



FROM PLATE TO PLANET

How local governments are driving action on
climate change through food

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KEY MESSAGES

Global action on the climate crisis is nowhere near the scale and commitment required to limit warming to 1.5°C. Urgent and far-reaching action to transform food systems is needed to reach the Paris Agreement target. Where national governments are falling short, this report shows how cities and regional governments are pioneering policies on food and climate change through dozens of inspiring examples of effective action on-the-ground. It finds:

- Local governments are spearheading action to cut greenhouse gas emissions by promoting healthy and sustainable diets, reducing food waste, shortening food supply chains, supporting a transition to organic farming, and ensuring their poorest inhabitants can access healthy and sustainable food. These policies cut greenhouse emissions in addition to providing a wide range of social, health, economic, and environmental benefits.
- **These holistic, emissions-cutting local policies provide a blueprint for action on food and climate** – in which social justice, participation, and accountability are put at the heart of climate action.
- Local governments are making progress despite swimming against a powerful tide of limited resources, constrained political power, and the COVID and cost of living crises. **Cities and regions need much more support and recognition for their work**, which is overlooked by national governments and in international climate negotiations.
- **Such ambitious initiatives at the local level contrast dramatically with the weak and fragmented actions of national governments on food and climate** – as shown by their inadequate national climate plans submitted under the Paris Agreement (NDCs) where food systems are routinely overlooked. What plans do exist lack joined-up approaches that span the whole food system, lack coordination between local, regional, and national levels of government, and lack measurable commitments.

To give us a fighting chance at limiting global warming, a shift to sustainable food systems is urgent. National governments should:

- 1. Use the example of cities and regional governments as a blueprint** for food and climate action – to inspire national food and climate policies.
- 2. Act in coordination with city and regional governments**, and provide more funding to them to take action on food and climate change, scaling it out to all cities and regions.
- 3. Take the opportunity of the Paris Agreement stocktaking moment at COP28 to revise national climate commitments to systematically include food systems and local action.**



Credit: Rikolto Indonesia

INTRODUCTION

The small window of opportunity the world has to reduce greenhouse gas emissions and limit global warming to 1.5°C is rapidly closing. The latest Intergovernmental Panel on Climate Change (IPCC) report, published in March 2023, sounded a stark warning and final call to action. The report underlined that global warming is already killing people, destroying nature, and making the world poorer. Damages are accelerating as temperatures rise, causing unprecedented costs to people, economies, the environment, and food security. Women, youth, marginalized urban populations, smallholder farmers, and Indigenous communities bear the brunt of these damages.¹ **Deeper and faster**

cuts to greenhouse gas emissions are the only way to limit these impacts.

Food systems are both a culprit and a victim of this crisis. They are on the front line of climate impacts while being responsible for one-third of global greenhouse gas emissions (see Figure 1 for a detailed breakdown of food system emissions). Agriculture and associated land-use changes are the principal drivers of food system emissions, generating a quarter of global greenhouse gas emissions.¹² Most of these emissions are generated by the clearing of intact ecosystems and the conversion of land to high chemical input and

¹ Emissions from agriculture include aquaculture, agriculture, and emissions from inputs such as fertilizers. Land-use change emissions include deforestation, soil, and peatland degradation.

resource-intensive commodity crop production systems. 67% of deforestation for agriculture is linked to industrial monocultures for feed and food production in developing countries, particularly soy, maize, palm oil, and cattle for export markets.³ The chemical inputs applied to monocultures include synthetic fertilizers and pesticides, which are derived from fossil fuels and drive greenhouse gas emissions in the production and application phases. Synthetic nitrogen fertilizers alone are responsible for roughly 2% of global greenhouse gas emissions, exceeding emissions from commercial aviation.⁴

The remaining food system emissions represent nearly 10% of global greenhouse gas emissions and result from all downstream activities after food production, including transportation, processing, packaging, retail, and waste. However, food waste emissions are likely underestimated. One-third of food is either lost during harvest, storage, transport, processing, and retail or thrown away by consumers.⁵ And when taking into account the full life cycle emissions of food loss and waste, a recent report

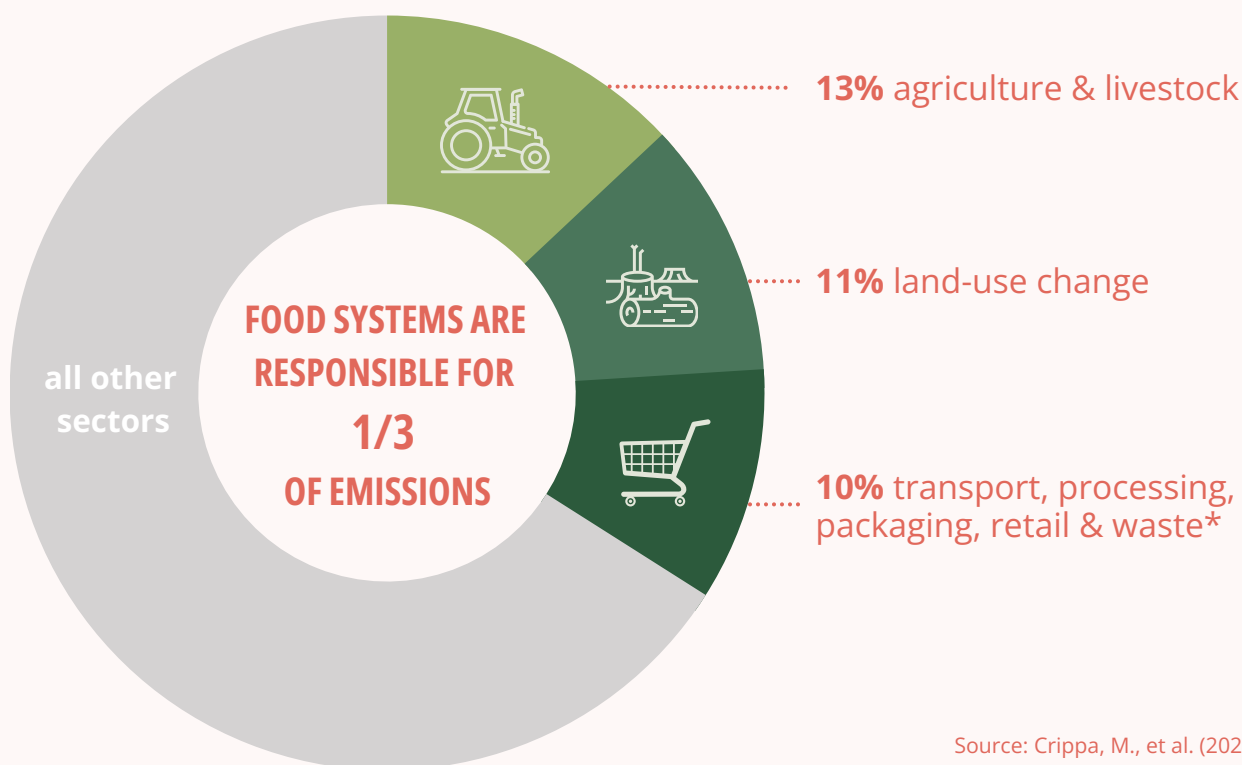
found that these emissions could even account for as much as 50% of food system emissions.⁶

Beyond greenhouse gas emissions, industrial production systems degrade soils, forests, water, air quality, and are the leading driver of ecosystem and biodiversity destruction.⁷ The triple crises of biodiversity loss, land degradation, and climate change share common drivers and exacerbate one another. Land degradation and ecosystem destruction, driven by climate extremes and land conversion, undermine nature’s capacity to regulate greenhouse gas emissions and safeguard against extreme weather, accelerating climate change and increasing vulnerability to it.⁸ Together, these concurrent crises also work to compromise food security and disrupt farmers’ livelihoods, making it harder for farmers to adapt to climate change due to increased vulnerability and decreased resilience to shocks.

Our unsustainable food systems are also a major driver of poverty and high debt levels in low- and

FIGURE 1

Total global greenhouse gas emissions



Source: Crippa, M., et al. (2021).



