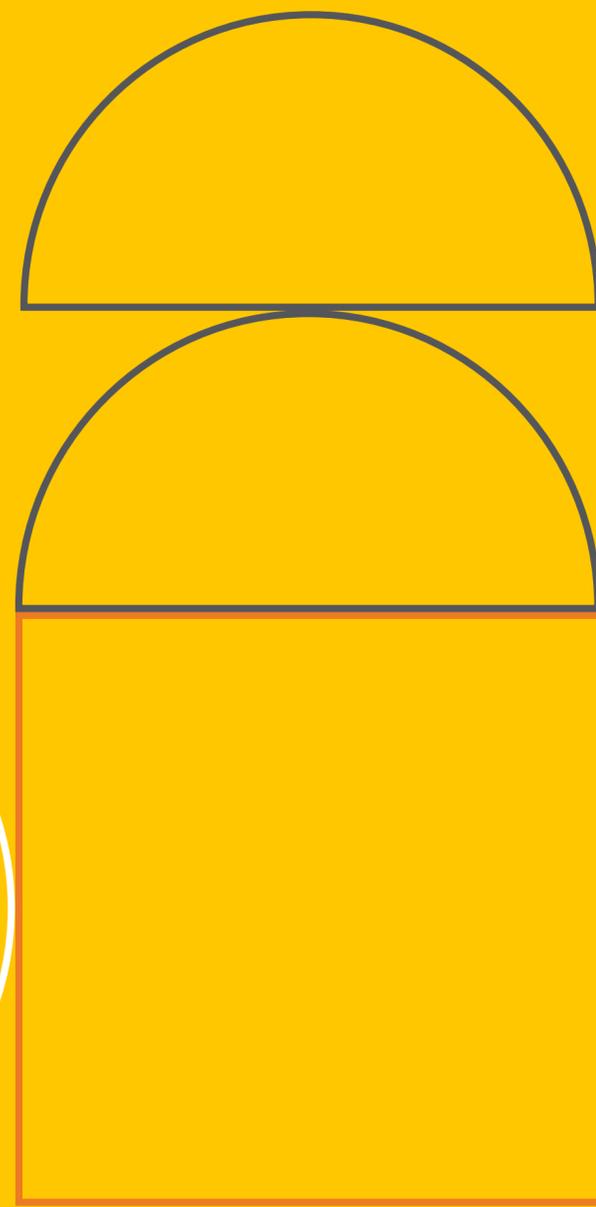
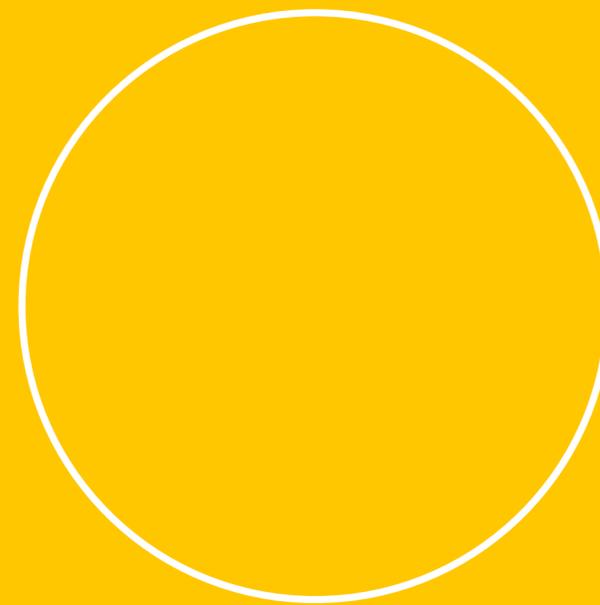


# MISSION-ORIENTED INNOVATION IN ACTION

## 2021 CASEBOOK



With support from



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Please note that stories in this casebook also draw from the following IIPP publications:

- [Mission-Oriented research and innovation in the European Union](#)
- [Governing Missions in the European Union](#)
- [A case study of mission-oriented innovation in Greater Manchester](#)





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## Introduction

The 21st century is becoming increasingly defined by the need to respond to the major issues or 'grand challenges' facing humanity, such as climate change. At the UCL Institute for Innovation and Public Purpose (IIPP), under the directorship of Professor Mariana Mazzucato, we seek to rethink the role of the state in addressing these existential challenges, which markets alone will not be able to solve. We believe that finding solutions to grand challenges will require deep, purposeful collaboration between all societal actors.

Innovation is the key to unlocking these challenges and the concept of mission-oriented innovation calls on governments and policymakers globally to ambitiously and purposefully set the direction of innovation for public value to meet the tasks at hand.

So, we are delighted to present the 2021 Mission-Oriented Innovation Network Casebook, a compilation of stories documenting mission-oriented innovation in practice from members of the Mission-Oriented Innovation Network (MOIN). MOIN is a learning community focused on purpose-driven policy and mission-oriented innovation within public bodies globally. Supported with a foundational grant from The Rockefeller Foundation, we launched MOIN in 2017 to drive a research and policy agenda for shaping and co-creating markets with public purpose.

Since then, the network has grown from a cohort of 38 organisations in Europe, North and South America, and Asia, to a global network with 90+ members in 30 countries spanning all continents. It is composed of public institutions and academic partners around the world, focusing on ambitious missions that tackle the grand challenges that we face today.



## Missions in action

MOIN members are experimenting with new practices and designing new methods to reorient public finance toward global challenges. With policy mandates around the world using the language of missions, recent research identified 137 ongoing mission-oriented research and innovation initiatives in 32 countries, and governments in Europe and elsewhere have increasingly turned their attention to how to tackle 'grand challenges' or 'wicked issues' through science, technology and innovation (STI) policies<sup>1</sup>.

But this is not a simple pivot. Carrying out mission-oriented innovation cannot be business as usual. It requires the public sector to change its view of itself; to go beyond fixing the failures of the market to actively setting the direction for innovation and convening deep collaborations with all sectors to achieve the set goals. It requires new dynamic public sector capabilities; new and different forms of finance and instruments; new evaluation frameworks that differentiate between cost benefit analysis and a sense of shared purpose with civil society and citizens.

Working with MOIN has given us the opportunity to collect and share what we have learned from our members on organisational form, functions and capabilities, and start to track the different approaches, building a repository of stories of missions as they develop in institutions and places around the world.

Different types of missions can be implemented in very different ways, leading to an implementation taxonomy or the 'how' of missions:

- **Top-down coordination to better align existing policy mixes**
- **Sectoral consensus building as a way to recharge coordinated market economy type sectoral coordination mechanisms**
- **Place-based approaches on the city/regional level that deploy a more limited policy toolbox but seek to 'democratise' innovation to wider co-creation processes and civic engagement**
- **Design-led approaches to reframe siloed policy goals through 'user-centric' policy design processes that rely on deeper civic and stakeholder engagement.**

By collating and sharing these member stories through this casebook and our online case story library, MOIN's objective is to present emerging member practice as important stimuli for discussion, examination and inspiration. This casebook features examples from each of the above categories (see table), illuminating the context to each of these missions, the approaches taken by the actors, the tools used, the challenges faced and the lessons learned. Most importantly, this is a living library of stories, intended to grow over time.

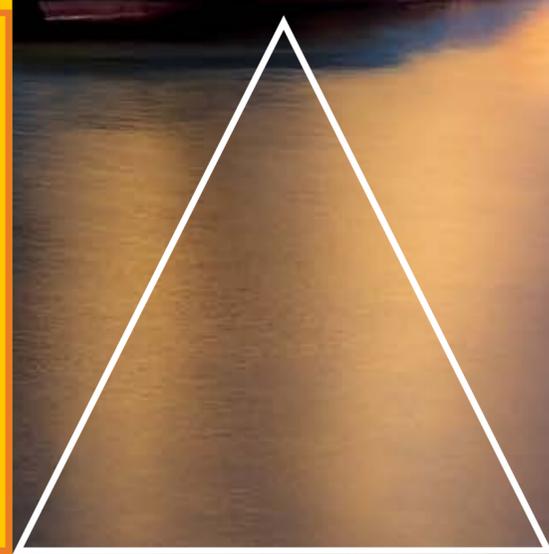
**MOIN has given us the opportunity to collect and share what we have learned from our members on organisational form, functions and capabilities, and to start to track the different approaches to mission-oriented innovation.**

<b>Top-down coordination</b>	Horizon Europe, The European Union
	CSIRO, Australia
<b>Sectoral consensus-building</b>	Health~Holland, Netherlands
<b>Place-based missions</b>	The Greater Manchester Combined Authority (GMCA), UK
	València, Spain
	The Clyde, Scotland
	Camden, London, UK
<b>Design-led approaches</b>	Vinnova, Sweden

<sup>1</sup> Schot and Steinmueller, 2018; Borrás and Edler, 2020; Mazzucato, Kattel and Ryan-Collins, 2020

Case story 1

# THE EUROPEAN UNION'S MISSIONS: AN OVERARCHING POLICY MANDATE



### Case story 1

#### The European Union’s missions: an overarching policy mandate

<p><b>What is the European Union’s missions programme and what are the drivers of this story?</b></p>	<p>In 2018 the European Commission integrated a mission-oriented approach to its research and innovation funding programme Horizon Europe (2021-2027). See the EU’s <a href="#">introductory video</a> to its missions programme.</p>
<p><b>Which mission areas are being pursued?</b></p>	<p><b>The following five missions were launched in September 2021:</b></p> <ul style="list-style-type: none"> <li>Adaptation to Climate Change: support at least 150 European regions and communities to become climate resilient by 2030</li> <li>Cancer: working with Europe’s Beating Cancer Plan to improve the lives of more than 3 million people by 2030 through prevention, cure and solutions to live longer and better</li> <li>Restore our Ocean and Waters by 2030</li> <li>100 Climate-Neutral and Smart Cities by 2030</li> <li>A Soil Deal for Europe: 100 living labs and lighthouses to lead the transition towards healthy soils by 2030</li> </ul> <p>The detailed implementation plans can be found <a href="#">here</a>.</p>
<p><b>How has IIPP contributed to this work?</b></p>	<p>Professor Mariana Mazzucato provided the theoretical and intellectual backdrop to the missions approach and was instrumental in advising Carlos Moedas, the European Commissioner for Research, Science, and Innovation, between 2017 and 2019 to draft strategic recommendations and mould the Horizon Europe programme on the approach. Two reports were published in this regard: <a href="#">Governing Missions in the European Union</a> and <a href="#">Mission-oriented research and innovation in the European Union</a>.</p> <p>This overarching EU policy mandate provides structure and purpose to our European MOIN members’ efforts in this area.</p>

## What is the context for the Horizon Europe’s missions programme?

Horizon Europe (2021–2027) is the successor to Horizon 2020, the European Commission’s official research and innovation funding programme between 2014 and 2020. With Horizon Europe, the Commission

has increased its contribution to the European innovation system by around 25%, bolstering its three aims of reinforcing competitiveness, creating jobs, and sustaining the EU’s socioeconomic model and values. Indeed, the programme is based on three pillars: (I) Excellent Science; (II) Global Challenges and European Industrial Competitiveness; and (III) Innovative Europe (see Figure 1). Pillar II is of particular importance for this case story because it reorients European funding and research towards societal challenges, and it is through this pillar that the European missions were designed.

