

FRANCE LEADERSHIP ON EFFICIENT, CLIMATE-FRIENDLY COOLING





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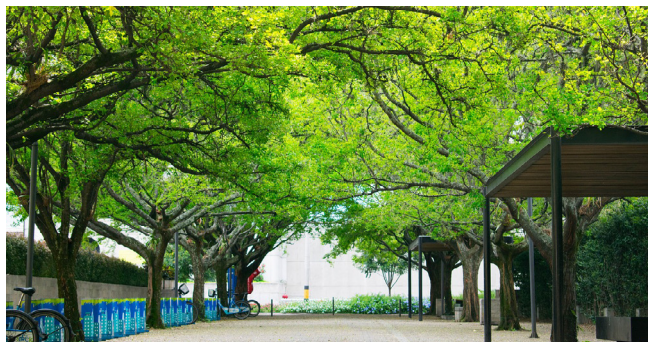
“ The use of air-conditioning systems is growing and represents today 5% of the CO2 equivalent emissions in the French building sector. As the effects of climate change are already being felt, and given that extreme heat will intensify in the years to come, the renovation of buildings is becoming more essential than ever: it can allow rooms to be made cooler in summer and therefore to reduce the use of cooling technologies. These are efforts that we are making in France and that must be implemented globally.

In parallel with insulation work, we must make air conditioning systems more efficient and less polluting. This is precisely the objective of this guide: to highlight French best practices, regulations and innovative solutions that can help other countries accelerate their transition to a more sustainable sector. ”

“ In France, buildings are the second most important sector for greenhouse gas emissions. The construction of low-carbon, energy-efficient buildings and the energy renovation of existing buildings are therefore a priority in the fight against climate change, but also to ensure comfort and protect the purchasing power of French people.

This is why we have considerably strengthened the measures to accelerate and support the transition to the buildings of tomorrow. The diversity of solutions implemented can inspire other actors to build a more resilient world in the face of global warming. ”

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INTRODUCTION

During the summer of 2021, heat waves enveloped much of the world and consumers turned to their air-conditioners, fans, and refrigeration products to beat the heat. Cooling is essential for us to adapt to warmer temperatures and keep us protected from extreme heatwaves. It will become even more vital as the frequency and intensity of these events increase¹. Cooling is central for the storage of our vaccines, keeping food fresh, ensuring we have comfortable buildings to live and work in and sustaining our industrial and transport infrastructure. However, the tragic reality is that much of this cooling is heating up the planet further. Conventional cooling accounts for 7% of global greenhouse gas² (GHG) emissions accounted from the use of refrigerants with high global-warming potential and emissions from the electricity generated to power the equipment.

The market for cooling appliances is growing rapidly, particularly in developing countries where climates are heating up more quickly³. By 2050, it is estimated that 14 billion cooling devices will be needed to meet demand, four times as many pieces of cooling equipment than are in use today⁴. Therefore, we need to urgently transition to efficient, climate-friendly cooling solutions that can cut emissions and meet the booming future demand.

These challenges are significant yet provide a big opportunity for ambitious government, business, and civil society action. The French government has enacted in its Climate & Energy law a commitment to become Carbon Neutral by 2050 and recognises the need to tackle cooling related emissions as part of its buildings' decarbonisation strategy. Buildings represent over 25% of France's GHG emissions, which is the second largest contributor to national emissions after transport. To mitigate against this challenge, the government is deploying incentives to increase the energy efficiency of buildings that prioritises retrofitting measures for existing building stock and energy saving approaches for future stock⁵. As part of the 'France Relance' €100 billion recovery plan to address the economic consequences of COVID-19, France allocated 30% of the budget into green transition activities. These include investments for energy-efficient renovation programmes for private and social housing and public buildings, in addition to sustainable mobility, industry decarbonisation and green technologies such as hydrogen, biofuels and recycling.

During its G7 Presidency in 2019, France highlighted the need to transition the cooling sector and launched the Climate and Clean

Air Coalition's Efficient Cooling Initiative in Partnership with Japan, the United Nations Environment Programme, the Institute for Governance & Sustainable Development and other countries and partners to catalyse action. France also launched the Biarritz Pledge, a landmark agreement to undertake ambitious measures to improve energy efficiency in the cooling sector while phasing down HFC refrigerants in line with the Kigali Amendment to the Montreal Protocol.