*New studies show that the emissions from food waste may be significantly underestimated. A recent full life cycle analysis of food loss and waste shows that their emissions may account for up to 50% of food systems emissions (Zhu et al., 2023).

middle-income countries.⁹ Many countries have become increasingly dependent on imports of food, fuel, and fertilizers, in line with a global agri-development model that has encouraged export commodity specialization. This has undermined food security by eroding local food production, marginalizing smallholders, and leaving countries vulnerable to global food price spikes – while funnelling resources out of the Global South. Over the last two years, sky-high import costs have combined with interest rate hikes and worsening climate impacts to create the worst debt crisis in 60 years. As a result, debt servicing costs are dwarfing spending on climate resilience and other crucial investments.

Lastly, today's food systems are also the leading cause of early death through insufficient and unhealthy diets.¹⁰ In 2021, more than 3.1 billion people in the world, or nearly half of the world's population, were unable to afford a healthy diet.¹¹ Unhealthy diets, prevalent in urban settings and

rising in rural areas, are responsible for more deaths than any other health risk (including smoking and drug use), leading to 11 million annual deaths.^{12,13} Meanwhile, hunger remains a persistent global challenge and is projected to worsen with every fraction of a degree of warming, with potentially catastrophic impacts.^{14,15} The latest figures show hunger and malnutrition are increasing with nearly 3 in 10 people either running out of food or uncertain about their ability to obtain it, and 735 million people suffering from hunger in 2022.¹⁶ And current agricultural support policies are not working to incentivize a healthy and sustainable transition. Of the annual USD 540 billion paid out in global agricultural subsidies, nearly 90% are harmful to people and nature.¹⁷

Over the past few years, mounting climate chaos, the COVID-19 pandemic, and a global food price crisis – ignited by the Russian invasion of Ukraine – have underlined **the need for deep structural transformations in our food systems** (see Box 1).^{18,19}

BOX 1

What we mean by food systems transformation

Our current food systems have succeeded in delivering large volumes of food to global markets, but they are causing substantial climate and ecological impacts, are not prepared to withstand stresses and shocks, and are failing to feed the world. Many food system problems are linked specifically to industrial food systems, i.e. resource-intensive monocultures and industrial-scale feedlots geared towards producing food commodities for global markets. Incremental adjustments to this model won't suffice.²⁰ A bold shift is needed to transform food systems, as advocated by a growing number of scientists and social movements.^{21,22,23}

IPES-Food understands food systems transformation as the pursuit of comprehensive and interconnected changes for sustainability. It entails transforming production, processing, distribution, consumption, and waste management systems together. Transforming this complex web requires redistributing power and breaking up the lock-ins that keep industrial food systems in place. It also requires integrated food policies – holistic policies that address the complex interplay of social, political, and economic factors that drive food systems.²⁴ This means connecting policy areas usually siloed into distinct departments, such as examining the connections between debt and the financial drivers that direct land-use change to monoculture production, between diets, education, and greenhouse gas emissions, and between trade and hunger.

By broadening the focus from specific sectors like agriculture to a holistic approach centred on food, a broader spectrum of stakeholders can engage meaningfully in policy formation and assessment. As multiple studies have shown, transforming food systems requires action at multiple levels and scales – horizontal alignment across policy areas and vertical coordination across levels of government and with civil society. Multi-actor governance facilitates long-term planning supported by effective regulation, monitoring, financial resources, and capacity-building.²⁷ A transformation rooted in justice could also address the deep inequities that plague the global food system, ensuring the inclusion and participation of historically marginalized groups in decision-making and unlocking locally rooted, context-specific approaches that build resilience.²⁸

There is growing global consensus that comprehensive government actions that target the whole food system are needed to tackle the worsening challenges of climate change, biodiversity loss, hunger, and poverty together.^{29,30}

“ **Current mitigation targets & implementation measures are insufficient to meet the challenge of the climate crisis.** ”

Nationally Determined Contributions (NDCs) represent each country’s individual targets and mechanisms for action on climate change under the Paris Agreement. The NDCs are the central benchmarking device to track and assess progress toward global climate goals and are meant to reflect the “highest possible ambition” and “common but differentiated responsibilities”.^{31,ii} The Paris Agreement sits within the binding legal regime of the UN Framework Convention on Climate Change (UNFCCC). Governments are encouraged to regularly assess and enhance their NDCs, and progressively increase their commitments to achieve deeper emissions reductions, while those who backtrack on their pledges may find themselves in violation of international law.³²

At this year’s global climate conference, COP28, the first global stocktake of the Paris Agreement will take place to assess countries’ NDCs and what additional cuts to greenhouse gas emissions are necessary to meet the Paris Agreement.

Already at the 2021 climate conference in Glasgow, COP26, governments agreed that the latest emission pledges were insufficient to meet the 1.5°C ceiling for global temperature rise set under the Paris Agreement.³³ As a result, governments promised to revisit and strengthen their climate commitments. In addition to the ambition gap identified, implementation of existing NDCs was identified as a major challenge. Without adequate integration of NDCs into national policies and plans, without sufficient funding strategies, and without robust monitoring and evaluation tools, NDCs will not succeed.

Regrettably, **since COP26, countries have generally failed to strengthen their climate targets or to improve the implementation of existing commitments.** Based on evaluations by the Climate Action Tracker, since December 2021, 35 countries updated their NDCs but only five submitted stronger targets.³⁴ Current NDCs fall far short of what is needed and would at best limit warming to 2.4°C (if fully implemented), nearly one degree over the Paris target.³⁵ In September 2023, as part of the Paris Agreement stocktaking process, the UNFCCC confirmed that current mitigation targets and implementation measures are insufficient to meet the challenge of the climate crisis.³⁶

Part of the reason for this failure is that **governments are ignoring a key lever for climate action – food system change.** Despite food systems being responsible for one-third of total greenhouse gas emissions, governments are failing to adopt ambitious policies to reform food systems and slash emissions.³⁷ While the need to reduce emissions from the energy and transportation sectors is widely acknowledged, food systems play a crucial role in climate change mitigation but have been ignored by most governments when drawing up their climate commitments.^{38,39,40,41} Even if the burning of fossil fuels were rapidly phased out, current global food production and consumption practices would still push global heating above 2°C.⁴²

Where national governments are falling short, local governments are pioneering some of the most ambitious policies around food and climate. As noted in the latest IPCC report, reaching climate neutrality requires action at all levels of government.⁴³ While NDCs give a leadership role to national governments, **cities and regions have a crucial role to play in implementing climate action.**

The idea that change needs to take place closest to people is not new. In 1992, Agenda 21 encouraged thousands of local governments to engage in policy actions for sustainable development. Implementation of the Sustainable Development Goals (SDGs) calls for close collaboration between national and local governments. Today, an increasing number of calls are being made to localize the NDCs.^{44,45,46} Across these initiatives, it has become increasingly clear that international frameworks can inform local policy development, and that local action can serve as a major catalyst for more ambitious global change.

ⁱⁱ NDCs primarily focus on climate mitigation measures to draw down greenhouse gas emissions, but they can also include adaptation measures to reduce vulnerability to climate impacts. While climate adaptation is critical, especially for developing countries bearing the brunt of climate impacts, this report will focus on national and local climate mitigation policies.

At the global climate conference in Glasgow, COP26, local governments presented a path forward for multi-level food system transformation through the **Glasgow Food and Climate Declaration** (see Box 2 for more on the Glasgow Declaration). 120 local and regional authorities committed to tackling the climate emergency through comprehensive food policies, while calling on national governments to incorporate food systems into their national climate plans and work hand-in-hand with local governments. As we describe below, these pioneering cities and regions are leading the way in implementing transformative food policies through multi-actor and multi-level governance mechanisms. They are spearheading integrated food policies that accelerate

climate adaptation, enhance resilience, and drive a just transition to sustainable food systems.

This report highlights the pivotal role of local governments in enhancing climate commitments. It begins by outlining how food systems have been insufficiently targeted in national climate mitigation plans. It then explores seven types of comprehensive food system actions led by local governments. It concludes by recognizing the constraints local governments still face in their work, and presents recommendations for how national governments can leverage the progressive work of cities and regions to revise climate commitments, ratchet up ambition and action, and advance our collective efforts to combat climate change.