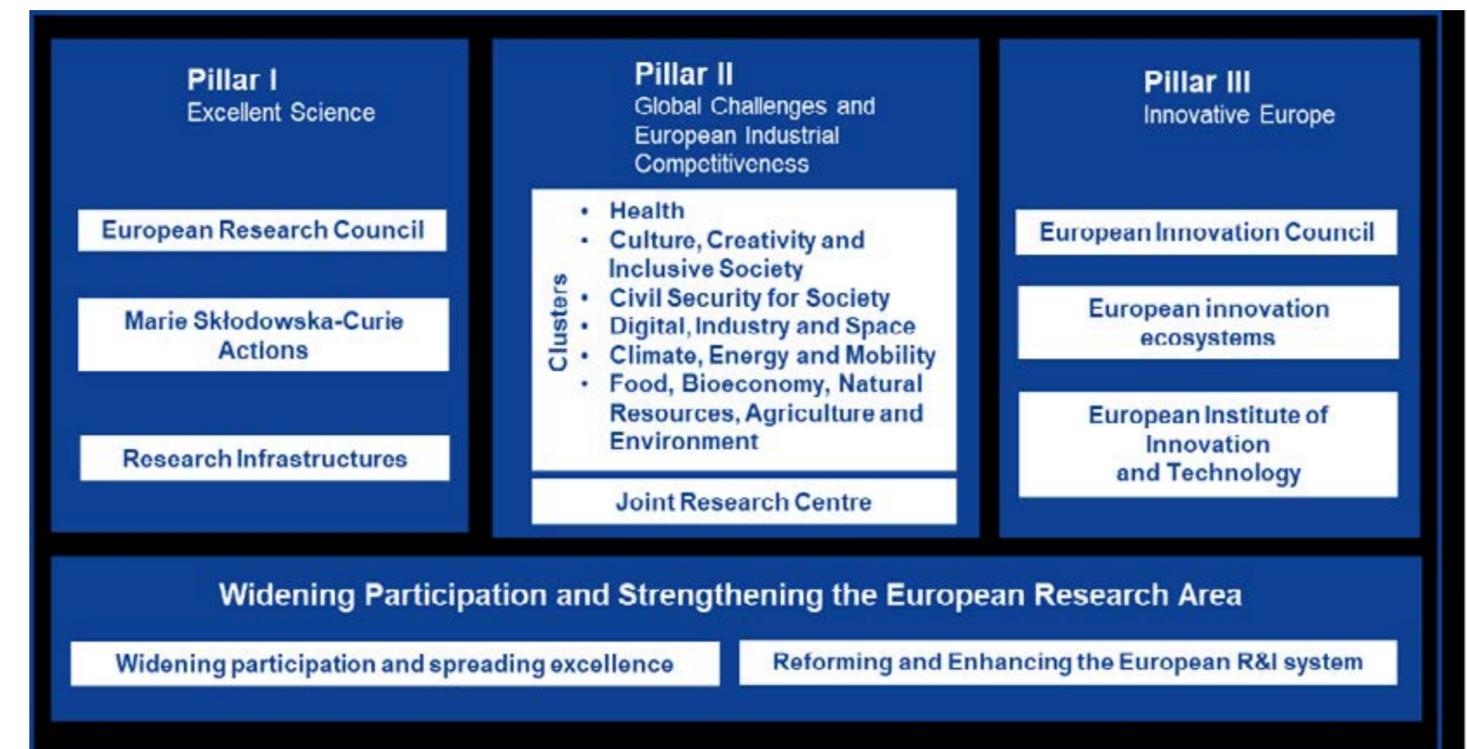


Figure 1: Pillar 2 seeks to address grand societal challenges, including health, connectivity, and climate change. (Source European Union)

Two main drivers led the Commission to adopt a mission-oriented approach to innovation. First, although former iterations of Europe's biggest innovation funding programme have provided immense value to the continent's R&D capacities, shortcomings were identified. Studies and evaluations of Horizon 2020, for example, showed that a clearer strategic direction and a more conscious coordination of activities could have improved the innovation programme. Second, Professor Mariana

Mazzucato's work around purpose-driven innovation became a source of inspiration for the programme's adjustments. Professor Mazzucato worked closely with Carlos Moedas, the European Commissioner for Research, Science, and Innovation, between 2017 and 2019 to draft strategic recommendations and mould the Horizon Europe programme accordingly.

### What approach did the European Commission take?

The European Commission roughly followed a four-step process in developing its missions:

- Step 1: Five broad mission areas were designated,
- Step 2: A mission governance model was developed,
- Step 3: Five concrete missions were defined and
- Step 4: Those missions were operationalised.

The process was initiated in 2018, during which Commission experts and stakeholders used studies and consultations to designate five broad mission areas. Those several months saw a filtering of considered mission areas, with the Commission moving from 45 mission areas to 25, 12 and then finally to five mission areas, namely: (1) Adaptation to climate change; (2) Cancer; (3) Climate-neutral and smart cities; (4) Healthy oceans, seas, coastal and inland waters; and (5) Soil health and food.

In step 2 of the process, a mission governance model was developed, with two bodies, **Mission Boards and Mission Assemblies**, occupying important positions (see Figure 2). Both bodies were formed and populated as the result of an open call for interest.

Mission Boards are made up of 15 experts who represent different stakeholders, such as research and innovation organisations, policymakers, civil society or other relevant organisations. Their role is to help specify, design and implement missions for the Horizon Europe programme.

On the other hand, **Mission Assemblies** are bigger, consisting of no more than 30 additional experts, and play a more supportive role, providing additional ideas, knowledge and expertise. One Mission Board and one Mission Assembly are responsible for each mission area, and both bodies are the main avenues for citizen and stakeholder engagement.

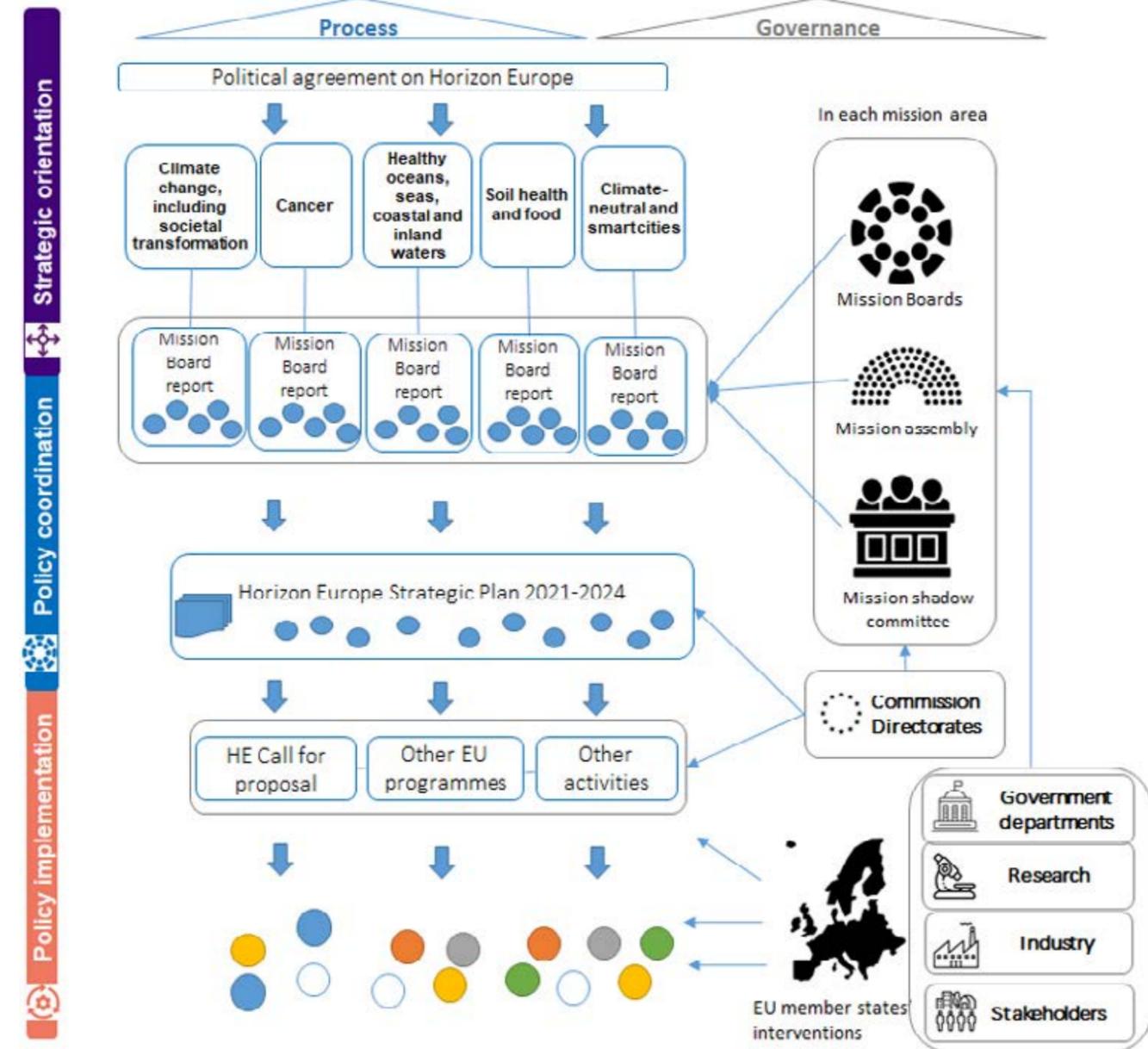


Figure 2: Overview of Horizon Europe's governance model. (Source European Union)



In step 3, the Commission went from broad mission areas to concrete missions. This co-design phase included internal consultations with all Directorate Generals in the Commission (resulting in an 'orientation document'), online public consultations, direct dialogue with member states, convening and hosting of the European Research and Innovation Days with 4,000 stakeholders, synthesising of results and proposals of specific mission statements and targets for each mission area. In September 2020, the Mission Boards submitted five proposals to further define the mission areas. These proposals outline the basis for a number of stakeholder and citizen engagement activities across Europe to define the actions and strategies required.