Additionally, France is a member of a number of international initiatives active in decarbonising cooling such as the Cool Coalition – a global network connecting over 100 partners from governments, private sector, cities, international organisations, finance, academia and civil society to address a major blind spot in the transition to Net Zero emissions. A key focus for the Cool Coalition and the Climate and Clean Air Coalition is to support ambitious action on cooling for COP26. This includes supporting and mainstreaming efficient, sustainable cooling in the NDCs plans and targets. COP26 is organised around five priorities – adaptation and resilience, nature, energy transition, clean road transport and finance. Cooling underpins each of these priorities as summarised in Figure 1 below.

¹ [IPCC, Working Group I contribution to the Sixth Assessment Report Climate change 2021 The Physical Science Basis Summary for Policymakers](#)

² [K-CEP, Optimization, monitoring and maintenance of cooling technology knowledge brief](#)

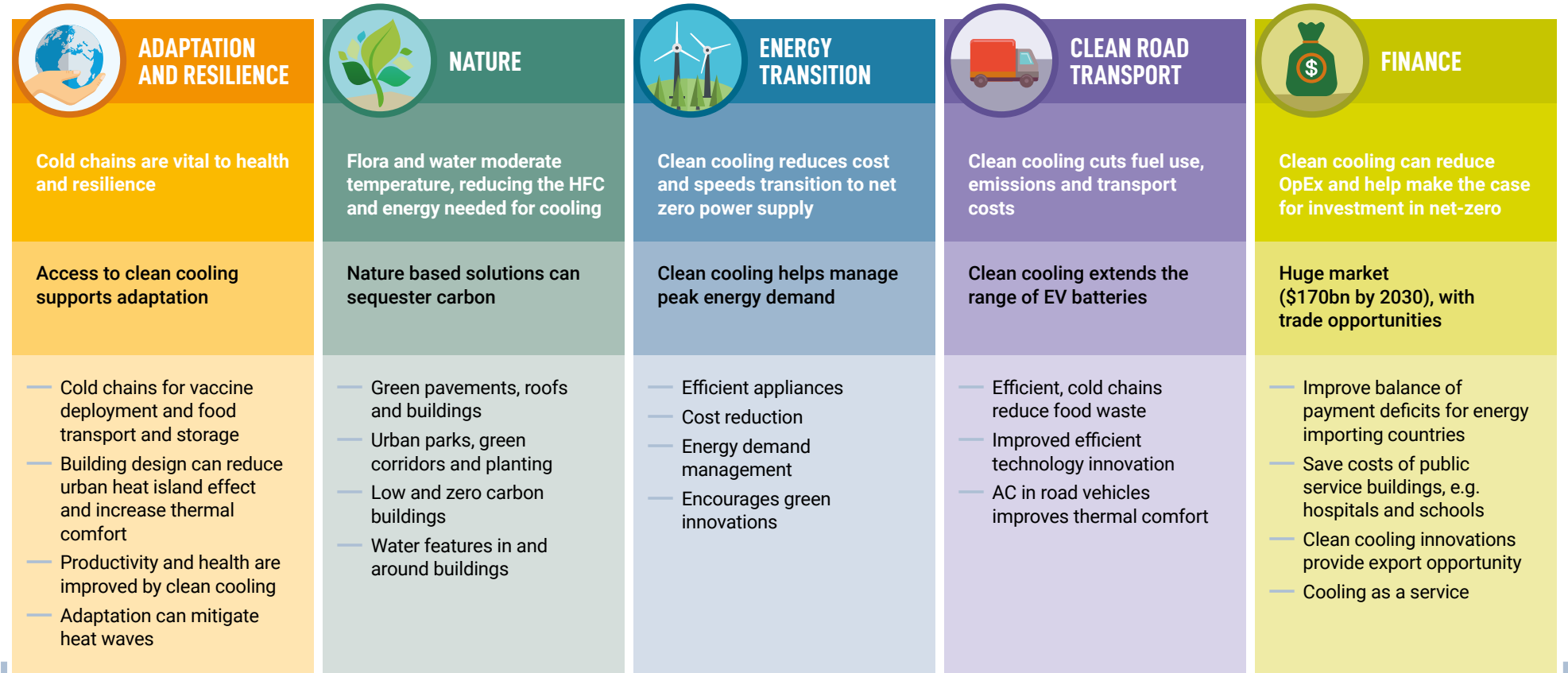
³ [The Economist, The Cooling Imperative](#)