“ While international frameworks can inform local policy development, local action can serve as a major catalyst for more ambitious global change. ”



Credit: Stad Brugge

The Glasgow Food and Climate Declaration

In 2020, IPES-Food and Nourish Scotland convened a broad coalition of local governments, city networks, and NGOs to collectively draft a declaration and kick off a process aimed at moving local actors and food systems to centre stage at the 2021 climate COP in Glasgow. The Glasgow Food and Climate Declaration is open to signatures from regional, local, and indigenous governments of all sizes across the world. Though the Declaration has a global reach, there are a large number of signatories from the UK and EU, likely due to the fact that the Declaration was launched at the 2021 COP held in the UK.

EXCERPT FROM THE DECLARATION

"We, the undersigned elected leaders of subnational governments, in light of the upcoming UNFCCC Conference of Parties, commit to accelerate climate action by building and facilitating sustainable food systems transformation, by:

- *Developing and implementing integrated food policies and strategies as key tools in the fight against climate change; and ensuring that these instruments adopt a food systems approach that involves actors across all parts of the food chain; include metrics to assess greenhouse emissions reduction targets from food systems, as well as opportunities for cooperation and best practice sharing between subnational governments.*
- *Reducing greenhouse gas emissions from urban and regional food systems in accordance with the Paris Agreement and the Sustainable Development Goals, and building sustainable food systems that are able to rebuild ecosystems and deliver safe, healthy, accessible, affordable, and sustainable diets for all.*
- *Calling on national governments to establish supportive and enabling policy frameworks and multi-level and multi-actor governance mechanisms, allowing coordinated decision-making on food systems. These mechanisms will support the drafting of inclusive national food policies to be included into the revisions of the Nationally Determined Contributions (NDCs).*

SIGNATORIES TO THE DECLARATION



Find the full text of the Glasgow Declaration and a list of all 120 signatories at [GlasgowDeclaration.org](https://glasgowdeclaration.org).



HOW NATIONAL CLIMATE MITIGATION COMMITMENTS ARE FALLING SHORT AND IGNORING FOOD SYSTEMS

Transforming the global food system could generate major greenhouse gas emissions reductions, in addition to a wide range of social, health, economic, and environmental benefits. For example, well-managed changes to production practices – in a way that prevents and reverses land-use change and land degradation – could mitigate about 18% of annual global greenhouse gas emissions while building soil fertility, protecting ecosystems, and strengthening resilience to climate shocks.⁴⁷ Further, studies have shown that transitioning to sustainable, healthy diets

and halving global industrial meat production and consumption could mitigate up to 8% of annual global emissions, while improving health and reducing pressures on land and ecosystems.^{48,49} Separately, halving food loss and waste across the entire supply chain could mitigate up to 8% of annual emissions, according to a recent life cycle assessment.^{iii,50}

This transformation is well within our reach, but current climate commitments lack the ambition and

ⁱⁱⁱ The percentages listed are in relation to 2019 annual greenhouse gas emissions, which reached 57.4 gigatons of CO₂ equivalent emissions. This figure is based on the EDGAR data set, which is the most comprehensive data set on global greenhouse emissions up to 2019. See J. G. J. Olivier and J. A. H. W. Peters. "Trends in global CO₂ and total greenhouse gas emissions: 2020 Report." The Hague: PBL Netherlands Environmental Assessment Agency, 2020.

implementation measures needed to drive it. This section examines the main weaknesses in countries' NDCs, namely in failing to leverage transformation across the whole food system, failing to ensure proper implementation measures, and failing to harness the power of local action and participation in decision-making.

1.1 MISSING JOINED-UP APPROACHES THAT SPAN THE WHOLE FOOD SYSTEM

Some 93% of countries now include at least one measure related to food in their NDCs.⁵¹ In some cases, countries are already developing meaningful strategies to cut agricultural emissions or promote sustainable diets. In others, governments are developing multi-level governance mechanisms to implement their commitments. However, to be effective in sparking food system transformation and slashing emissions, actions must be joined up across the whole food supply chain, from production to processing, packaging, distribution, consumption, and waste management.⁵² It is therefore worrying that **national governments are only taking piecemeal actions and are generally failing to build the joined-up strategies that are required to transform food systems.**^{53,54,55}

Most national climate plans that address food narrowly focus on agriculture and land use issues.^{56,57,58} **Governments have shown a remarkable reluctance to join up supply-side and demand-side practices in order to drive more sustainable diets and food systems.** Only two countries have included measures to shift to sustainable food production and consumption and to reduce loss and waste – Liberia and Malawi.⁵⁹ In addition, in failing to adopt a comprehensive food system strategy, many commitments made by governments obscure negative spillover effects that policies may be having on other parts of the food system or in other regions of the world.

In 2022, only five updated NDCs referred explicitly to dietary changes, and most lacked details on how these changes will occur.⁶⁰ None of the world's richest countries have put forward measures to reduce the industrial production and consumption of meat and ultra-processed foods in their climate commitments. With most animal-sourced foods and ultra-processed foods responsible for a higher climate footprint than

less processed, plant-based foods, this represents a tremendous untapped opportunity for climate action across the entire supply chain.^{61,62}

Incorporating dietary change and food access considerations into climate commitments is vital because it acknowledges the critical intersection of food security, nutrition, and climate action (see Box 3). Healthy diets tend to be low-emission diets,⁶³ and beyond emissions and public health benefits, shifting to healthy, sustainable diets – rich in fruits and vegetables, whole grains, nuts, and legumes, and with dramatically lower meat consumption in high-income countries – would also reduce pressures on land and biodiversity loss⁶⁴ (see Box 4). An integrated set of policies aimed at shifting food consumption to sustainable, healthy choices would include raising awareness of the importance of healthy diets, facilitating access to healthy, sustainable alternatives, and removing incentives for the production and consumption of ultra-processed foods and industrialized meat and dairy products.

Another neglected area of the food system that has the potential for substantial greenhouse gas emissions reductions is tackling food loss and waste. Only 11% of countries have committed to reducing food loss or food waste in their NDCs, despite this potentially representing up to 50% of food systems emissions.⁶⁵ Food loss occurs on the farm, during storage, transport, processing, and retail, while food waste refers to food that goes to waste after it is procured. Most food loss reduction strategies in the NDCs focus on avoiding harvest, storage, and food distribution losses and improving waste management facilities to reduce emissions.⁶⁶

Food system actions could drive major reductions in GHG emissions

18% by shifting to well-managed
production practices

8% by transitioning to sustainable diets &
halving meat production & consumption

8% by halving food loss & waste



BOX 3

What countries are doing to shift to sustainable, healthy diets

Some countries, such as **France, Germany, and Colombia** have included measures to promote the consumption of sustainable, healthy foods in their national climate plans.⁶⁷

One of **Costa Rica's** updated NDCs aims to adapt the dietary guidelines in two of its territories to focus on Indigenous, traditional, and seasonal production and consumption.⁶⁸ In addition to the nutritional and cultural benefits of growing and eating local foods, Costa Rica aims to reduce its greenhouse gas emissions by focusing on crops adapted to local contexts and that require fewer external inputs.⁶⁹

Ethiopia is the only country that has pledged to support farmers to diversify their protein production away from beef.⁷⁰

Food loss and waste can be attributed to four main factors: overproduction, poor demand forecasting, poor or low-tech approaches to farming, storage, and transportation, and retail and consumer waste.⁷¹ An integrated set of solutions to prevent and reduce food loss and waste would include agricultural subsidy reform, upgrading farming, storage, and transportation infrastructure, and targeting consumer behaviour change.⁷²

While some food actions are included in NDCs, their transformative potential is undermined by governments failing to address overarching policies that drive unsustainable food systems globally. For example, governments often pledge to reduce greenhouse gas emissions in their agricultural sector while simultaneously promoting policies that incentivize land conversion for urban development or deforestation. In addition, some harmful land and farming practices are incentivized not just by agricultural subsidies but by international trade deals, where environmental and climate impacts are essentially imported or exported through food commodities. Though some NDCs recognize the importance of conserving land and forests, none fully account for deforestation and land-use change resulting from imported food.⁷³ This is a particularly egregious omission given that 67% of deforestation is driven by agriculture – primarily soy, maize, palm oil, and cattle production in developing

“Industrial food systems are a common driver of climate change, biodiversity loss, and land degradation.”

countries for export.⁷⁴ WWF estimates that China and the European Union are responsible for 40% of global deforestation through their imports of cattle, soy, palm oil, and other commodities.⁷⁵

Lastly, the UNFCCC is poorly aligned with the two other pivotal legal instruments that together form the three Rio Conventions – the UN Convention to Combat Desertification (CCD) and the UN Convention on Biological Diversity (CBD) – further hindering joined-up food system action. The CCD focuses on promoting sustainable land management and ending land degradation, while the CBD is designed to prevent mass extinctions and ecosystem degradation. The disconnect among the three Rio Conventions perpetuates siloed thinking by policymakers. This represents a major missed opportunity to comprehensively address a common driver of climate change, biodiversity loss, and land degradation: industrial food systems.