In September 2021, the five missions were officially launched and are as follows:

- **Adaptation to Climate Change: support at least 150 European regions and communities to become climate resilient by 2030**
- **Cancer: working with Europe's Beating Cancer Plan to improve the lives of more than 3 million people by 2030 through prevention, cure and solutions to live longer and better**
- **Restore our Ocean and Waters by 2030**
- **100 Climate-Neutral and Smart Cities by 2030**
- **A Soil Deal for Europe: 100 living labs and lighthouses to lead the transition towards healthy soils by 2030**

The detailed implementation plans can be found here.

The financing of the missions is a cornerstone of the approach. There is no fixed budget for each mission, but Article 7 of the Horizon Europe Regulation stipulates that during the first three years of the programme, a

maximum of 10% of the annual budget of Pillar II (total budget €53billion over 7 years) shall be programmed through specific calls for implementing the missions. On launching the missions, Horizon Europe provides initial funding to missions of up to €1.9 billion until 2023.

With regard to evaluation and monitoring, the Commission has taken on the responsibility to monitor and evaluate each mission, tracking progress through short-, medium-, and long-term targets. The first assessment of the five missions will take place in 2023.

### Main overall challenges of the initiative

First, as Europe's biggest innovation programme, Horizon is a complex initiative to develop, requiring the Commission to take a considerable number of competing interests from across the EU into account. As such, continuing to mobilise and coordinate a diversity of stakeholders around these five specific mission areas will mean balancing the Commission's vision with the national innovation strategies of different member states.

Second, the Commission would also like to engage wide public audiences in the missions, and this will need constant creativity and innovation in engagement methods. The previous Horizon 2020 programme employed innovative citizen engagement mechanisms such as Views, Opinions and Ideas of Citizens in Europe on Science (VOICES) and Citizen and Multi-actor Consultation on Horizon 2020 (CIMULACT), which will need to be built upon.

Furthermore, it is important that the missions do not become siloed, but that cross-mission linkages are established and leveraged. Ensuring that programmes and project portfolios emerging from the missions approach are aligned with other programme areas will also be crucial.

## Opportunities of a mission-oriented approach

The missions' governance body designed by the EU crowds in multiple levels of internal and external engagement and advice to build legitimacy and consensus. This is done through the Mission Boards, the Mission Assemblies, engagement with all Directorate Generals (policy departments responsible for different policy areas), dialogue with member states and with citizens. All of the Directorate Generals, for example, have dedicated mission leads and secretariats. As a result of this approach, the strategic planning exercise has been more comprehensive than in the past framework programme. The approach also triggers a portfolio of actions across disciplines and makes the programme intrinsically more impact driven in achieving bold goals.

## What has been learned from Horizon Europe so far?

### **Beyond sector-based policies.**

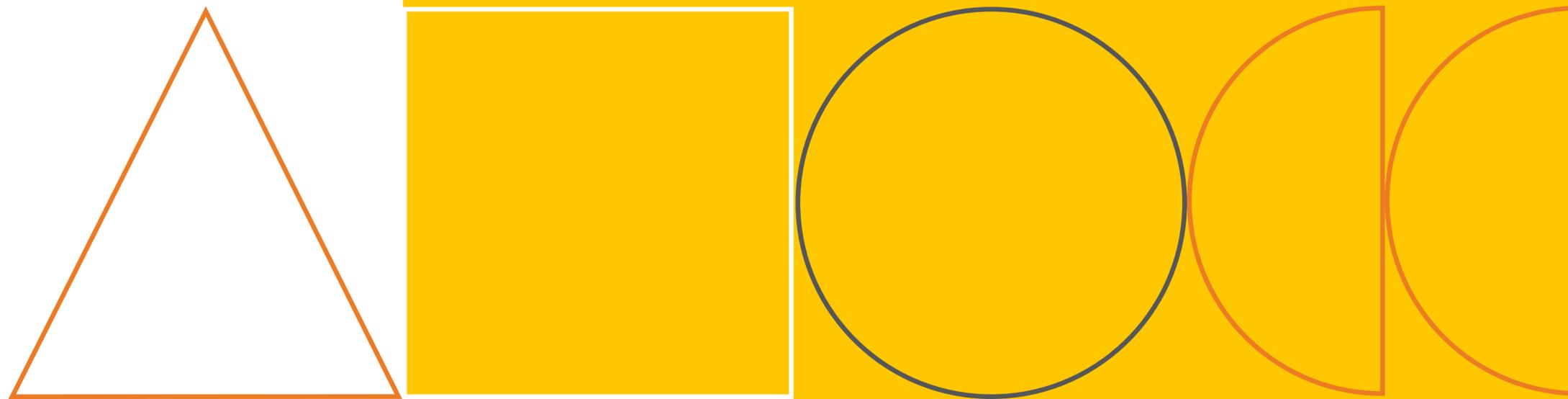
The key differentiating factor between Horizon Europe and its predecessor, Horizon 2020, is the former's focus beyond sector-based policies to challenge-driven policies. Indeed, the programme's second pillar clearly seeks to address grand societal challenges, which don't fall neatly into one specific sector, discipline, or innovation area. In doing so, the five missions have the potential to mobilize cross-disciplinary and cross-sectoral engagement from across Europe.

### **Multiple levels of governance can strengthen the structure of the missions approach.**

The robustness of Horizon Europe's structure comes, at least in part, from the multiple levels of internal and external dialogue and governance required to build and sustain it. For example, the Mission Boards and Mission Assemblies offer high-level external advice, all Directorate Generals (DGs) are involved for internal coordination, all Member States are involved for external coordination, and strategic reports are continuously constructed to guide the process along.

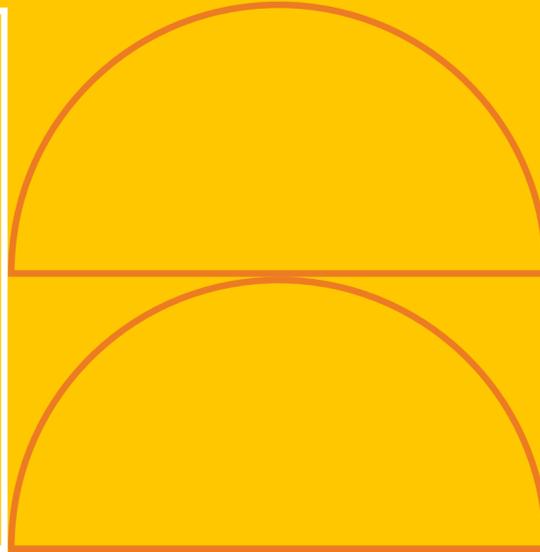
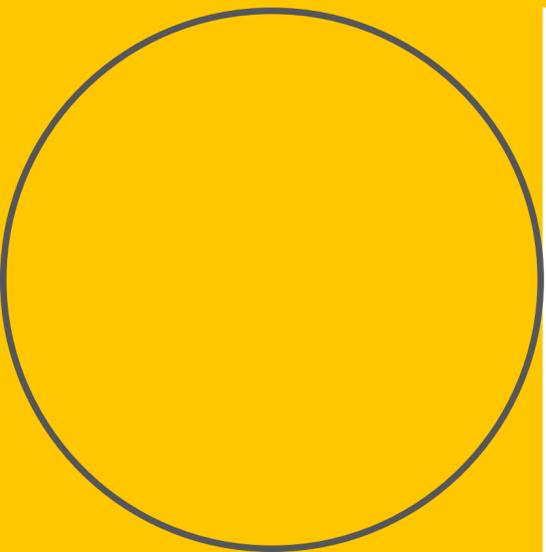
### **Crowdsource expertise and intelligence through open calls for interest and proposals.**

By organizing open calls for interest and open calls for proposals, the Commission tapped into the immense insights and experience of citizens, specialists, and innovation networks. The Mission Boards and Mission Assemblies, for example, were populated in such a way, as was the information collected from more than 6,000 respondents between June and October 2019.



Case story 2

# CSIRO AUSTRALIA: A NATIONAL SCIENCE AGENCY'S APPROACH TO MISSIONS



## Case story 2

### CSIRO Australia: a national science agency's approach to missions

<p><b>What is CSIRO and what are the drivers of this story?</b></p>	<p>The Commonwealth Scientific and Industrial Research Organisation (CSIRO) is Australia's national science agency. It is assisting the nation to overcome six challenges in the space of Food Security and Quality, Health and Wellbeing, Resilient and Valuable environments, Sustainable Energy and Resources, Future Industries and a Secure Australia and Region.</p> <p>CSIRO is using its position as a purpose-driven institution to proactively build new cross-sectoral partnerships and develop a comprehensive portfolio of missions.</p>		
<p><b>Which mission areas are being pursued?</b></p>	<p>An initial portfolio of 12 missions were identified that address these six challenges. Four missions have been launched, backed by a commitment to a five to seven-year programme of work:</p> <p><b>Launched Missions:</b></p> <p><b>Drought Resilience:</b> reducing the impacts of droughts in Australia by 30% by 2030</p> <p><b>Future Protein:</b> to leverage increasing global demand for high-quality protein and create new Australian protein products and ingredients that earn an additional \$10b AUD in revenue by 2030</p> <p><b>Hydrogen Industry:</b> to help build Australia's clean hydrogen industry by scaling demand and driving down the cost of hydrogen to under \$2 AUD per kilogram, to deliver a secure and resilient energy system and support the transition to a low emissions future</p>	<p><b>Trusted Agrifood Exports:</b> to grow Australian agri-food exports by \$10b AUD by 2030 to support farmers and boost the economy</p> <p>The following missions are under development and are being co-designed with partners from across industry, research and government to identify suitable pathways to address the mission goals:</p> <p><b>Antimicrobial Resistance:</b> a future where antimicrobials still save lives</p> <p><b>AquaWatch Australia:</b> safeguarding Australia's freshwater and coastal resources</p> <p><b>Climate Resilient Enterprises:</b> preparing and assisting Australian industry and regional partners in the Asia-Pacific to manage impacts and risks from a changing climate</p>	<p><b>Critical Energy Metals:</b> aiming to unlock the full economic potential of Australia's energy metals</p> <p><b>Ending Plastic Waste:</b> the goal is an 80% reduction in plastic waste entering the environment by 2030</p> <p><b>Infectious Disease Resilience:</b> aiming to prepare Australia for future pandemics</p> <p><b>Towards Net Zero:</b> aiming to create new growth industries and jobs for Australia and ensure the ongoing global competitiveness of Australian resources, agriculture and regional communities</p> <p><b>SME Collaboration Nation:</b> aiming to lower the barriers for small- to medium-sized enterprises (SMEs) to access Australian research and development expertise to support their growth.</p>
<p><b>How has IIPP contributed to this work?</b></p>	<p>A trip to Australia in 2018 promoting IIPP's work kick-started a collaboration between Professor Mariana Mazzucato and the team at CSIRO; a collaboration which inspired this mission's programme.</p> <p>CSIRO is an active participating MOIN member and CSIRO team members have attended a number of MOIN events. At the IIPP OECD Mission-Oriented Innovation Simulations in Feb 2021, CSIRO presented and crowded in peer-to-peer advice on their drought resilience mission.</p>		

## What is the context for CSIRO's missions programme?

As Australia's national innovation agency, CSIRO is tasked with solving the country's greatest challenges through science and technology. Contributing to a range of different areas, such as agricultural science, hydrology or digital innovation, the agency works closely with government agencies, businesses and the research sector to develop and deliver information, tools and technologies.