⁴ [University of Birmingham, A Cool World defining the energy conundrum of cooling for all](#)

⁵ [Ministry for the Ecological Transition, Réglementation environnementale \(RE2020\)](#)

Figure 1: How efficient, climate-friendly cooling underpins each of the priority themes for COP26. Prepared by the Carbon Trust

BENEFITS OF SUSTAINABLE COOLING



Office and Buildings



Healthcare



Energy and Utilities



Hospitality



Banks



Consumers



Industry



Education



Electronic/Technology



Transport



Government



Pharmaceutical



ADAPTATION AND RESILIENCE



The working group I contribution to the Sixth Assessment Report of the IPCC reminded us of the expected increase in the frequency and intensity of hot extremes. In France, this has already materialised with twice as many heatwaves in the last 35 years than in the whole period of 1947-2018. Thus, access to low carbon cooling is critical to improve resilience to climate shocks, to sustain livelihoods and maintain thermal comfort, particularly in French overseas territories characterised by their tropical climates. Similarly, adaptive solutions to reduce urban heat islands and indoor temperatures are needed to help cities protect its dwellers from projected rising temperatures.

ADAPTATION TO CLIMATE CHANGE AS A NATIONAL PRIORITY

To address France's exposure to climate risks and rising temperatures, the French National Plan for Adaptation to Climate Change (PNACC2 2018-2022) lays out strategic adaptive responses across key sectors of the French economy (agriculture, industry, tourism) and territories. This plan was developed through a national consultation that mobilised over 300 representatives from civil society, experts and representatives of local authorities and ministries.

FRENCH GOVERNMENT COOLING SOLUTIONS TO SUPPORT FISHERIES TO ADAPT TO CLIMATE CHANGE

The FAO estimates that fourteen percent of the food produced globally is lost during post-harvest production stage partly due to the lack of access to cooling. Cold chains are central to increasing food security and agricultural livelihoods. The French Facility for Global Environment (FFEM) is supporting Valorem, a vertically integrated green energy operator, with the implementation of solar-powered cold room solutions in the ports of M'bour and Fass Boye, Senegal. With 718km of coastline and 600,000 people employed in the fishing sector, Senegal is highly dependent on fishing resources. The project [Solar-powered cold rooms to help fishing ports adapt to climate change](#) aims to address the lack of access to refrigeration facilities, with climate-friendly solutions to help fishing ports adapt to climate change, reduce food losses and strengthen fishers' livelihoods.

TOOLS TO IMPROVE CITIES RESILIENCE TO RISING TEMPERATURES

To adopt strategies that will protect urban environments from Urban Heat Island (UHI) effects and help dwellers maintain comfortable temperatures, the Agence de la Transition Ecologique (ADEME, French Agency for the Ecological Transition) supported the development of a series of tools. These are designed to help local authorities, planners and decision makers implement adaptation strategies. Tools include maps to locate cool areas, diagnose heat islands or analyse physical climate risks on buildings as well as how to increase greenery and canopy coverage in cities. Examples include:

- [Platform BAT-ADAPT](#)
- [Methodologies and tools](#) to identify heat islands
- [Solutions](#) to cool urban areas
- [Methodologies](#) to improve urban design against energy consumption and comfort requirements.

In addition, ADEME and Agence Française de Développement (AFD/ French Development Agency) recently published a [report](#) showcasing lessons learned from concrete implementation of urban cooling in 17 different cities in different geographic areas and climates.