The connection between diets and climate change

Dietary changes are essential for mitigating climate change and can deliver climate and environmental benefits not achievable by changes solely to production practices.⁷⁶ Industrially produced animal-sourced foods in particular have a significant environmental footprint, surpassing vegetable proteins in terms of greenhouse gas emissions, land requirements, and pollution impacts.⁷⁷ Meat, aquaculture, eggs, and dairy contribute up to 58% of food system emissions, but industrialized countries eat far more animal-sourced foods than others.⁷⁸ For example, in the U.S., where per-capita meat consumption is three times the global average, animal-source foods account for 82% of diet-related greenhouse gas emissions.⁷⁹

It is estimated that if the average food consumption patterns of G20 countries were adopted worldwide by 2050, food production emissions would double and up to seven Earths' worth of natural resources would be required to sustain such levels of production.⁸⁰ In wealthy countries, transitioning to healthy, sustainable diets could reduce greenhouse gas emissions and land use demands by 50% compared to current diets.⁸¹

Sustainable dietary shifts also entail reducing consumption of ultra-processed foods. Ultra-processed foods are made from industrially produced and highly processed ingredients, are easily over-consumed, and are non-essential in our diets. They make up a significant portion (up to 60%) of the total calories consumed in wealthier nations, while their popularity is also growing rapidly in middle- and low-income countries.⁸² In the UK and the U.S., they make up 57% of the average diet.^{83,84} The production of ultra-processed foods typically relies upon large-scale monocultures, the use of significant energy during production and processing, long-distance transportation, and excessive packaging.⁸⁵ The vast majority of energy consumption across the entire food supply chain, some 42%, is gobbled up by food processing and packaging.⁸⁶ As such, ultra-processed foods can significantly contribute to greenhouse gas emissions, as well as unhealthy diets, land-use change, and high energy and water use.⁸⁷



1.2 MISSING MEASURABLE COMMITMENTS

The majority of NDCs on food are still missing adequate implementation and monitoring mechanisms. These gaps are primarily due to the lack of concrete methods and metrics specified in climate commitments, which are needed to set robust targets, evaluate progress, and demonstrate benefits. Under the Paris Agreement, governments are encouraged to follow guidelines to enhance clarity, transparency, and understanding to facilitate efforts to track NDC development and implementation, and to ensure accountability.⁸⁸ However, these guidelines are optional, and most governments do not provide detailed explanations of their NDC development processes.^{iv}

The IPCC has recognized that sustainable land management – including halting deforestation and implementing agroecology and/or regenerative and organic agricultural practices – prevents land degradation, and aids in both climate change mitigation and adaptation.⁸⁹ **Though most countries mention agriculture, forestry, and/or land-use change in their climate targets, few provide specific actions and approaches to achieve**

emissions reductions within the sector. According to the Food and Land Use Coalition, roughly one-third of national climate commitments include concrete policies for agriculture, forestry, and land use, but only four NDCs include specific emissions reduction targets for these sectors.^v

National climate commitments on land and agriculture by and large lack details for action on what will be achieved and how – omitting targets, indicators, and measures for implementation.⁹⁰ For example, Indigenous Peoples have a widely recognized role in maintaining biodiversity, forests, and other natural ecosystems, and have pioneered sustainable land management practices for centuries.⁹¹ However, only 10 NDCs reference Indigenous Peoples' land rights, only 4 NDCs describe specific practices used by Indigenous Peoples, and only 2 NDCs promote mechanisms to integrate this knowledge.⁹² In another example, the United States pledges to “support the scaling of climate smart agricultural practices (including, for example, cover crops), reforestation, rotational grazing, and nutrient management practices.”⁹³ Despite listing some ecological practices, it is unclear what else would be covered under “climate smart” agriculture, which approaches would be prioritized, and how much support would be provided compared to highly-subsidized conventional agricultural practices. (For examples of more ambitious sustainable agriculture commitments, see Box 5.)

BOX 5

What countries are doing about harmful agricultural practices

Few NDCs set comprehensive agricultural commitments, but some countries stand out. **Ethiopia identifies specific intervention strategies for climate adaptation, such as improved drought-resistant crop varieties and rangeland management, and includes business-as-usual baselines, indicators for improvement, and quantitative 2030 targets.**⁹⁴ **Senegal has also set specific and ambitious targets for soil restoration, agroforestry, forest restoration, organic fertilizer application, and other agroecological interventions.**⁹⁵ **And Mauritania aims to improve its production practices through agroecology, agroforestry, and sustainable livestock management, setting concrete quantitative and qualitative implementation measures.**⁹⁶

Germany is the first country to commit to redirecting harmful agricultural subsidies to promote sustainable production and consumption.⁹⁷

^{iv} The clarity, transparency, and understanding guidance will become obligatory in 2025, the next mandatory, five-year NDC revision deadline.

^v The study analyzed 50 national climate pledges, including those from the EU, all G20 member countries and others that, as a whole, represent about 80% of global greenhouse gas emissions. See FOLU. “2022 Update: A Closer Look at NDCs from a Food and Land Perspective.”

1.3 MISSING MULTI-LEVEL AND PARTICIPATORY POLICY COMMITMENTS

NDCs are rarely developed through inclusive and participatory processes – this refers not only to a lack of involvement by those most affected by climate change, but also by the local governments often at the forefront of some of the most ambitious climate action.^{98,99} Some progress is being made to broaden participation in NDC processes (see Box 6). One-third of NDCs now include the role of indigenous peoples and local communities in climate mitigation and adaptation, and one-fourth of governments now include the role of smallholder farmers.¹⁰⁰ But since NDC development processes remain opaque, it's unclear whether these groups were meaningfully consulted when drawing up climate commitments.

NDCs place national governments in a leadership role in tackling climate change, but local actors have a crucial role to play in implementing climate action and a unique ability to drive food system change as a lever for cutting emissions. **Evidence shows that countries that regularly engage in stakeholder consultations while revising NDCs – including with a broad range of civil society, local governments, and businesses – were more likely to enhance their greenhouse gas reduction**

targets.¹⁰¹ In addition, stakeholder participation in climate policy development has also been found to enhance policy implementation, by increasing buy-in among local communities and helping these groups keep their governments accountable.¹⁰²

Most NDCs are planned and developed within national environment ministries. Cross-departmental and multi-level coordination is generally limited, with the exception of commitments relating to the energy and transportation sectors.¹⁰³ This ignores the wealth of comprehensive actions taking place around food and climate, most often at the local level. Yet, as the effects of climate change will be felt from the local to the global level and in all sectors of society, it is increasingly recognized that the development and implementation of climate action must be multi-level, with the participation of a broad range of actors.

Local governments are filling the governance gap left by national governments, often working to foster close interactions between people and authorities, providing valuable context-specific expertise for inclusive policy development, innovative collaborative approaches, and effective implementation for a just transition. While efforts are being made to include their actions (see Box 7), **local governments remain sidelined from international climate negotiations and only minor attention is being paid to the need for multi-level action to meet the NDCs.**¹⁰⁴ Yet, it is at the local level that individuals and communities, including vulnerable and marginalized populations, can actively and meaningfully participate in sustained climate action.