In 2020, CSIRO launched a new missions programme with the aim of building long-term environmental, social and economic resilience, and strengthening Australia's COVID-19 recovery. The new programme identified six challenges and 12 mission areas related to food security and quality, health and wellbeing, resilient and valuable environments, sustainable energy and resources, future industries and a secure region. The challenges were identified through analysis of trend modelling and forecasting, including the [Australian National Outlook report](#), engagement with CSIRO's partners in industry, government and academia, and a review of Australian and international priorities (including the Australian Science and Research Priorities and the United Nations' Sustainable Development Goals). Although CSIRO has always been focused on tackling challenges, its new missions are larger scale scientific and collaborative research initiatives aimed at tackling complex, systemic problems to make significant breakthroughs.

For CSIRO itself, missions also represent a programme of change.

CSIRO has the ambition to shift one third of the areas in which it delivers impact from its science into missions over the next four years.

This reflects an organisational shift towards wider collaboration to achieve larger scale objectives. The programme also aims to strengthen CSIRO's position in the national innovation ecosystem, increasing directionality, growing stronger customer and collaborative partnerships, and making the organisation more accessible to stakeholders. The missions programme has performance metrics that reflect these ambitions, but its success will ultimately be measured by the impact the missions deliver to address the national challenges.

### What approach did CSIRO take?

CSIRO missions are major collaborations leveraging science and technology for impact. They are intended to mobilise science, technology and innovation to address well-defined objectives related to one or more of the six challenges. They span the innovation cycle from research and demonstration to market deployment. CSIRO missions are not centrally funded through dedicated government investment. Instead, they must ensure relevance in the market, so that they can 'crowd in' financial and other resources from industry, government, research and civil society stakeholders to scale and achieve impact. As an independent government agency,

CSIRO does not set policy, so the missions do not by themselves include policy changes or regulatory interventions, but they may support policy changes made by other parts of government.

The missions programme uses a stage gate model to define and manage the phases of the mission development and implementation lifecycle: proposal, concept, planning, launch and scale (working towards achieving impact). Missions must meet specific milestones and requirements to progress between these stage gates and are supported with increasing levels of baseline funding.

To be selected to enter the missions programme, a mission idea must be big, bold and inspiring; clearly align with solving one or more of the six challenges; be cross-disciplinary, co-designed and collaborative; draw on CSIRO's unique science and technology capability and leadership; and have a credible chance of success.

It is anticipated that each CSIRO mission will take around five to seven years to plan, implement and deliver on its intended impact. Each mission will meet its objective by implementing distinctive but complementary and converging programmes of work.

CSIRO's Drought Resilience mission seeks to build rural resilience that reduces drought impacts by 30% by 2030.

The mission assumes that climate-related challenges will remain for agriculture, but that impacts can be reduced considerably through a mix of on-farm innovation, new off-farm risk management tools, and implementation of water security and resilience innovations in rural communities.

This mission has identified three different, yet interconnected, levels of intervention to tackle drought resilience:

- 1. On-farm innovation: assist farmers with improved decisions based on climate data for their location, new farming systems to improve water use efficiency and options to minimise risk.**
- 2. Regional resilience and development: through community transition planning to diversify economies, create climate-resilient regional water supply and protect natural capital resources.**
- 3. Policy enablers and outreach: develop information and systems that underpin policy response and recognise international solutions to shared problems.**



Figure 1: CSIRO's work is being used by more than 140 countries to track and compare land degradation factors like over-grazing, drought and contamination. (Source CSIRO)



Figure 2: Researchers are investigating new farming systems that use water more efficiently. (Source CSIRO)

### What solutions are emerging from the CSIRO missions approach?

Since its announcement in 2020, the CSIRO missions programme has publicly launched four missions – the Hydrogen Industry mission and three agriculture-related missions themed around Future Protein, Trusted Agri-food Exports and Drought Resilience. Two other missions – Ending Plastic Waste and Towards Net Zero – have been approved for launch, with formal announcements expected by the end of 2021.

To be approved for launch, each mission must define a specific, time-bound and measurable objective, and a clear pathway to achieving it. It must also be able to demonstrate its multidisciplinary approach, have external partners who are committed to operationalising the mission and have evidence of its ability to scale to a value of AUD \$50-100m.

As the first mission to launch, CSIRO's Hydrogen Industry mission has rapidly gained momentum, working with a diverse group of partners to progress towards its goal of supporting the world's transition to clean energy by driving down the cost of hydrogen production to under AUD \$2 per kilogram. It is tackling this goal by implementing demonstration projects that validate hydrogen value chains and de-risk enabling technologies, delivering breakthrough science which focuses on the development and commercialisation of new hydrogen technologies, and developing a Hydrogen Knowledge Centre to capture and promote hydrogen projects and industry developments across Australia.

As well as achieving their specific mission goals, the missions approach is providing a front door for potential external partners to identify opportunities to engage with CSIRO. This framework is introducing a market-led approach to drive impact out of an organisation that has been predominantly science-driven.

### What challenges does CSIRO face in implementing missions?

The CSIRO Missions program is currently focused on developing its capacity to support missions that are progressing to the scale phase. This includes identifying resource needs, and designing the supporting processes and change management procedures to enable missions to continually refine their plans and pivot as the need arises. It faces the challenge of developing these frameworks while the missions are already commencing implementation. It is seeking the right balance between enabling the missions to be agile and productive, while also ensuring that they are well governed, manage risks, and have the monitoring and evaluation frameworks in place that keep them on track to achieve impact.

The programme also faces broader internal change management challenges. The organisation is seeking to adapt internal policies and systems to enable and incentivise the collaborative ways of working which missions depend upon. The need for change is pervasive: it impacts policies and processes across finance, governance and legal divisions; requires behavioural change and shifts priorities for staff across almost every part of the organisation; and necessitates changes to an array of IT systems. Strategic and operational planning at all levels also needs to be adapted to embed mission-related objectives and performance measures.

### What has the CSIRO team learned so far?

#### **Establishing a foundational framework is enough to begin progress.**

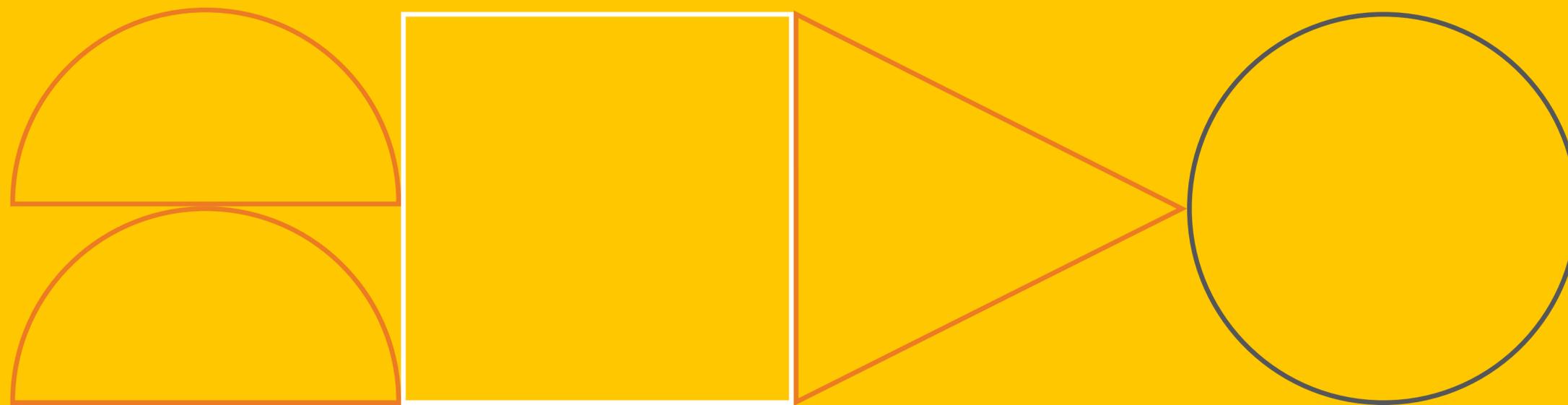
CSIRO's Missions programme is developing its programme architecture and governance in collaboration with the core members of its mission teams, building in the necessary elements as the missions progress through their lifecycle. This iterative, co-design approach has allowed the programme to respond to its changing context; test and refine its models; and gain buy-in through participation. The success of this approach has relied on the patience, continuous good will and flexibility of the mission teams.

#### **All missions are unique but need to operate within a consistent operational framework.**

CSIRO's missions are diverse. Although there is a need for consistent frameworks and support processes, flexibility in how these are applied is essential. For example, some CSIRO missions are primarily co-designing with a focused group of global multi-nationals, while others are collaborating with dozens of small- to medium-sized enterprises and start-ups, and some are dependent on partnerships with select government departments. To address these differences, approaches to communications, stakeholder engagement and IP management have been adapted to fit the needs of each mission.