FRENCH EXPERTISE IN BIOCLIMATIC BUILDINGS

France promotes bioclimatic architecture to design buildings and spaces based on local climates and practices which are able to provide thermal comfort whilst minimising energy use and potential environmental impact. Examples include:

- [Boueni school](#) in Mayotte
- [Grand amphitheater](#) of Moufia in La Reunion
- [Collective housing](#) complexe Malacca Flores in La Reunion

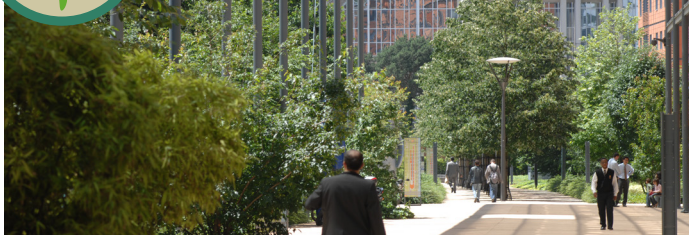
In the East of France, the Muttersholtz [gymnasium facility](#) is a flagship project designed using bioclimatic architecture, performing insulation and efficient equipment (lighting, HVAC etc.) that consumes low energy (<15 kWh/m²) and provides high thermal comfort throughout the seasons.

FRENCH INNOVATION FOR PASSIVE COOLING

[CeremaLab](#) is part of the Greentech Innovation network of incubators set up by the French Ministry for Ecological Transition. In 2021, CeremaLab launched a call for innovators to support solutions that build territorial and infrastructure resilience. [Cool Roof France](#) was one of the prize winners with their passive cooling technique that uses reflective painting on roofs to improve occupiers' comfort without using air-conditioning equipment. This low-tech innovation has been implemented on top of a hospital, casino, warehouse, school, gymnasium, and stores and has demonstrated significant results in reducing roof surface temperatures and improving thermal comfort of each facility.



NATURE



Nature-based solutions reduce the need for active cooling and bring secondary benefits to cities such as improved air-quality and general wellbeing with greater access to greenery for urban dwellers. France prioritises nature-based solutions in its National Plan for Adaptation to Climate Change as a response to rising temperatures and exposure to climate impacts. Tools and guides can help city-level planners, decision makers and developers integrate nature-based responses to future city plans.



DEPLOYING NATURE-BASED SOLUTIONS TO COOL URBAN ISLANDS

Nature-based solutions are a powerful tool to keep urban environments cool. France's National Plan for Adaptation to Climate Change integrates nature-based solutions as a priority to address climate challenges, particularly in fighting Urban Heat Island (UHI) effect. The integrated [ARTISAN](#) Life project, implemented by the French biodiversity agency is designed to: highlight and promote the potential of nature-based adaptation solutions, to raise awareness and improve stakeholders' skills in this area and to support nature-based initiatives in France (including overseas territories). One of the pilots in Les Mureaux aims to reduce the UHI effect by reintroducing greenery on a concrete surface of 800m². This creates a cooler urban area in addition to broader co-benefits such as improved soil irrigation, rainwater absorption and the reintroduction of natural habitats into the city.

Similarly, the Lyon Métropole released a Canopy Plan to develop and protect the city's urban forest and green spaces, key to cool the city and increase the well-being of citizens.

FRENCH GUIDES ON BIODIVERSITY AND GREENING CITIES

Canopy, parks, and green roofs, walls, and facades on urban buildings, reduce the need for active cooling as they reduce outdoor temperatures and provide effective thermal insulation. These nature-based solutions have important co-benefits in terms of increased air quality, rainwater absorption, and biodiversity support within urban areas. To help local authorities, planners, and decision makers, ADEME published a set of tools to help implement greening strategies adequately:

- [Trees](#) as an actor for climate in Hauts-de-France with the development of a planning [tool](#).
- Overview of greening approaches to cool urban areas

In order to boost nature-based design and investments in the multiple climate contexts of AFD's countries of intervention and of French overseas territories, a specific technical guide that promotes localised approaches is made available and shared.

FRENCH LEADERSHIP IN GREENING BUILDINGS TO PROVIDE THERMAL COMFORT

[SOPREMA](#) is a leading French company that offers green solutions to existing and new buildings across the country. Toulouse is creating a 40-story mixed-use skyscraper designed with ribbons of gardens that curl around the glass façade to integrate greenery that help cool the building.





