*. Journal of Contingencies and Crisis Management, p.379.
25. *Ibid.*
26. Harvard Law Review, "*Climate Carceralism: The Future of Climate-Linked Prison Labor*", 2023.
27. *Ibid.*
28. Time, "*Inmates Fighting California Wildfires Are More Likely to Get Hurt, Records Show*", 2018.
29. Harvard Law Review, "*Climate Carceralism: The Future of Climate-Linked Prison Labor*", 2023.
30. Think Global Health, "*Climate Change and Incarceration*", 2022. Voir également Paloma Wu and D. Korbin Felder. (2022). *Hell and High Water: How Climate Change Can Harm Prison Residents and Jail Residents, and Why COVID-19 Conditions Litigation Suggests Most Federal Courts Will Wait-And-See When Asked to Intervene*, Fordham Urban Law Journal.
31. For more information, see the focus document for the United States.
32. For more information, see the focus document for Australia.
33. Huffpost, "*100 Inmates 'Refused' To Return To Cells Amid Heat Wave At Minnesota Prison*", 2023.
34. ABC, "*Call for air-conditioners in 'inhumane' cells after outback heatwave triggers prison riot*", 2018.
35. The most recent report was published last October: Department of Corrections, *Annual Report 1 July 2022 – 30 June 2023*, 2023.
36. Ministry of Justice, *Annual Report and Accounts 2022-23*, 2023, pp.53-58.
37. Irish Prison Service, *Climate Action Roadmap*, 2023.
38. Interview, Irish Prison Service, January 2024. For more information on the roadmap and the measures adopted on this subject, see the full interview.
39. For more information on this team, its work and the challenges it faces, see the interview conducted with one of its members, November 2023. See also: Dienst Justitiële Inrichtingen, "*Gasverbruik winter 2022 – 2023*", 2023.

40. Interview, Northern Ireland Prison Service, November 2023. For more information on the progress made in recent years by the Northern Ireland Prison Service regarding the ecological transition, see the full interview.
41. For more information on this specialised team, its organisation and its procedures, see the interview conducted with a member of the team, December 2023.
42. For more information on these positions, see the focus document for England and Wales.
43. See in particular the interview conducted with a member of this team, November 2023.
44. Interview – Climate Change & Sustainability Unit, December 2023.
45. Kanoelani Yadao, "Sustainable Waste Management for Hawaii's Correctional Facilities: Barriers to Implementation", 2022.
46. Interview – Irish Prison Service, January 2024.
47. Interview – Northern Ireland Prison Service, November 2023.
48. Interview – Climate Change & Sustainability Unit, December 2023.
49. Written interview conducted as part of this research, Centre suisse de compétences en matière d'exécution des sanctions pénales, December 2023.
50. Written interview conducted as part of this research, Kriminalvården, December 2023.
51. Written interview conducted as part of this research, Régie des Bâtiments, October 2023.
52. Interview – Northern Ireland Prison Service, November 2023.
53. Written interview – Criminal Sanctions Agency, November 2023.
54. Statsbygg is the company responsible for constructing buildings for the prison service, which pays rent. The company is the owner of the vast majority of the prison estate, with only two exceptions.
55. Interview – Statsbygg, November 2023. See also the focus document for Norway.
56. Ministry of Justice, "New prisons go green", 2021. Voir également le document focus-Angleterre et Pays de Galles.
57. Interview – Northern Ireland Prison Service, November 2023.
58. Interview – Statsbygg, November 2023.
59. Written interview conducted as part of this study – Criminal Sanctions Agency, November 2023.
60. For more information, see the focus documents for these three countries.
61. Interview – Northern Ireland Prison Service, November 2023.
62. *Ibid.*
63. Prison Insider, "Belgium: what is Haren?", 2021. For more information, see also the focus document for Belgium.
64. Sudinfo, "Ce détail auquel les architectes de la prison de Haren n'ont pas pensé...", 2023.
65. Ministry of Justice, Estates Directorate, *Sustainable Operations Strategy*, 2018, p. 11.
66. For more information, see the focus document for England and Wales.
67. Johnsen, B. (2023). *Designing Green Prisonscapes in Norway: Balancing Considerations of Safety and Security, Rehabilitation and Humanity*, in Moran, D., Jewkes, Y., Blount-Hill, K.L., St. John, V. (eds) *The Palgrave Handbook of Prison Design*. Palgrave Studies in Prisons and Penology. Palgrave Macmillan, Cham. p. 691.
68. Department of Corrections, "Farming & Horticulture".
69. For more information, see the focus document for New Zealand.
70. ABC, "Self-sufficient prisons: NSW inmates grow their own food, saving Corrective Services \$4 million a year", 2014.
71. NSW Government, Corrective Services Industries, "From the paddock to the plate". For more information, see the focus document for Australia.
72. University of California Nutrition Policy Institute, Impact Justice, ChangeLab Solutions, "Farm to Corrections: Promising Practices from Across the United States", 2023.
73. Associated Press, "Prisoners in the US are part of a hidden workforce linked to hundreds of popular food brands", 2024.
74. *Ibid.*
75. Prison Agriculture Lab, "Mission" and "ArcGIS Map".
76. For more information, see the focus document for the United States.
77. For more information on the creation and development of this project as well as the challenges it faces, see the full interview conducted with the SPP.
78. Interview, Northern Ireland Prison Service, November 2023.
79. Instituto Nacional Penitenciario, "Cárceles Productivas: un nuevo reto frente al cambio climático", 2023.
80. Interview, Team Duurzaamheid, November 2023.
81. For more details on this assessment, see the focus document for England and Wales.
82. Inter alia, offences linked to immigration events due to the consequences of climate change or those created to silence climate advocates around the world. See more about these issues: The Guardian, "How criminalisation is being used to silence climate activists across the world", 2023; and Levenson, Laurie L., "Climate Change and the Criminal Justice System", *Environmental Law*, 2021.
83. See in particular on this issue, Harvard Law Review, "Local Prosecution in the Era of Climate Change", 2022.