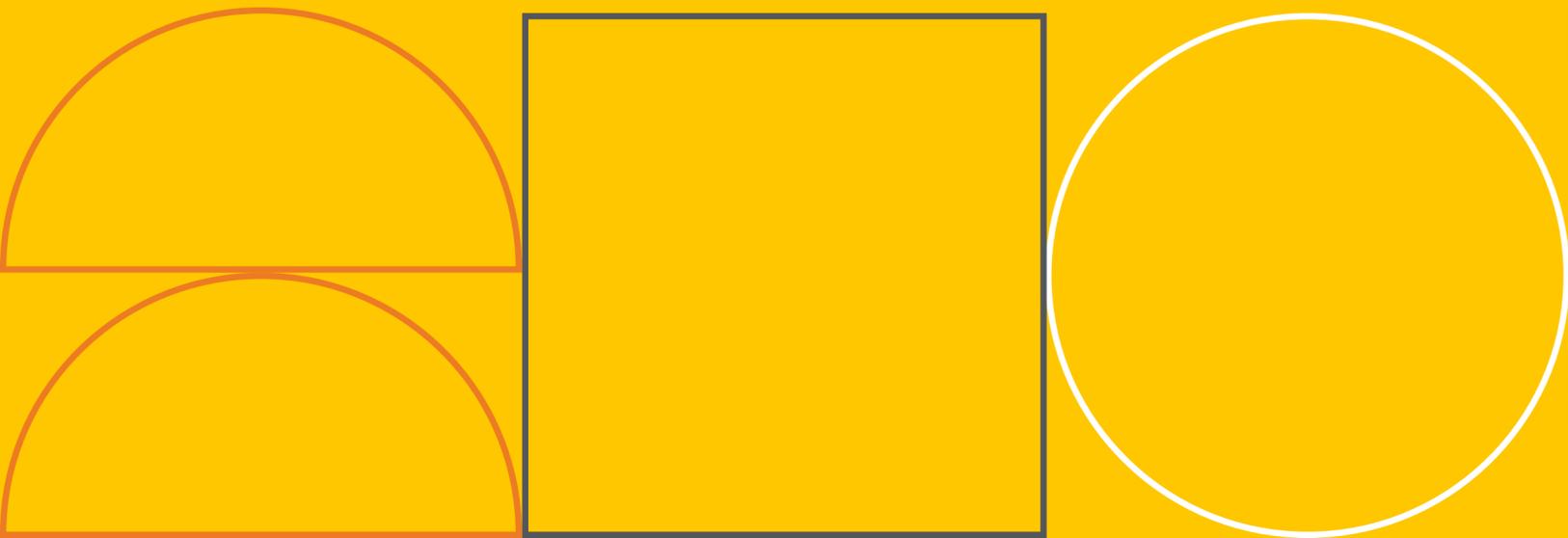
#### **Sometimes a mission finds a new pathway.**

A model like CSIRO's stage gates framework helps to reassess whether the mission pathway is the best fit for each initiative before it enters implementation. The initial portfolio of 12 missions has included a proposed mission focused on doubling the number of small- to medium-sized enterprises utilising Australian R&D to become a 'collaboration nation'. As this mission in development evolved it has become clear that it will better deliver its impact as an enabling pillar to support the goals of other missions across the portfolio. Another mission in the current portfolio is emerging as ideally suited to deliver a commercial outcome. The missions programme is still refining its governance processes for ensuring that missions are able to pivot and move onto a new pathway.



Case story 3

# HEALTH~HOLLAND'S QUADRUPLE HELIX APPROACH TO MISSIONS



### Case story 3

#### Health~Holland’s quadruple helix approach to missions

<p><b>What is Health~Holland and what are the drivers of this story?</b></p>	<p><u>Health~Holland</u> is the brand name for the Dutch Life Sciences and Health top sector, one of the ten top sectors that together govern the Mission-driven Top Sectors and Innovation Policy (MSIP) in the Netherlands. Driven by the recognition that the (Dutch) health system suffers from unequal health outcomes and characterised by an increasing, yet formally unrecognised, care system, Health~Holland was created to coordinate the realisation a <u>central mission</u>.</p>
<p><b>What mission is Health~Holland pursuing?</b></p>	<p>By 2040, all Dutch citizens will live at least 5 years longer in good health, while the health inequalities between the lowest and highest socioeconomic groups will have decreased by 30%.</p>
<p><b>How has IIPP contributed to this work?</b></p>	<p>The missions thinking behind the Netherland's MSIP pre-dates IIPP's work in this space. The Health~Holland team, however, recognise that the championing of this narrative by Professor Mazzucato and the IIPP team has given further legitimacy to, and created interest in, their work. Health~Holland's work has also been heavily influenced by the EU missions programme (see case story #1). Health~Holland are an active participating MOIN member and presented their case at the IIPP OECD Missions Bootcamp in December 2020. They also provided peer-to-peer input to other health mission initiatives at the IIPP OECD Mission Simulations in February 2021.</p>

### What is the context for Health~Holland’s missions programme?

Despite the Netherlands having a robust health system that offers healthcare to all its citizens at an affordable rate, two trends have been increasing pressure on Dutch lawmakers to implement reforms. First, socioeconomic differences in health are large and persistent: between the highest and lowest socioeconomic groups there exists a six-year difference in life expectancy and a 15-year difference in healthy life expectancy. Second, the health sector's landscape is changing with the rise of unrecognised household care activity, representing a decoupling between formal and informal systems. Indeed, much of the country's care economy is done by relatives or friends, who are not remunerated accordingly. As a result of these socioeconomic differences and the rise of informal health sector activity, the Dutch government sought to take a proactive approach to health reform through innovation.

It is also important to understand the Netherlands' institutional landscape around innovation. In 2011, the Dutch government created nine so-called 'top sectors' or economic areas that are key to the country's economy: agriculture, horticulture, logistics, high-tech systems and materials, life sciences and health, chemicals, creative industry, energy and water. Initially, these top sectors were intended to reform the funding of innovation activities and grant Dutch companies access to global markets. In 2017, however, following the general election, the new Dutch cabinet decided the top sectors could

be repurposed and restructured to contribute to societal challenges. This repurposing of top sectors into mission-driven institutions led to two significant changes. First, the agendas and roadmaps of each top sector, which had formerly been separate, became aligned into four grand societal challenges. Second, the top sectors moved from a triple helix innovation model to a quadruple helix, ensuring citizen representation.

In keeping with this thinking, in 2019 the Ministry of Economic Affairs and Climate Policy supported the pre-mentioned challenges: energy transition and sustainability; agriculture, water and food; security; and health and care. The Ministry of Health, Welfare and Sport was the political body that presided over the health and care challenge and was tasked with developing one central mission and four sub-missions that would contribute to it (see Figure 1).

### What approach did Health~Holland take?

Although the Health~Holland approach to coordinating these missions began as a top-down affair, the quadruple helix is an innovation model that depends on the interaction and coordination between four different sets of actors: citizens, researchers, entrepreneurs and government.

It is important at this point to note the deep systems theory which sits behind the Health~Holland approach and which has been championed by Nico Van Meeteren, the Executive Director and Secretary of Health~Holland. Working with the theory that change will only happen once all societal actors work together to understand how to make change in their own context, he and his team have fostered 'system in the room' methods of convening and co-creating with all actors, strongly focusing on citizen and community agency.

Health~Holland therefore conducted internal and external consultations with three different departments in the health ministry — prevention, health and cure — as well as with civil society representatives, businesses and key national health institutes. As a result of these consultations, by the end of 2019 the following central mission and four sub-missions were developed:

**Central mission:** By 2040, all Dutch citizens will live at least five years longer in good health, while the health inequalities between the lowest and highest socioeconomic groups will have decreased by 30%.

**This mission encompasses:**

1. **Lifestyle and living environment:** By 2040, the burden of disease resulting from an unhealthy lifestyle and living environment will have decreased by 30%.
2. **Care in the right place:** By 2030, the extent of care will be organised and provided to people 50% more (or more often) than at present in one's own living environment (instead of in healthcare institutions), together with the network around them.
3. **People with chronic diseases:** By 2030, the proportion of people with a chronic disease or lifelong disability who can participate in society according to their wishes and capabilities will have increased by 25%.
4. **People with dementia:** By 2030, the quality of life of people with dementia will have improved by 25%.

Once the missions were agreed upon, Health~Holland worked with other top sectors to develop the Knowledge and Innovation Covenant (KIC) 2020-2023, a commitment by public and private sector actors to support a funding programme that will drive and sustain the various missions over their first four years. Health~Holland worked with 100 coalition partners, including representatives from civil society, industry, knowledge institutions and ministries to establish KIC. The commitment brings together investments in innovation from more than 2,200 companies, knowledge institutions and government bodies. A total of €4.9 billion

has been allocated; €1.06 billion has been allocated to the Health and Care challenge, of which €525 million comes from private funding and €534 million comes from public funding. With this budget, Health~Holland has the ability to direct innovation through strategically aligned public-private partnerships.

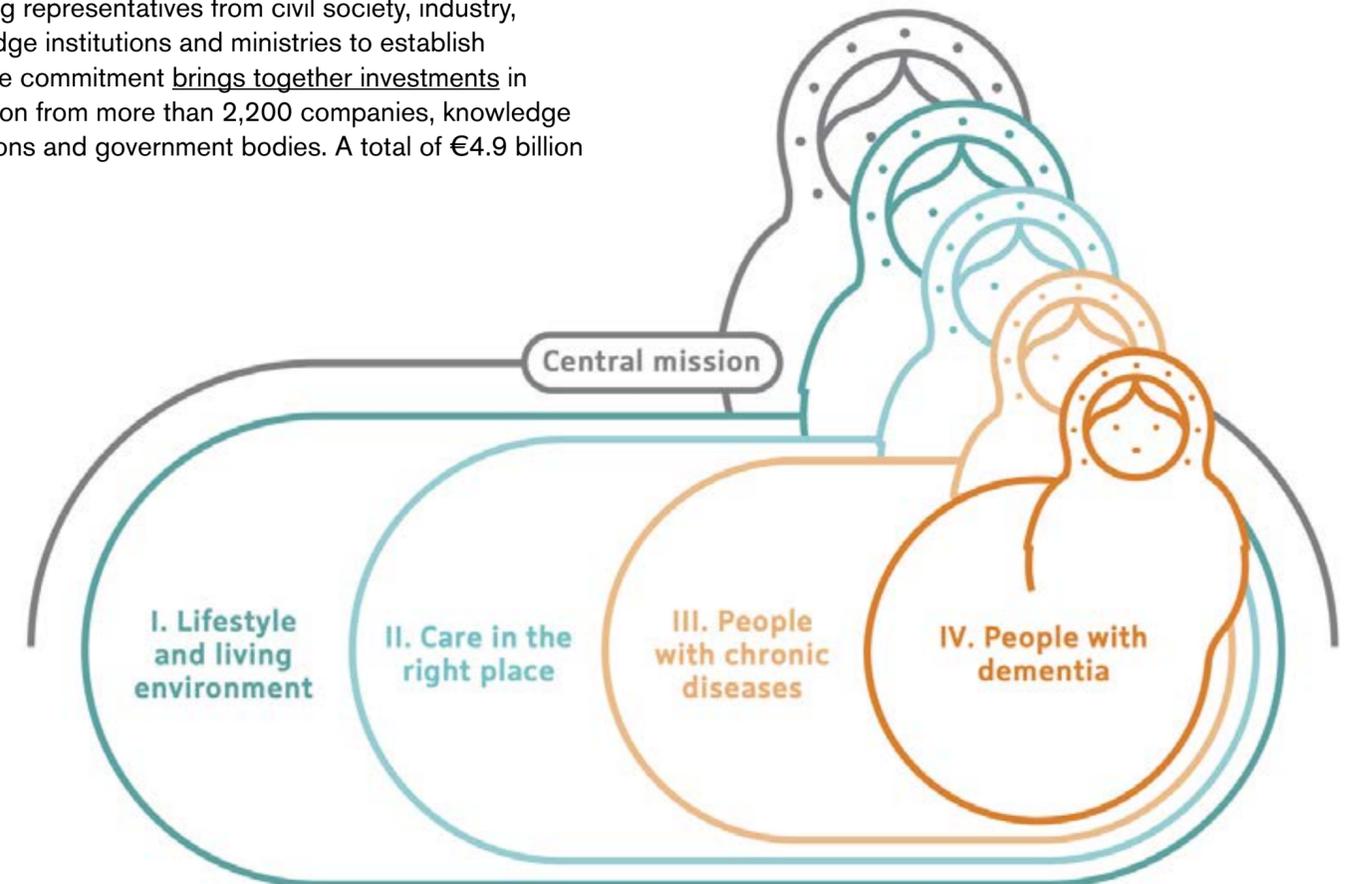


Figure 1: Five missions contribute to the health and care challenge: one central mission and four sub-missions. The central mission encompasses each of the specific underlying missions. (Source Health~Holland)