ENERGY TRANSITION



The IEA forecasts that demand for air-conditioning (AC) will triple by 2050, making AC one of the top drivers of global electricity demand that today, already represents 10% of all global electricity consumption. In warm seasons and climates this can make up 60% of cities electricity use. Thus, to transition towards a more sustainable system and reduce the strain on power infrastructure there is a greater need for increasing building efficiency, using cooling equipment smartly and reducing the need for active cooling.

FRANCE DISTRICT COOLING LEADERSHIP

France's multi-year energy and climate programme includes a district cooling target by which it aims to increase the capacity of district heating and cooling networks by five by 2030. France district cooling system is currently composed of 22 networks across the country. [Climespace](#) is a French district cooling leader with the first network installed in Paris in 1991. Today the system provides cooling to over 500 clients such as museums, hospitals, luxury hotels, offices and many more covering over 5 million m² and representing 300Gwh/year of energy sold. Compared to individual systems, district cooling can increase energy efficiency by 50%, reduce water consumption by 65% and reduce the use of chemical products by 75%, whilst halving CO₂ emissions.

FREE COOLING FOR DATA CENTRES

To address data centre emissions related to their intensive energy consumption from cooling, French companies are adopting free cooling practices. Free cooling can lower temperatures in a facility by using naturally cool air or water instead of mechanical refrigeration. For example, VINCI Facilities Data Center and Telecom have replaced conventional cooling systems of a French telecommunications operator with applications that use free cooling, resulting in reduced consumption by 50% over an entire year whilst tripling the system's energy efficiency.



ENHANCING BUILDINGS EFFICIENCY THROUGH RETROFITTING

Improving the energy efficiency of existing building stock can significantly reduce energy consumption and cooling loads in buildings. The [PROFEEL](#) programme is supported by the French government, financed by EDF, Total, ENGIE, ENI and CPCU and implemented by The French Scientific and Technical Centre for Building (CSTB) and the Agency for Construction Quality (AQC). The programme developed a set of tools and solutions to help building developers and managers overcome major challenges that occur when implementing retrofitting measures.

BUILDING END-USER'S AWARENESS FOR AN EFFICIENT USE OF COOLING EQUIPMENT

The Ministry of the Ecological Transition and ADEME are supporting the Association Française du Froid (French Cold Association) to implement the [Clim'Eco programme](#) co-financed by ENGIE, Vivo Energy Réunion under the "Certificats d'Économies d'Énergie" facility (energy efficiency obligation scheme). Clim'Eco focuses on increasing end-users' energy savings potential through raising awareness on cooling equipment use best practice. The programme is implemented in the French overseas territories of Guadeloupe, Martinique, Guyane, La Réunion and Mayotte.

SOCIAL HOUSING AND URBAN ECOLOGY

The objective of the Programme for energy efficiency in buildings (PEEB) is to encourage energy efficiency projects in buildings in developing countries. This programme is managed by several French and German Agencies. Thanks to France's experience in tropical climates in its overseas territories ADEME has developed useful tools that are transferrable to similar climates like in Senegal and Vietnam. In Vietnam, LEU Réunion was commissioned to assist developer's in adopting passive cooling measures in the design phase of social housing projects to increase buildings energy efficiency by reducing the need for active cooling in the first place and therefore limit the energy consumption of buildings.



CLEAN ROAD TRANSPORT



Efficient climate-friendly cooling has an important role to play in delivering sustainable mobility. To date, there have been a number of initiatives targeting not only the promotion of low-carbon vehicles, but also reducing urban heat and developing emission-free cold chains.

REDUCING URBAN HEAT ISLAND EFFECT THROUGH ZONING

Several French cities have established Low Emissions Zones (LEZ), with a national target of having 44 LEZ by 2025. These initiatives are also accompanied by a national objective of ending the sale of the most polluting new passenger cars by 2030 and all new light duty vehicles using fossil fuel by 2040.