BOX 6

What countries are doing for participatory and inclusive NDC development and implementation

Colombia has stated that to accurately monitor and evaluate action on climate change, it must also incorporate knowledge from “indigenous, Afro-descendant and peasant organizations” and provide financial resources to gather this information.¹⁰⁵

Canada engaged the First Nations, Inuit, and Métis communities to develop and implement their initial national strategy in 2016.¹⁰⁶ Indigenous communities believed the framework did not go far enough and issued their own sets of goals, demonstrating a case where initial engagement in NDC development drove continuous engagement.¹⁰⁷

Kenya undertook a gender-based analysis when updating its NDCs, resulting in a document that recognizes that “different gender groups have different vulnerabilities in regards to climate change” and commits to “promote gender-responsive technologies and innovations... through financing capacity building and start-up services.”¹⁰⁸

These are all promising examples of inclusive processes. They are the exception, not the rule, and still lack input from a broad range of food system stakeholders.

What countries are doing about multi-level action

Colombia's 2020 NDC update highlights the engagement of subnational actors in planning and implementing climate targets. It includes 89 measures assigned to local and regional entities, complementing the 32 measures for national-level implementation.¹⁰⁹ The update acknowledges the considerable strides made by subnational actors while identifying implementation and monitoring gaps. These subnational actors have aligned NDC goals within their local contexts and set adaptation and mitigation targets based on their capacities.

In the UK, local authorities have pushed to include their role in NDCs by proposing how these commitments could be devolved into Locally Determined Contributions (LDCs) to accelerate efforts to tackle the climate emergency.¹¹⁰ In June 2023, the UK Parliament debated the role of local governments in the country's efforts to reach Net Zero.¹¹¹

Through the EUROCLIMA+ program, the European Union aims in part to facilitate and strengthen the participation and involvement of local governments in the development and implementation of climate policies and the NDCs.

At the global level, ICLEI (Local Governments for Sustainability) leads the Local Governments and Municipal Authorities Constituency at the climate COPs to act as the voice of cities and regions in climate negotiations. To date, ICLEI is working with over 30 countries to link local and regional governments into the NDC development and implementation process. At COP26, the Cities Race to Zero campaign launched by C40, ICLEI, and other partners has brought together over 1,000 cities committed to achieving net-zero carbon emissions in line with the Paris Agreement.



Credit: Special Communications Secretariat of the São Paulo City Council



SEVEN WAYS LOCAL GOVERNMENTS ARE HARNESSING FOOD SYSTEM TRANSFORMATION TO COMBAT CLIMATE CHANGE

Pioneering regions, cities, and towns are already doing their part to address climate change. While only 18 national governments and the European Union have declared a climate emergency, 2,317 local and regional authorities have done so, accelerating the development of binding climate policies.^{vi,112} Further, according to the UN Environment Programme, the greenhouse gas emissions reductions committed by local governments go some 35% above and beyond those committed by national governments.^{vii,113} And many are demonstrating the potential of food system change as a lever for climate

action. National governments have much to learn from the towns, cities, and regions that are spearheading comprehensive food policies already delivering climate, economic, and social benefits.

Local food policies are gaining momentum on every continent, reflecting a growing commitment to food systems transformation. In this section, we identify seven areas in which local governments are leveraging the climate potential of food system transformation. The examples provided are drawn from the Glasgow Food and Climate Declaration

^{vi} This count only includes jurisdictions that have passed a binding motion declaring a climate emergency as of May 25, 2023. The EU is counted as one jurisdiction.

^{vii} This calculation compares all 2030 greenhouse gas emissions reductions pledged in the NDCs against greenhouse gas emissions reductions pledged by 1,984 cities and 284 regions.

signatories with whom IPES-Food has been collaborating and sharing information for over 3 years, and only offer a glimpse into the innovative work being carried out around the world.^{viii}

These actions include shortening food supply chains, supporting chemical-free farming and urban agriculture, engaging with community-led efforts to shift to healthy diets, harnessing the power of public procurement schemes, slashing food loss and waste, and creating collaborative learning networks. These actions were developed with the participation of diverse stakeholders and include robust monitoring and evaluation mechanisms. As will be demonstrated, many of these efforts address the gaps in national commitments raised in Section 1, albeit at the local level. By learning from local successes and building them into their own multi-level cross-cutting food strategies, national governments can develop more comprehensive and ambitious climate commitments through food.

2.1 PLANNING FOOD AND CLIMATE POLICIES THROUGH PARTICIPATORY PROCESS AND CROSS-DEPARTMENTAL COLLABORATION

While national governments have struggled to include meaningful engagement mechanisms in developing and implementing their NDCs, local governments are leading the way in integrating a broad range of stakeholders in their food and climate strategies. Pioneering cities and regions are considering the realities of all their residents, particularly those of vulnerable populations, to develop targeted and relevant food and climate plans, and build cross-sector collaboration for effective monitoring and implementation.

The City of Bristol, UK, executed a [Food Equality Strategy](#) informed by consultations spanning over nine months. The city facilitated stakeholder group meetings and surveys and held eight community conversations targeted toward reaching those highest on the 2019 index of multiple deprivation¹¹⁴ and groups at high risk of food poverty: disabled people, people experiencing homelessness, and

asylum seekers and refugees. These stakeholders provided valuable perspectives from their lived experiences to identify barriers to food equality. Furthermore, Bristol created a new cabinet post for Climate, Ecology, and Sustainable Growth, and worked to integrate this councillor's work across all departments to ensure a common agenda and shared ambition, working closely with local food organizations across the city to define their strategy.

In the U.S., Asheville, N.C.'s 2020 Climate Emergency Declaration called for the creation of a climate action plan, which inspired the launch of the city's [Climate Justice Initiative](#) to address the inequitable effects of climate change on communities of colour. The initiative spans city departments and encourages them to think holistically as the city moves forward with its climate mitigation efforts such as the Food Policy Action Plan. The initiative includes ongoing listening and learning sessions with communities of colour, the development of a [Climate Justice Map](#), and the design of a climate justice screening tool.

“ While only 18 national governments & the EU have declared a climate emergency, 2,317 local authorities have done so. ”

Catalonia, an autonomous region of Spain, has designed a governance model that includes a technical and operational committee tasked with reporting to the Catalan Food Council on the ongoing implementation of the [2021-2026 Food Plan](#). The Committee consists of people from Catalonia's Department of Agriculture who are responsible for executing different areas of the plan while the Food Council acts as an advisory board and consists of industry experts, civil society organizations, and policymakers that were involved in the production of the Catalan Food Plan. Under this governance model, as of January 2023, Catalonia's food plan working groups have already made progress on or completed 67% of their initiatives. By positioning technical experts and community members to advise on progress, Catalonia's collaborative governance design increases accountability, effectiveness, and citizen buy-in.

^{viii} Local food policy examples in this report are drawn from the results of a survey of Glasgow Declaration signatories conducted in 2023, as well as extensive interviews and case studies carried out with signatories in 2021.

2.2 ESTABLISHING ROBUST PLANNING, MONITORING AND EVALUATION MECHANISMS

Pioneering local governments are employing a variety of strategies to set measurable goals, implementation mechanisms, and monitor progress. Tools include the risk matrix, SWOT matrix, and participatory audits.^{ix} These detailed, context-specific governance and accountability systems have proven successful for food policy implementation and could be leveraged by national governments when updating their NDCs.

“ Transparency & openness by local authorities not only builds trust between the government & residents, but also lowers barriers to participation. ”

The Coimbra Region in central Portugal, made up of 19 municipalities, created a risk matrix to evaluate six risk factors that could impede its **Food Strategy**. The regional planning group assessed risk factors based on probability, intensity, and risk type. Their assessment led to the determination that the most significant risk to the successful implementation of their strategy was the absence of sufficient funding sources. To mitigate this risk, the Coimbra Region created a five-step approach to diversify funding sources for its food strategy, including co-financing and learning from partner cities.

Catalonia performed a preliminary SWOT analysis with the help of 24 experts and 220 administrative officials as part of their **food system diagnosis**. They found that their biggest weaknesses were a fragmented food system, rural exodus, and few cross-sectoral partnerships – resulting in a lack of innovation and knowledge sharing. Additionally, they

identified external threats to their food system such as intensifying climate events, global market fluctuations, low employment opportunities, distrust in government, and an increase in non-communicable diseases linked to unhealthy diets. Using this extensive SWOT analysis, the region created a plan for an integrated, sustainable, and resilient food system that capitalizes on the wealth and diversity of knowledge in the region.