## What solutions are emerging from the Health~Holland mission approach?

### 1. Public-private partnerships and projects

Public-private partnerships (PPPs) that Health~Holland funds are national, multi-year, thematic and programmatic collaborations between quadruple helix organisations that contribute to at least one of the five health and care missions. As of mid-2021, Health~Holland supported 34 different PPPs, most of which are either up-and-running or whose governance models and funding streams are currently being stabilised.

What, however, makes these PPPs unique? First, each of them has the capacity to bring a diversity of public and private sector actors, as well as universities and civil society representatives, together to build an innovation ecosystem around a specific challenge. Second, each PPP is mission-driven, meaning they can set their own targets and mobilise funding in service of those targets. Importantly, funding comes from both the public and private sectors.

### 2. Field labs (GROZzerdammen)

Working at a deeper citizen level, the Health~Holland team has established a number of GROZzerdammen: field labs in a local neighbourhood, district, municipality or village community. GROZzerdammen work on the missions by restructuring the prevention and care pyramid, from third-line care and relationships with the social domain to healthy living and informal care. These field labs offer a workspace for joint experimentation with integrated social and technological innovations. This is done in various real living environments, in urban and rural areas.

A powerful field lab example is TanteLouise, a health care organisation for people with dementia. In one TanteLouise care home, citizens, businesses, entrepreneurs and council members came together in a 'system in the room' process. All actors shared their dreams for the care sector, such as the desire for patients to have a meaningful life and to significantly diminish the frustration of having dementia. By sharing this dream with all systems actors, specifically in the TanteLouise home, where people with dementia actually live, the co-creation process started to address how the community can help people with dementia. The outcome was a commitment to an open village in which all residents with dementia can live in freedom, co-created by a community, enabled by technology.

**Health~Holland plans to have four to six field labs running by 2022.**

### 3. Illustration projects

Illustration projects are another key tool in the Health~Holland missions toolkit. An illustration project is a unique and innovative idea, which will be commonplace within the next 20 years. In Health~Holland's context the emphasis is on reducing inequality and a strong example of an Illustration project is the Ontwikkelplek van de Toekomst (Development Place of the Future). This project focuses on education and what schools should look like in the future.

According to the Onderwijs Alliantie, the school of the future requires changes in the ecosystem around children and needs to include an environment bigger than just the school as a building. This includes schools widening their interactions with communities and local actors, while focusing more on children's talents, interests and competencies.

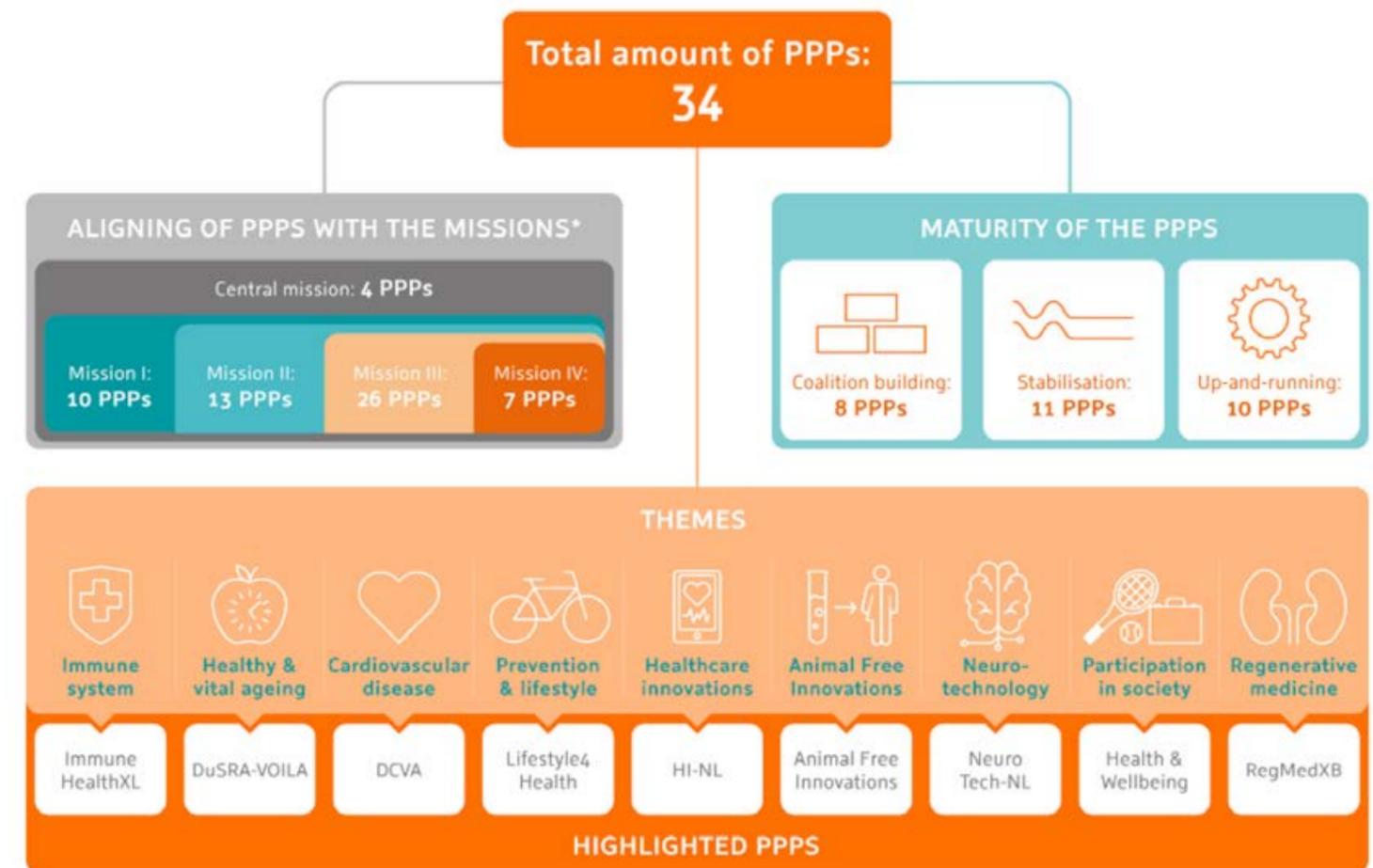


Figure 2: As of early 2021, Health~Holland funded 34 PPPs. (Source Health~Holland)

### What challenges does Health~Holland face in implementing the missions?

Health~Holland is aware of two main challenges going forward. First, **the evaluation and measurement of each of the mission targets will be a difficult task.** Translating the objectives into measurable goals depends on the availability of data — and data is often scarce for indicators that cannot be very well defined, for example ‘burden of disease’ (mission 1) or ‘quality of life’ (mission 4). Measuring the inputs, activities, outputs and impacts, as well as causal relationships between them, must be prioritised. Second, to ensure that the quadruple helix is used to the fullest extent, the governance and funding structures of the PPPs must be re-evaluated so that both risks and rewards are shared by public and private actors. In doing so, Health~Holland can ensure that relationships are symbiotic, mutualistic and, importantly, optimise public value for citizens.

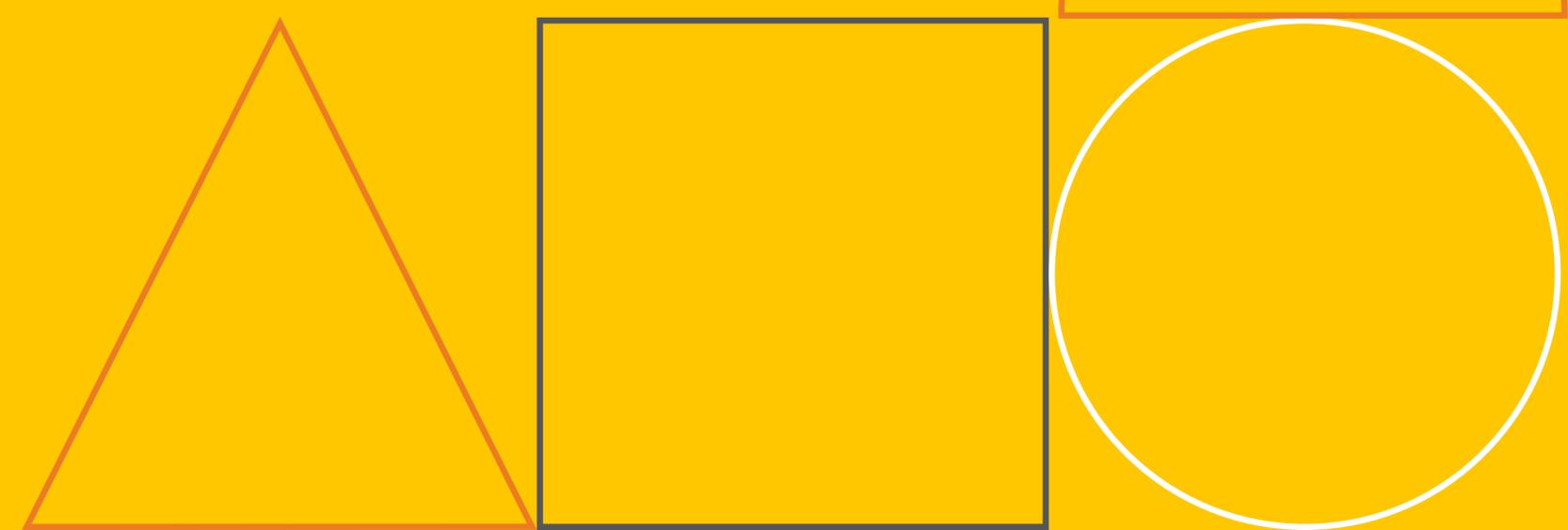
### What has the Health~Holland team learned so far?