There are also a number of initiatives designed to adapt to increasing heatwaves by reducing urban heat, such as [the Cool & Low Noise Asphalt project](#) in Paris (2017-2022). This project applies three different coating formulas to city roads that increase the albedo effect, promote evaporation of retained water, and trap sound waves.

PUBLIC TRANSPORT RESPONSE TO EXTREME HEAT

To respond to the increase in heatwaves and need for cooling, Paris' public transport system (RATP) has implemented a strategy to address thermal comfort whilst minimising energy consumption dedicated to cooling. This involved alternating cooling methods such as natural ventilation, mechanical ventilation, low use of air conditioning.

LOW CARBON TRANSPORT SOLUTIONS

[Systra](#) is one of the world's leading engineering and consulting groups specializing in public transport and mobility solutions. Systra offers its services to both private and public clients across Paris, Bordeaux, Lille, Lyon, Marseille, Metz, Nantes et Toulouse, ranging from topics such as urban mobility, management of flows and network facilitation, environmental and energy transitions, to optimisation of client assets and valuation of data over the entire life cycle. Systra provides sustainable solutions for better development models in terms of energy transition, circular economy, and low carbon products and services.

NOVEL TECHNOLOGY FOR REFRIGERATED TRANSPORT SYSTEMS

[Sofrigram](#) and its division [Coldway Technologies](#) offer temperature-controlled packaging solutions that enable the autonomous transport of insulated and refrigerated goods without the use of HFCs. The company's innovative technologies have been called upon significantly during the COVID-19 pandemic for the safe and climate-friendly transport of vaccines throughout the country and abroad.

[Cemafruid](#) is also a company especially active in the cold-chain space. Cemafruid describes itself as the international expert on cold chain, refrigeration and air-conditioning, offering services such as Testing & Calibration, F Gas certification, pressure and lifting equipment verification and training across areas such as Health & Pharmaceuticals, Food and Supply Chain & Logistics. [Air Liquide's](#) expertise in cryogenics has led to the development of an innovative solution for cold storage truck transport known as blueeze™.





FINANCE



Mobilising public and private investment for energy efficiency and sustainable cooling programmes is a key component of France's climate mitigation response. Detailed below are a number of financing programmes and instruments used to advance low carbon cooling, the transition to natural refrigerants and cool city planning. To accelerate clean cooling, it is essential for solutions to be integrated into other low carbon developments such as solar home systems, low emission vehicles and energy efficiency programmes.

ENERGY EFFICIENCY FOR BUILDINGS

As part of the Recovery Plan, more than € 2 billion over the two years of 2021 and 2022 have been committed to finance the growth of the objectives of *MaPrimeRénov'*, which now supports energy renovation work carried out by landlords. The programme allows for the financing of insulation, heating, and ventilation projects as well as energy audit work on a single-family house or an apartment in collective housing.

Furthermore, the Programme for Energy Efficiency in Buildings (PEEB) features a prominent international focus, hosting the development of two Housing Programmes for Vietnam and Morocco as well as policy recommendations on topics including NDC roadmaps, EE regulation, financial incentives delivered in countries such as Vietnam, Tunisia, Senegal and Morocco, and with many more in a pipeline currently valued at € 2.8 billion. These programmes have delivered many health, housing and education benefits in targeted countries as well as important training for policymakers and professionals.

FINANCING THE TRANSITION TO NATURAL REFRIGERANTS

The Multilateral Fund of the Montreal Protocol includes a bilateral part within its framework, for which France is engaging with Zimbabwe regarding the financing of a project to convert two production lines of domestic refrigerators and freezers in a local manufacturer, from the use of HFC-134a, a greenhouse gas, to isobutene, a natural refrigerant.

TAX ADVANTAGES FOR F-GASES FREE EQUIPMENT

The French government has implemented various tax advantages for companies investing in F-gases free equipment. These tax advantages take the form of designated deductions in favour of investments in refrigeration and air treatment equipment not using HFCs.