After working with community members to set the goals and objectives of its **Agri-Food Municipal Action Plan**, the Vitoria-Gasteiz municipality in the Basque Country recently performed a participatory audit. They assigned tasks to different departments based on their strengths and weaknesses, providing clear instructions and accountability mechanisms to strengthen their food action plan.

Further, some local governments have led the way in releasing data and updated metrics online, bolstering accountability and building trust with a range of stakeholders. The City of Bruges in Belgium uses a yearly **carbon emissions accounting software** to publicly monitor the City's progress on its food plan. In addition to improving accountability, the platform also encourages participation by allowing residents to **'join' an action** and contribute as community members. This level of transparency and openness not only builds trust between the government and residents, but also lowers barriers to participation.

Lastly, many cities draw on existing tools launched by city networks to develop, implement, and monitor their food and climate plans, including the **MUFPP Monitoring Framework**, the **RUAF City Region Food System Indicator Framework**, the **Barcelona Challenge Good Food and Farming Toolkit**, the **Good Food Purchasing's Impact Calculator**, and **Sustainable Food Place's Every Mouthful Counts Toolkit**. (For more on partnerships and networks, see Section 2.7.)

2.3 SUPPORTING SUSTAINABLE FARMING AND SHORT-SUPPLY CHAINS

Many cities and regions are implementing multiple integrated strategies to support the shift away from

^{ix} A risk matrix helps a locality identify barriers to the execution of its planned policies by determining the probability and intensity of risks in order to plan mitigation strategies. A SWOT matrix assesses the strengths, weaknesses, opportunities, and threats of a system or problem. A participatory audit assesses the capabilities and resources of various departments within a municipality, identifying which departments can lead projects, which need more resources, and which are already working towards aligned goals.

industrial agriculture at the local scale. By encouraging a transition towards sustainable farming practices, shortening supply chains, and increasing demand for sustainably and locally produced food, local governments are championing the development of low-carbon, climate-resilient, and diversified food systems.

Many city governments have recognized the benefits to food security, rural livelihoods, biodiversity, and carbon sequestration of protecting ecosystems and farmland from urban development. The mega-city of São Paulo in Brazil is a world leader in this regard. The municipality has put in place a far-reaching farmland protection programme called **Connect the Dots**, which aims to protect the forests, reservoirs, and farms in rural districts on the outskirts of the city from urban development. Farmers are offered technical assistance to boost yields, increase income, transition to sustainable farming practices, and find urban buyers for their fresh, organic produce. Mouans-Sartoux in France has a **similar programme** and has protected 112 hectares of farmland around the city from development, providing resources and funding for organic production in particular. Similar projects include the **Green City Action Plan** in Izmir, Turkey; the rehabilitated **Green Belt programme** in Ouagadougou, Burkina Faso; and the **agroecological livestock farming project** in Chone, Ecuador – a training programme to improve pasture management, animal nutrition and health, and environmental responsibility.

Many local governments have also invested in diverse strategies to improve the livelihoods of local producers, ensure access to healthy foods for residents, and reduce food transport emissions by supporting shorter supply chains. For example, in Le Havre Metropole, a French city-region containing 54 municipalities, a **Food Web** tool was developed to geolocate key players in the food ecosystem and map the links between them, in order to strengthen the flow of local exchanges between producers and consumers. In Ghent, Belgium, the **Vanier project**, an innovative farmer-led cooperative platform, brings local, sustainably produced food to public canteens, restaurants, and other food retailers in the city.

In underserved and low-income neighbourhoods suffering from poor access to healthy and sustainable foods, urban farms can increase choice locally while drawing down carbon. Cities can support urban farming through legal, fiscal, and urban planning means to protect or convert land to urban agriculture – as practised in Barcelona, Brighton and Hove, Liège, Manta, Pittsburgh, and Washington DC. Cities like Manta, Ecuador, and

Surakarta, Indonesia, also provide agricultural inputs and training in organic agriculture; while Rio de Janeiro and Quito are supporting urban farmers to reach markets and receive fair prices. To showcase one example, since 2019, more than 1,336 **family and community gardens** have been established in the city of Manta, benefiting approximately 3,000 residents.

2.4 ENSURING THAT HEATHY, SUSTAINABLE DIETS ARE AVAILABLE, ACCESSIBLE & DESIRABLE

Cities and regions are recognizing the need to change consumption patterns to reduce greenhouse gas emissions and achieve sustainable, healthy diets for all. However, nutritious, climate-friendly foods are not always easily accessible to everyone, with 42% of the world's population unable to afford a healthy diet in 2021, and with low-income and underserved communities struggling the most.¹¹⁵ To reduce these inequalities, local governments are often at the forefront of addressing food accessibility, nutrition, and climate action together.

“ Where national governments fear to tread on dietary change, many local governments are leading the way. ”

Many cities in the U.S. are working to make local produce sold at farmers' markets more affordable. These markets increasingly serve low-income communities by accepting federal benefits through the Supplemental Nutrition Assistance Program and the Women, Infants, and Children programme that assist low-income families in purchasing healthy foods. The City of New Haven in Connecticut matches the value of federal benefits when used at farmers' markets, providing a further incentive for healthy and sustainable eating. New Haven incorporates this action as part of an **integrated food strategy** that provides much-needed access to fresh produce for low-income communities while supporting the local

food economy and keeping agricultural land productive across the state.

Another U.S. city, Baltimore, MD is pioneering an urban spatial justice approach to ensure that all residents have equal access to healthy and nutritious food. With 31% of Black residents living in areas with poor access to healthy food compared to only 9% of White residents, the City brought together the departments of **Planning, Sustainability, Health, and Development** to address this injustice. They are now implementing a number of strategies to improve food environments in the city, including providing fresh produce deliveries, resources for food business entrepreneurs, and tax incentives to relocate or renovate food retail outlets.

“ Some local governments are taking the power of public procurement further by legally mandating a 25% reduction of GHG emissions from public food purchasing by 2030. ”

Campaigns that simultaneously target food production, consumption, and distribution can be some of the most effective at addressing the root causes of unsustainable and unhealthy diets. The highly successful **integrated food policies** of Mouans-Sartoux, France target consumers, food retailers, food producers, the public procurement sector, and food waste. These actions have led 59% of residents to shift to more sustainable and healthy diets (i.e. reduced meat and ultra-processed foods and more organic, seasonal, and local food), resulting in better health, environmental impacts, and a 19% reduction in carbon emissions. South Lanarkshire, Scotland, where hunger persists and two out of three residents are overweight or obese, is implementing similar integrated food policies through their **Good Food Strategy**.

Climate pledges made at higher levels of government can also help catalyze local action on diets. For example, as a signatory of the regional **Flemish Green Deal**, Ghent has committed to a **protein transition** to shift consumption to 60% plant-based and 40% animal-based protein.^x The City coaches and promotes restaurants and shops that offer vegetarian alternatives, and organizes cooking workshops for chefs and residents. And Ghent's schools, daycare centres, and public services provide vegetarian menus on Thursdays. These policies contribute to higher numbers of vegetarians in Ghent than the Belgian average.

It is therefore clear that where national governments fear to tread on dietary change, with scant reference to diets in the NDCs, many local governments are leading the way – leveraging urban planning, market access, and public education campaigns to promote their local food systems and shift access and preferences towards healthy, sustainable foods.

2.5 HARNESSING PUBLIC PROCUREMENT TO CATALYZE SUSTAINABLE PRODUCTION AND CONSUMPTION

Many local governments are also leveraging public procurement strategies to advance their sustainable food commitments, using their purchasing power to prioritize locally sourced, climate-friendly, and nutritious foods in schools, universities, hospitals, and other social service centres.¹¹⁶

In São Paulo, the City maintains a purchasing programme to provide local, sustainable, family farm-sourced food in schools. The **school meals programme** is one of the largest in the world and serves over 2 million healthy meals each day. New York City's **Good Food Purchasing Program** also aims to increase the share of regional food it purchases, both to support small-scale farmers and to enhance supply chain resilience. To realize this aim, the City made investments to modernize and expand food hubs, advance educational and training partnerships with regional farms, and develop regional food hubs that allow small-scale farmers to aggregate their supply and compete for large-scale contracts.