#### **Use an innovation model that requires you to be participative by design.**

Using the quadruple helix was, alongside a mission-oriented approach, arguably the most important change to the Dutch health and care top sectors innovation model. By ensuring that a seat at the table was always available for citizen representatives — as well as for industry, academia and, of course, government — Health~Holland allowed its approach to missions to be participative by design.

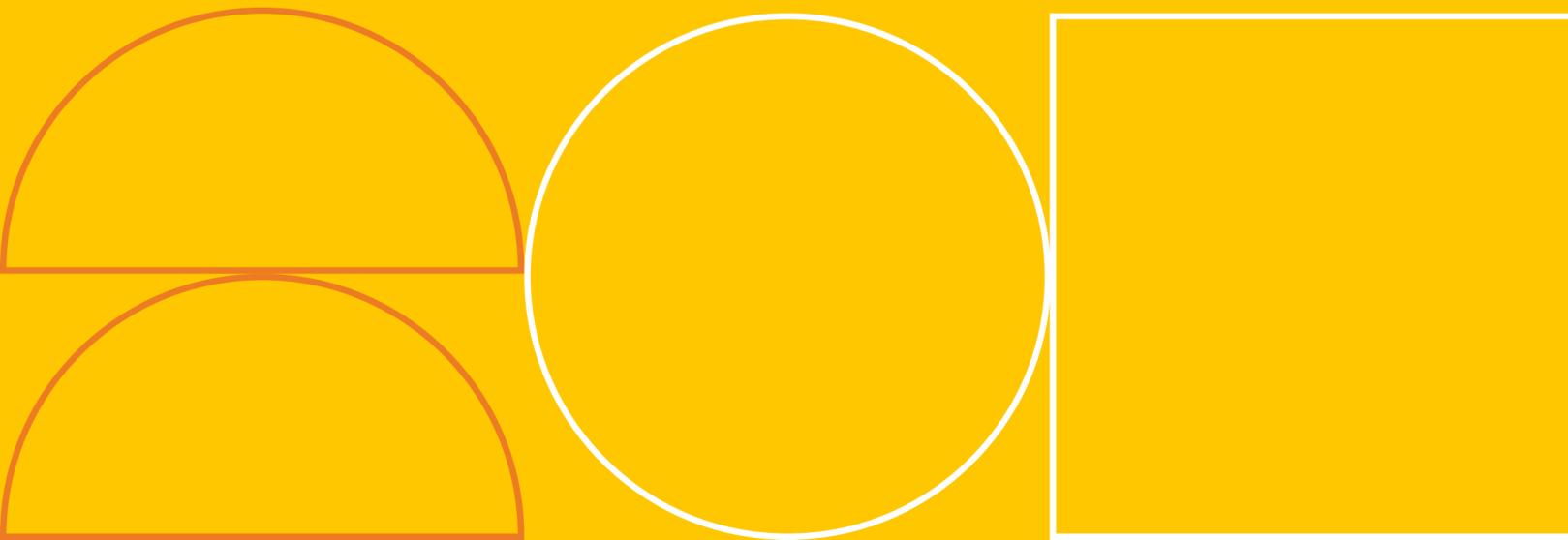
#### **In designing PPPs, make sure to share both the risks and the rewards.**

Health~Holland’s use of PPPs is a step in the right direction. By sharing the costs required to operate PPPs, public, private and third sector actors have an equal stake in making them succeed. Most of the financial burden, however, still falls on public sector actors and the economic returns on the initial investments are disproportionately collected by companies. To ensure that public value for citizens is maximised, both the risks and the rewards of PPPs must be shared by the various actors involved.



Case story 4

# GREATER MANCHESTER'S CARBON NEUTRAL MISSION



### Case story 4

#### Greater Manchester's carbon neutral mission

<p><b>What is the Greater Manchester Combined Authority's carbon neutral mission and what are the drivers of this story?</b></p>	<p>Home to about 2.8 million people, Greater Manchester is the second most populous city-region in the UK. In 2019, Greater Manchester Combined Authority (GMCA) declared a climate emergency, setting an ambitious new target for the city-region to achieve carbon neutrality by 2038, earlier than any other region in the UK.</p>
<p><b>What mission is GMCA pursuing?</b></p>	<p>Carbon neutral living within the Greater Manchester economy by 2038.</p>
<p><b>How has IIPP contributed to this work?</b></p>	<p>In 2018 GMCA commissioned a group of experts- including Professor Mariana Mazzucato - to evaluate the city-region's economic competitiveness and areas of opportunity for future growth. In 2019 and financed by Climate KIC, IIPP kicked off a series of research actions with the GMCA which resulted in a number of research publications. This case study is a shortened version of a fuller IIPP case study which can be found <a href="#">here</a>.</p>

#### What is the context for GMCA's missions programme?

Greater Manchester is made up of ten local authorities in the Northwest of England. Following the Conservative Party's 2010 election promise to devolve power to local and regional councils in England, Greater Manchester Combined Authority (GMCA) became the first city-regional combined authority to strike a deal in 2012.

Though GMCA does not have many of the policy tools used by national governments, or local authorities for that matter, including carbon taxes or levies on plastic bags, it has gained access to new policy making and political capabilities to support action in a number of important sectors, including transport, health and business. As such, GMCA used a variety of 'roles' (see Figure 1) to direct innovation and tilt the socio-economic playing field towards its bold mission.

In 2017, Andy Burnham became Greater Manchester's first elected mayor. This placed him in a position of leadership in relation to GMCA and sparked a renewed sense of purpose around what the city-region could accomplish. Policymakers began to prioritise how GMCA could determine a more ambitious carbon neutrality target than existed, initiated through top-down leadership, but to be shaped through bottom-up public debate. In early 2019, GMCA declared a climate emergency and drew up a new plan to achieve carbon neutrality by 2038, 12 years earlier than previously agreed. GMCA went on to commission a group of experts, including Professor Mariana Mazzucato, to evaluate the city-region's economic competitiveness and areas of opportunity for future growth.

In March 2019, IIPP worked closely with the authority to design and articulate a mission, namely, carbon neutral living within the Greater Manchester economy by 2038.



Figure 1: Roles that can be played by GMCA.

### What approach did GMCA take?

The sequence of events below gives a sense of the approach GMCA is taking.

#### 1. Pursuing a public engagement process

GMCA began by understanding the needs of citizens, businesses and other key stakeholders in the region. GMCA organised and coordinated 42 'listening events' that engaged a combined total of over 1,200 attendees. Following this deep community engagement process, in March 2018 GMCA and Mayor Andy Burnham hosted the first Greater Manchester Green Summit to build further momentum for the city-region's green ambitions. Building on the learnings collected at these events and integrating technical carbon pathway modelling, the Springboard Report was published in June 2018. This crystallised a new direction for an environmentally conscious city-region, which brought together the key aims of both the public and most robust science.

#### 2. Developing a mission roadmap

IIPP argues that road-mapping missions helps urban areas to support and facilitate the forms of collaborative investment and innovation activities between discrete actors required to successfully address distant targets, in uncertain contexts, such as the climate crisis. Moreover, urban areas attempting to prompt green transitions demand roadmaps to provide long-term, enduring pathways that can provide stability beyond political cycles or narrow private investment horizons.

To this end, GMCA worked closely with IIPP and other stakeholders to design a mission roadmap and detail the sectors, actors and initially hypothetical mission projects that could strengthen and sustain the region's mission of carbon neutral living. Roadmaps such as this offer a pragmatic overview of who needs to be involved, where innovation needs to happen and what kind of innovation must be stimulated.

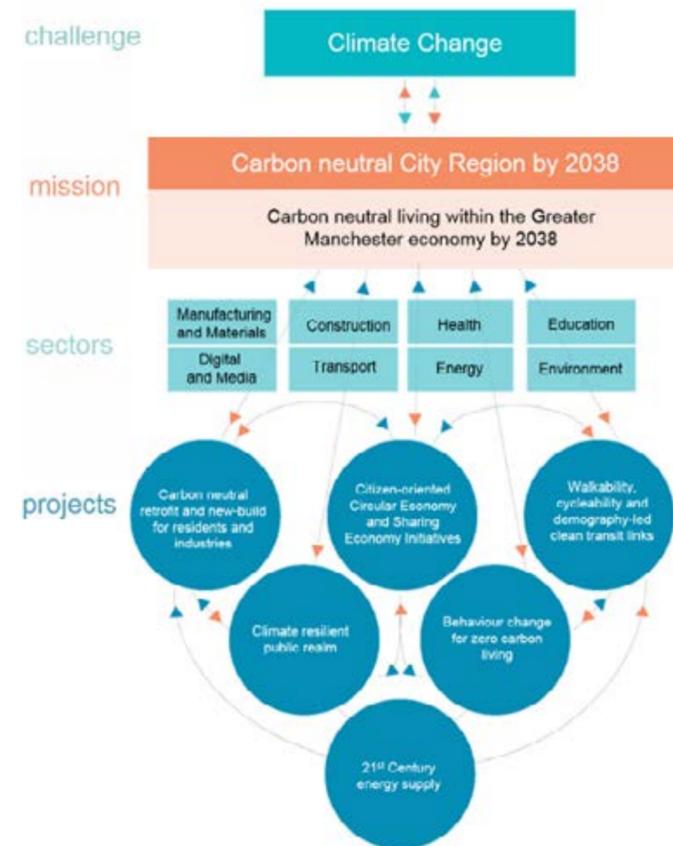


Figure 2: A hypothetical mission roadmap for GMCA's carbon neutral mission. (Source: Greater Manchester Independent Prosperity review, IIPP)

#### 3. Mainstreaming of the mission as a key organisational framing

This happened within critical strategic objectives such as the Five-year Environmental Plan and the Greater Manchester Local Industrial Strategy. Crucially, missions became understood as a new lens to join up the organisation's strategic objectives in order to break down silos and build new forms of collaboration with external partners.

#### 4. Translation of the mission roadmap to action

This process started with GMCA evaluating its existing climate governance bodies and apparatuses, and reshaping these structures to become aligned with the mission. After several months, this culminated in GMCA developing an integrated governance framework to deliver the mission (Figure 3). These activities included evaluating existing governance bodies, repurposing others and creating several new ones. The final mission governance framework was agreed by GMCA in autumn 2019 and the GMCA Environment Team then began nominating actors to be representatives on each governance body. Since adopting the integrated mission governance framework, GMCA has begun implementing its mission.