GREEN CLIMATE FUND

France is particularly involved in the Green Climate Fund, for which it has doubled its financial contribution during the first replenishment of the fund in 2019 and become the co-chairman of its board of directors in 2021. This fund is the financial instrument of the Paris Agreement, and focuses on eight major themes, including "Building, cities, industries and appliances" where the fund engaged up to USD\$ 1.5 billion in 31 projects. As such, the Green Climate Fund finances projects to upgrade cooling systems for equipment and buildings. Easier access to the resources of the Green Climate Fund for all recipient countries including SIDS, LDC and African states is an objective of the French co-presidency.

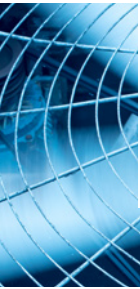


FINANCING CITIES ENERGY TRANSITION

FFEM is a financing instrument that was established in 1994 by the French government after the first Earth Summit to support innovative projects generating environmental, social and economic benefits for local populations. These projects help preserve biodiversity, climate, international waters, land and the ozone layer while combating pollution. The FFEM, within its broader scope of action, has an important focus on energy transition for resilient cities. More specifically, in relation to cooling, the FFEM has a specific focus on air conditioning, cooling and storage networks, green cooling (connected to impacts on the ozone layer), passive solutions for surfaces of buildings (e.g., cool roofs that reflect solar heat), and recovery of heat emitted by air conditioning systems.



OPPORTUNITIES FOR ACTION



The French Government, the Climate and Clean Air Coalition and Cool Coalition recognise the tremendous opportunity for ambitious government, business, and civil society action to meet the need of efficient, climate-friendly cooking for all.

COP26 provides an opportunity for enhanced action and new commitments from governments around the world. The examples below illustrate some of the inclusive and impactful actions that different actors can take.



GOVERNMENTS



BUSINESSES



CITIES



OPPORTUNITIES FOR ACTION



GOVERNMENTS

Promote energy saving measures to maximise the reduction in excess energy consumption from cooling demand in buildings. This means integrating codes and standards that promote passive cooling approaches in building design, city planning and greening practices as well as raising and enforcing minimum energy performance standards (MEPS) for appliances with significant greenhouse gases reduction impact.

Consider [COVID-19 recovery plans](#) to integrate financial packages that can support the transition to more efficient, climate-friendly cooling and stimulate building retrofit intervention to improve old building stock energy performance and provide thermal comfort.

Engage with Official Development Assistance (ODA) and national development banks and support crucial engagement efforts with multilateral development banks.

Develop detailed guidance on efficient, climate-friendly cooling installation skills, maintenance and available financing mechanisms to improve end-users' awareness and decrease adoption barriers. For example, the French Ministry for Ecological Transition has published an [Energy Performance Diagnostic report](#), which also includes recommendations on equipment maintenance and use of space.

Support initiatives that promote the transition to natural fluids and raise awareness on their limited global warming potential and cost-effectiveness compared to other refrigerants for different applications.

Develop a cartography of cooling uses and priorities (health applications, comfort applications, transport applications, etc.)

Promote the deployment of heat pump solutions using natural refrigerants, taking into consideration lessons learned from past experience such as through the [PROFEEL programme](#).

BUSINESSES

Installer and maintenance business operators should support mechanisms to encourage end users to use their appliances efficiently. For instance, [Clim'Eco](#) is an energy efficiency programme implemented in French overseas territories designed to achieve energy savings by promoting daily eco-friendly actions and raising awareness among HVAC equipment owners about eco-responsible use as well as regular maintenance of their installation.

End users including retailers, should collaborate with suppliers to develop efficient, climate-friendly cold chains.

Suppliers should accelerate the deployment of affordable efficient cooling solutions that use refrigerants with zero or low global warming potential and are aligned with [Net Zero pathways](#).

Enablers including urban planners and architects, building operators and trade associations and energy providers need to integrate systems design to reduce cooling demand and act collaboratively.

Innovators to keep track of public calls for proposals that can support the research and development of their cooling related projects. ADEME will launch a call for projects in 2021 to fund the development of new solutions in heating, cooling, ventilation, and hot water appliances.

CITIES

Local governments can use their planning powers to set targets and priorities for urban cooling strategies that first incorporate passive cooling measures to reduce cooling loads, and then stimulate the adoption of most efficient and climate-friendly cooling technologies.