^xWhile a transition to more plant-rich diets in regions of high meat consumption is welcome and necessary, an overemphasis on protein risks penalizing all livestock systems, even those that may be providing numerous benefits to biodiversity, resource efficiency, and livelihoods. It also risks promoting 'alternative proteins' irrespective of the risks and uncertainties they entail. See IPES-Food's 2022 report, **The politics of protein: examining claims about livestock, fish, 'alternative proteins' and sustainability**, for more on this topic.

In the U.S., the [Good Food Purchasing Program](#) helps cities direct institutional purchasing to meet social, economic, and environmental goals. The programme offers a data-driven framework with a toolkit to enhance transparency and responsibility in public food procurement. It encourages public institutions to leverage their purchasing power to support local economies, environmental sustainability, a valued workforce, nutrition, and animal welfare. Through it, over 2.5 million students in 50 municipal authorities receive improved meals.¹¹⁷

New York City became the first city in the U.S. to join the [Cool Food Pledge](#) in 2021, a global pledge by cities and organizations to cut 25% of the emissions associated with the food they serve by 2030. In fact, New York has committed to a 33% food emission reduction by 2030 across all City agencies, including schools, hospitals, jails, senior centres, and homeless shelters. In all 11 public hospitals, they launched plant-based default meals which resulted in a 36% reduction in carbon emissions in the first year. Other members of the Cool Food Pledge include Ghent, Milan, and Washington, D.C.

Some local governments have gone further by legally mandating sustainable public procurement. In 2021, Washington DC became the first city in the U.S. to adopt a [Green Food Purchasing Act](#), legally mandating a 25% reduction of greenhouse emissions in its food purchasing by 2030 – with obligatory measurement – while keeping meals nutritious and culturally appropriate. Catalonia is working on a similar law, drawing from the EU's [Product Environmental Footprint Initiative](#), which aims to develop an EU-wide methodology to calculate the environmental footprint of products. Catalonia will use this sustainability calculator to create a legislative framework and law on sustainable production and public procurement.

2.6 SLASHING FOOD WASTE AND IMPROVING WASTE MANAGEMENT

While only 11% of countries have committed to reducing food loss or waste in their NDCs,¹¹⁸ local governments are implementing a variety of strategies to slash food waste emissions by preventing waste and improving waste management. Through composting programs, community gardens, and sustainable food practices, these initiatives are

not only reducing greenhouse gas emissions but also contributing to more sustainable and resilient local food systems.

São Paulo's award-winning [Sustainable Markets and Parks program](#) targets the city's 800+ weekly food markets where unsold food was historically thrown into landfills. Employees were hired to collect food suitable for consumption and food banks were contacted for distribution. With food waste unsuitable for consumption and green waste generated from parks, composting facilities were built for low-emissions processing. This integrated food policy cuts greenhouse gas emissions, boosts food security and nutrition, and generates employment.

Some cities are deploying innovative campaigns to empower businesses and residents to lead on food waste reduction. Ghent is following the EU goal to halve food waste in the city and is working with schools, hospitals, care centres, and the hospitality sector to put concrete actions in place to reach this goal. In 2020, Bruges launched the [Food Winners](#) food waste campaign featuring 50 ambassadors trained in buying, cooking, and storing food, who used their newfound knowledge of food waste reduction to motivate their peers. By 2022, the city had 5,000 ambassadors, slashed food waste by 55%, and made a [manual of best practices](#) for other cities.

In Vienna, communal refrigerators located in public spaces allow residents to freely share excess food. Since the concept started in the spring of 2018, five refrigerators have been installed, saving more than 1,500 kilograms of food per refrigerator every year. As part of its food waste prevention initiatives, Vienna also opened [TafelHaus](#) in 2017, a food rescue and recovery centre. In addition to supporting food storage and sorting, the centre offers cooking and nutrition workshops that teach residents how to cook and preserve seasonal fruits and vegetables in large quantities. Youth programmes through the centre's "Odour and Taste Lab" motivate youth to actively participate in food preservation and cooking techniques.

While food waste reduction and prevention are the most effective strategies to reduce emissions, improved waste management facilities can reduce emissions of unavoidable organic waste.¹¹⁹ In 2018, Surakarta banned temporary waste dumpsites and implemented policies to collect and process food waste for compost on urban farms. Further, hotels, restaurants, and retail establishments received targets and guidance to prevent waste at the source. In the latest phase of its food program, Boston is

connecting urban farms to the local curbside composting program, making home composting more economically feasible and enabling the city to make progress towards climate commitments on food waste.

2.7 TAPPING INTO PARTNERSHIPS AND LEARNING NETWORKS

Strong regional and global networks have helped Glasgow Declaration signatory cities and regions more effectively develop, implement, and monitor food and climate action, particularly greenhouse gas emissions. Finding opportunities to collaborate and communicate with other localities through networks can help facilitate the exchange of ideas, identify mutual interests and challenges, and promote continuous learning.

The [Milan Urban Food Policy Pact](#) is one of the largest global platforms supporting city-to-city food policy cooperation and knowledge sharing (many of the signatories to the Glasgow Declaration also belong to the Milan network). In 2022, Glasgow Declaration signatories New York City and London were recipients of the [Milan Pact Awards](#), in recognition of their good food purchasing framework and food waste reduction program, respectively.

Gathering metrics on the impacts of food policies – and particularly on greenhouse gas emissions – is a challenge local authorities face. The Milan Pact's [Barcelona Challenge](#) (to which seven Glasgow Declaration signatories belong) is a tool that pushes cities to expand their food and climate commitments by comprehensively measuring impacts, including greenhouse gas emissions reductions. Similarly, the UK alliance for better food and farming, Sustain, runs the [Every Mouthful Counts toolkit for Local Authorities](#), which has already helped 52 councils in the UK identify where significant food emissions can be cut. The toolkit provides estimates of the emissions reductions that various actions may deliver, as well as the co-benefits for public health and wellbeing, nature and biodiversity, local communities, and economic development.

18 Glasgow Declaration signatories have already used this toolkit, which has allowed [Brighton and Hove](#), for example, to measure the 3,366 tonnes of CO2 saved annually by dedicating land to community food growing, and the 523 tonnes of CO2 saved by redistributing surplus food.

In Brazil, the [Lab on Urban Food Policies, LUPPA](#), has provided hands-on support to help over 30 Brazilian cities develop food policies (six of which are signatories to the Glasgow Declaration). Participants of LUPPA first learn how to map their local food system challenges, opportunities, levers of change, and implementation processes. Then participants dialogue, debate, and share their experiences and challenges in developing food policies. Run by the Think Tank [Comida do Amanhã](#) and supported by the network [ICLEI, Local Governments for Sustainability](#), LUPPA is currently running its [third edition](#) of food policy development with a new cohort of cities. With each cohort, they broaden their network, consolidate learnings, and provide mentoring by pairing past members with new members.

In Coimbra, Portugal, the region's food priorities are explicitly grounded in [Food Corridors](#), an EU-wide network of cities and regions committed to the design of regional food plans built on enhanced urban-rural connections. This network was created under the European Commission's [URBACT program](#), a project to foster cooperation and the exchange of ideas among cities on a wide range of thematic issues. Participating in the Food Corridors network was fundamental to informing the priorities set by [Coimbra's 2022 Food Strategy](#).

Local governments are demonstrating the potential of using food system transformation as a catalyst for effective climate action. Their initiatives are setting valuable examples of how food and climate commitments can be achieved. National governments can greatly benefit from learning and drawing inspiration from these local successes to refine and enhance their own climate policies, ultimately fostering a more comprehensive and impactful approach to addressing climate change through food.



Credit: Kate Lee, DC DOEE

CONCLUSION AND RECOMMENDATIONS

As we have shown, **national governments are falling short in delivering ambitious plans and policies on food and climate.** They fail to leverage the potential of food system transformation and only superficially address food in their NDCs. Food systems generally receive less attention in climate debates compared to other drivers of climate change for several key reasons. Firstly, food systems are incredibly complex, and food system emissions include all major greenhouse gases and cut across multiple emissions sources. This complexity can make it challenging to address food systems within climate discussions which often focus on specific sectors or issues.