Increase the adoption of district cooling technologies and raise public awareness of clean cooling solutions to a range of stakeholders by publishing city plans and engaging them with training on cooling.

Implement Low Emission Zones to increase environmental, health and wellbeing co-benefits. Reducing the number of highly polluting cars can reduce urban heat island effect, improve air quality and urban dwellers general wellbeing with greater access to breathable and greener spaces.

ADDITIONAL FRENCH INITIATIVES THAT SUPPORT THE TRANSITION TO SUSTAINABLE COOLING



ADAPTATION & RESILIENCE

BaityKool is an innovative prototype of bioclimatic design made by a multidisciplinary team from United Arab Emirates, France and Palestine.

[HOME \(baitykool.com\)](http://HOME (baitykool.com))

Construction21 is a collaborative platform to share knowledge and best practice on sustainable cities amongst professionals in the built environment.

[Construction21, le média social du bâtiment et de la ville durable](#)

The French Sustainable Real Estate Observatory (in partnership with ADEME and the Sustainable Building Plan) is launching a MOOC (e-learning course) on Buildings' adaptation to climate change.

[MOOC Buildings adaptation to climate change | MOOC Batiment Durable \(mooc-batiment-durable.fr\)](#)

ADAPTATION & RESILIENCE/ ENERGY TRANSITION

France is part of ABC21 an EU Horizon 2020 initiative that aims to identify and document African & European bioclimatic designs and use local materials as methods to promote sustainable and energy-efficiency buildings.

[Home - ABC21 - Africa-Europe BioClimatic buildings for XXI century](#)

CETIAT is an independent testing laboratory that supports manufacturers in optimising, improving and/or designing their products and processes. This includes testing cooling equipment efficiency for buildings.

[Homepage \(ceti.fr\)](http://Homepage (ceti.fr))

ENERGY TRANSITION

Research Center Armines is commissioned by the European Commission to test and define energy efficient and sustainable cooling applications.

[European Research \(armines.net\)](http://European Research (armines.net))

ADEME has developed many tools and guidance to brief end-users on how to reduce cooling consumption in different set-ups.

[La climatisation : vers une utilisation raisonnée pour limiter l'impact sur l'environnement – ADEME Presse](#)

ENERGY TRANSITION/ FINANCE

Energy Savings Certificate framework was designed by the French government for energy providers to offer financial assistance to individuals to finance energy-savings work in their homes.

[Energy saving certificates \(EEC\) «Standard» | service-public.fr](#)



The demand for cooling and refrigeration will result in additional greenhouse gas emissions, amplifying the need for further cooling. Efficient climate friendly cooling must be a priority for global climate action and will be crucial to a successful COP26 to meet Net Zero ambitions. COVID-19 has further demonstrated the importance of cold chains (for food and vaccines) and keeping human shelter comfortable as more time was spent at home. **Responding to Covid-19 is an opportunity to improve cooling policy and technology as a pathway not only to zero emissions but to save energy costs, improve health (access to medicines and vaccines), create jobs and enhance resilience.**

GET IN TOUCH

The Climate and Clean Air Coalition is a voluntary partnership of more than 70 countries and 100 intergovernmental organizations, businesses, scientific institutions and civil society organizations committed to protecting the climate and improving air quality through actions to reduce short-lived climate pollutants. The CCAC worked to raise awareness and catalyse rapid action on HFCs and efficient cooling since 2012. The Coalition is launching a new Cooling Hub in 2021. To find out more, please visit [The Coalition | Climate & Clean Air Coalition \(ccacoalition.org\)](https://www.caccoalition.org) or reach out to secretariat@ccacoalition.org.

The Cool Coalition is a global multi-stakeholder network that connects a wide range of key actors from government, cities, international organizations, businesses, finance, academia, and civil society groups to facilitate knowledge exchange, advocacy and joint action towards a rapid global transition to efficient and climate-friendly cooling. The Cool Coalition is now working with over 100 partners, including 23 countries. To find out more, please visit <https://coolcoalition.org> or reach out to unep-coolcoalition@un.org to hear more about how you can engage including on how to join, actions, and upcoming events.

This document has been prepared by the Carbon Trust.