Secondly, **industrial agriculture and the commodity-driven food systems that underpin**

it are locked in place by a series of vicious cycles.¹²⁰ Many countries have become dependent on export-oriented agriculture to generate the foreign exchange needed to repay debts and continue importing essential goods (including staple foods), making it difficult to exit the cycle in spite of its negative long-term impacts. In addition, multinational agri-food corporations wield significant influence over policies and decision-making in food systems.¹²¹ This concentration of power leads to the prioritization of corporate interests over transformative food systems solutions.

However, pioneering local governments are recognizing and comprehensively addressing the complex interconnection between food and climate. They are key climate change policy implementers

and innovators of actions that can be scaled up and replicated. They are integrating food actions into their climate plans, setting measurable targets, monitoring progress, merging environmental and social goals, supporting sustainable farming, promoting a shift to healthy sustainable diets, and slashing food loss and waste. Through a collaborative and whole food system approach, these **local governments are reducing greenhouse gas emissions while delivering multiple co-benefits to their communities.**

It should be recognized that the local actions highlighted in this report have taken shape within a wide variety of political, economic, and social contexts. Yet, they all stem from local governments with high levels of ambition, whose successes can be attributed to a number of enabling factors. These enablers range from a supportive national policy environment, awareness and uptake of food policies across multiple local government departments, the involvement of community members in decision-making, adequate funding for policy implementation, and especially, long-term political willingness and leadership.¹²² When local governments can ensure that multiple enablers are in place, they can act more swiftly and effectively to deliver on their food and climate actions.

Indeed, many local governments seeking to implement ambitious food and climate policies still face significant obstacles and constraints that must be overcome to enable them to play their part in addressing the climate crisis effectively.

Firstly, current national and international policies and funding structures are locking in unsustainable food and agricultural practices, making food system transformation at the local level an uphill battle. Secondly, **cities and regions often have to contend with very limited resources.** Local governments frequently experience high financial and staffing barriers, whether through stretched funding or a lack of capacity, that hinder their ability to implement their ambitious food programs.¹²³ And although, as this report shows, there are a growing number of local and regional climate initiatives, these endeavours are often poorly coordinated with national governments and neighbouring cities and regions. Local food and climate departments frequently find themselves at odds with other municipal or regional departments, facing institutional pushback to enact change. These barriers hold back the full potential that cities and regions have to drive progress toward a resilient, zero-carbon future.

There are also challenges to assessing and

measuring the contribution of subnational initiatives and incorporating them into national greenhouse gas emission projections and plans.¹²⁴ **No formal process yet exists to measure and document the contribution of local actions to meeting national climate targets within the United Nations Framework Convention on Climate Change (UNFCCC).** Proposals have been made to the UNFCCC to add Regionally and Locally Determined Contributions in addition to the Nationally Determined Contributions, and to include local achievements in national progress reports.¹²⁵ And comprehensive guidance has been provided by UN agencies on how to integrate local action into national climate plans.^{126,127}

“ Local governments are key policy implementers and innovators, but national government leadership is essential for transformational change. ”

Lastly, it is important to note that the role local governments play and the power they have varies widely across the world. The administrative capacity and the degree of political and financial autonomy enjoyed by subnational authorities differ from country to country. And in many parts of the world, city governments are led by opposition parties, both complicating relationships between federal and local governments and enabling change at the local level even in an unfavourable national context.

While local governments are key policy implementers and innovators, **national government leadership is essential for transformational change.** Given the complex and global nature of climate change and food systems, national governments are better equipped to consider international trade agreements and policies that affect natural resource use, production, and distribution. National governments also have the power and responsibility to develop and implement regulatory frameworks, such as food labelling requirements and environmental regulations, that impact health and sustainability outcomes. Lastly, national governments have the capacity to direct resources at a larger scale through

subsidies, grants, incentives, and public service expenditures.

“ Ignoring the 1/3 of greenhouse gases emitted by food systems is not an option. ”

There are already a number of examples where local food policies have inspired and kicked off national action. For example, in 1993, the municipality of Belo Horizonte, Brazil, launched one of the world's most comprehensive food security programs. The program's success inspired Brazil's federal Zero Hunger program, which more than halved Brazilian food insecurity levels between 2004-2013 and wiped the country off the Hunger Map.¹²⁸ In Karnataka, India, the Zero Budget Natural Farming Movement (ZBNF) emerged to address the growing crises of farmer suicides, indebtedness, and ecological degradation in 2002.¹²⁹ Interest in this agroecological farming approach spread to neighbouring states, culminating

in 2016 when Andhra Pradesh rolled out a plan to become India's first state to practice 100% natural farming by 2024.¹³⁰

The state is now the world's largest example of agroecological transformation, encompassing 6 million farmers, over 6 million hectares, and 50 million consumers. ZBNF is now supported through federal budget allocations and has spread to virtually all states in India, leading to improvements in rural livelihoods, food access, biodiversity, climate resilience, water scarcity, and pollution.

The considerations and constraints listed above stress the need to design and implement coherent food and climate commitments between all levels of government, to recognize the role of local authorities in climate action, and to provide adequate financing and support to local authorities. Only through an all-in approach that integrates local, national, and global efforts will we be able to make the deep and rapid emissions reductions needed to meet the challenge of the climate crisis.

To make this change possible, we identify three sets of actions that governments can take to harness the climate potential of food system transformation:

RECOMMENDATION 1

National governments should revise their NDCs to include food system action

This would entail:

- Targeting climate action across the entire food supply chain, from production and distribution through to consumption and waste, to comprehensively address the one-third of global greenhouse emissions that food systems generate.
- Setting actionable and measurable food system goals with specific targets, indicators, and measures to shift to sustainable production and consumption.
- Ensuring engagement with and inclusion of a broad range of stakeholders in the development and implementation of food-related NDCs, especially those most affected by food and climate issues (including smallholder farmers, indigenous communities, marginalized urban populations, women, and youth) to enable a just transition.

RECOMMENDATION 2

National governments should establish robust mechanisms to develop, implement, and report on NDCs in collaboration with local governments

This would entail:

- Building inclusive and participatory governance mechanisms for NDC development and implementation by local and national governments and across departments.
- Establishing supportive and enabling policy and funding frameworks to integrate NDC targets across sectors and levels of government.
- Creating a formal process within the UNFCCC to acknowledge, measure, and document the contribution of local actions to meeting national climate targets; harmonizing indicators and methodologies from the local to the national level to increase the accuracy of climate action monitoring and accountability efforts.

RECOMMENDATION 3

Building on the pioneering examples described above, local governments should develop integrated food policies as a key tool for climate action

This would entail:

- Ensuring that these policies adopt a food systems approach with actions targeted across the entire food supply chain.
- Involving actors across all parts of the local food chain, especially those most affected by food and climate issues.
- Advancing efforts to measure and report on greenhouse gas emissions from food systems.
- Seeking opportunities for cooperation and best practice sharing between local governments.
- Fostering opportunities for multi-level cooperation and integration with local, regional, and national frameworks.

Food systems and local action have both escaped serious consideration in global climate debates despite playing a critical role in achieving deep emissions reductions and advancing climate resilience. National governments can learn from the wealth of knowledge local governments and networks have gathered, collaborating with these networks to enhance the effectiveness of multi-level and multi-actor climate and food-related initiatives. Nationally Determined Contributions are part of the global response to climate

change, but they must be comprehensive and transformative to meet the challenge. Ignoring the one-third of greenhouse gases emitted by food systems is not an option.

The Paris Agreement stocktaking moment at COP28 is an unmissable opportunity to revise national climate commitments to systematically include food systems and local action.

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FROM PLATE TO PLANET

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The International Panel of Experts on Sustainable Food Systems (IPES-Food) is a global think tank and expert group guiding action for sustainable food systems around the world. Bringing together 25 groundbreaking thinkers and practitioners from diverse fields and world regions, we conduct research, provide policy recommendations, and advocate for sustainable, equitable, and healthy food systems worldwide. Rooted in science, and grounded in the realities of those on the front lines of hunger and climate crises, IPES-Food has since 2015 been a leading voice advancing policy solutions and bringing together alliances to address the most pressing questions for food and farming. The panel is co-chaired by Olivier De Schutter, UN Special Rapporteur on extreme poverty and human rights, and Lim Li Ching, Senior Researcher at Third World Network.



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