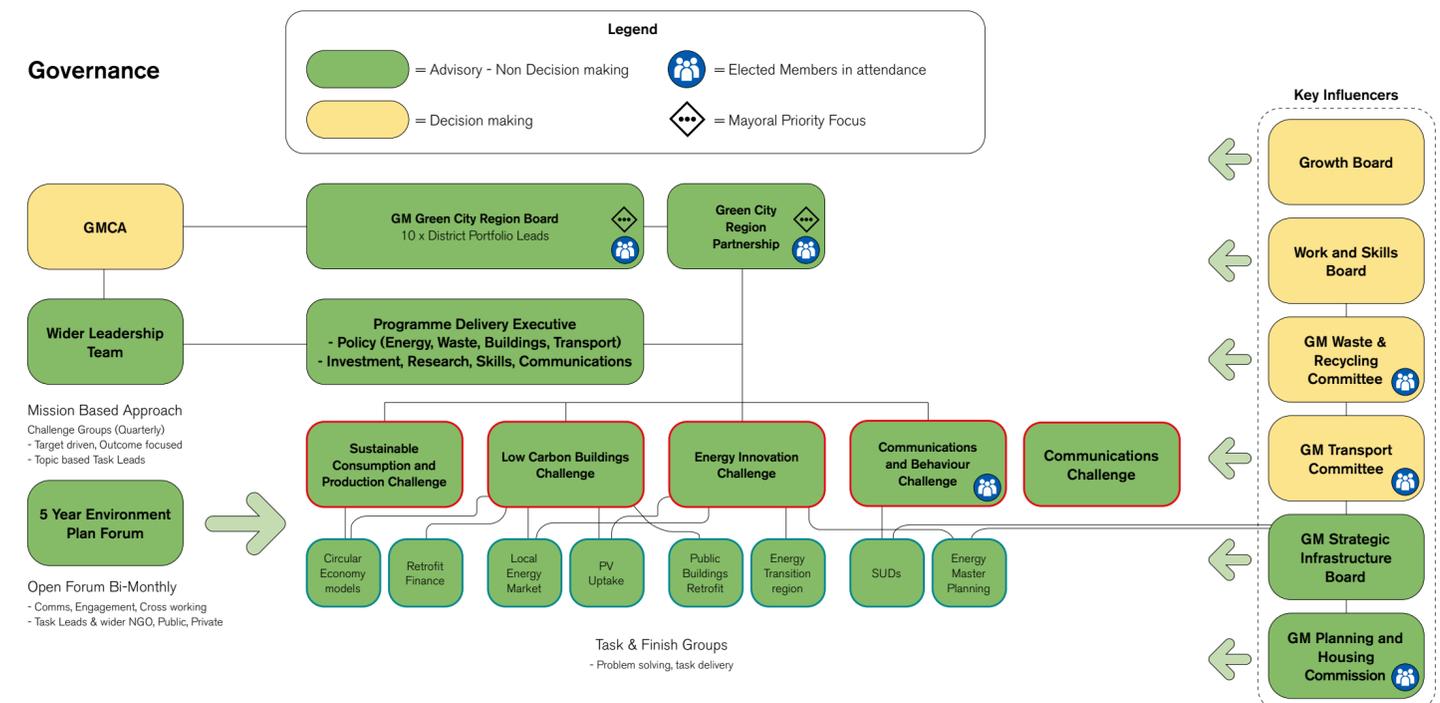


Figure 3: Integrated mission governance framework.. (Source: adapted from GMCA)

### 5. Creating challenge groups

For grand challenges such as climate change, where local government organisations in many contexts only have limited legal and fiscal authorities that can be used to promote action, mission-oriented innovation can be used to bring together a coalition of the willing, building and shaping momentum for wide-scale activity through voluntary collaboration. One of GMCA's aims has been to establish distributed ownership of its mission, as is the case with many local government missions, and to encourage and enable external stakeholders to drive the mission forward.

To this end GMCA created five challenge groups (CG), which serve as the primary governance and delivery structure of the mission. The challenge groups include (1) low carbon buildings; (2) energy innovation; (3) sustainable consumption and production; (4) natural capital; and (5) communication and behaviour change. Each of these groups are represented by a range of stakeholders from the public sector, local authorities, private sector, third sector and academia that stimulate and drive specified innovation activities.

### 6. Establishing task and finish groups

Each challenge group identifies priority areas of work or mission projects, and task and finish groups are mobilised. Designed to have a finite duration, the group concentrates on discrete activities that support an acute objective.

For example, the low carbon buildings group has five priority areas and 14 projects that have been identified, initiated and tracked. Led by Salford University, one task

and finish group is working to deliver two projects, one on technical and quality assurance for green buildings, and the other to help form a retrofit accelerator, a long-term partnership between organisations to create a vibrant local retrofit sector.

### 7. Mission evaluation

Greater Manchester's mission is being implemented through the Five-year Environment Plan, which has 21 key priorities, against which GMCA is tracking 28 measures. The measures fall into two categories: priorities which are acutely defined with data available to show progress and those measures that are defined but for which no data is currently accessible.

### 8. Financing the mission

GMCA has no centrally held mission budget. Projects within the mission have been funded by grants from institutions such as the European Union (EU) or the UK Department for Business, Energy and Industrial Strategy (BEIS). Throughout the initial phase of implementing the mission, GMCA has focused on building relationships and establishing governance structures that will be the foundation of future work.

Against this backdrop, GMCA's strategic approach to financing the mission has been to find funding when the need and opportunity arises. A case in point here is the GM Environment Fund. Designed to attract private investment, this finance vehicle is the UK's first regional environmental fund to target social, financial and environmental objectives.

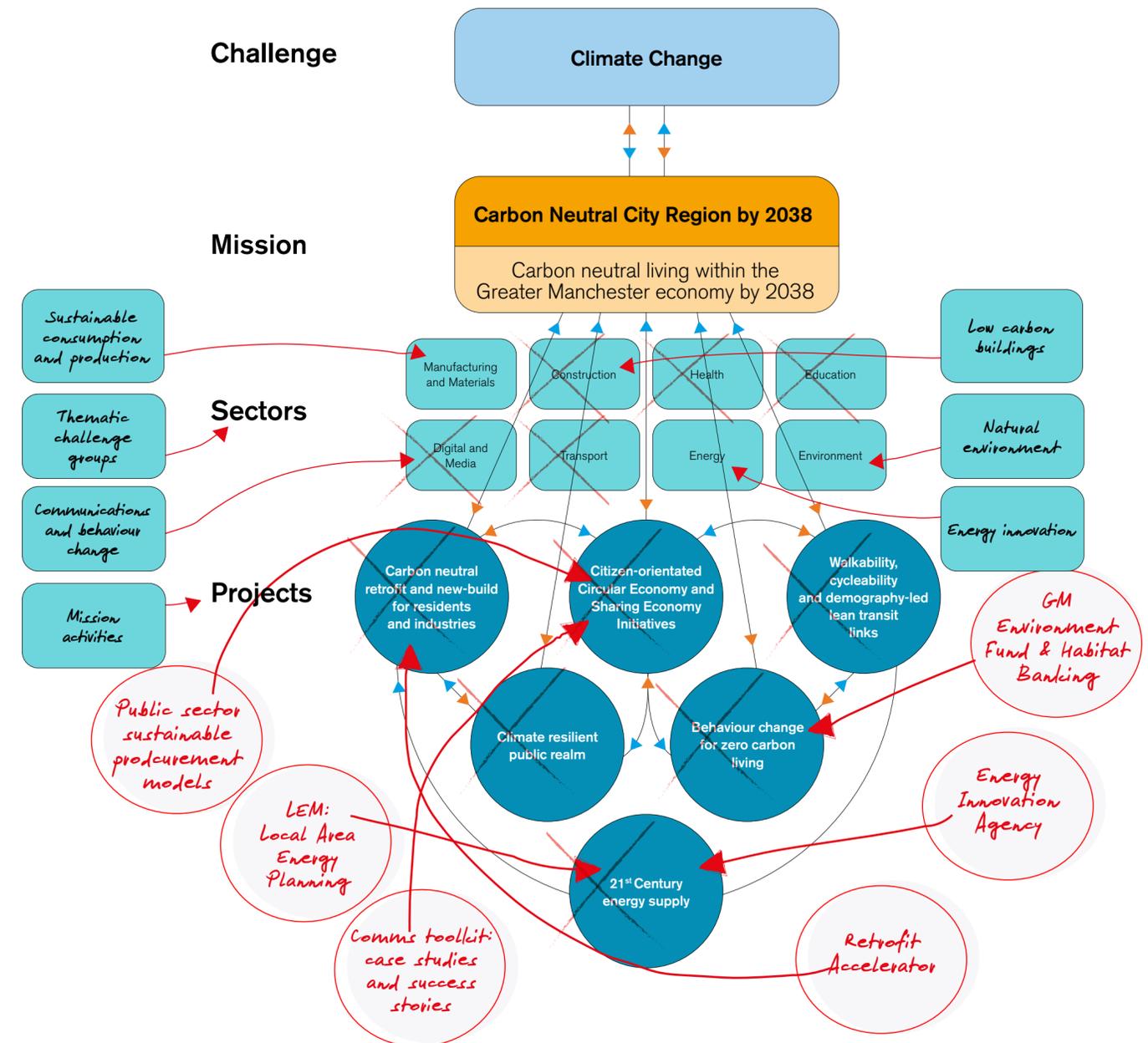


Figure 4: Reconfigured actioned mission roadmap. (Source: Institute for Innovation and Public Purpose)

### What solutions are emerging from the GMCA missions approach?

GMCA's distributed governance structure — its mission is by and for stakeholders — is beginning to have an impact and this can be clearly seen in the region's efforts around retrofitting buildings. In early 2021, GMCA led the city-region's effort, resulting in the award of over £78 million in government funding through the Public Sector Decarbonisation Scheme that will support the retrofitting of over 150 public sector properties. GMCA was awarded access to this financing in large part because of the aforementioned retrofit accelerator, whose development is currently being led by one of the task and finish groups that sits in the low carbon buildings challenge group.

GMCA is also successfully taking advantage of its different roles in new, creative ways. For example, GMCA, in partnership with the local authorities and low carbon buildings challenge group, has received an additional £10 million to support residential retrofits through the Green Homes Grant Local Authority Delivery Scheme. GMCA used its position as the region's 'convener' to bring a number of partners together to place a competitive bid for the government scheme.

### What challenges does GMCA face in implementing the missions?

GMCA must continue to grapple with a larger challenge, namely, its financial and policy-related dependence on the UK Government. Despite the unprecedented devolution of powers in 2012, and the creative ways GMCA has recently used its mandate as a regional authority, it must still apply to national funding schemes and rely on a national climate strategy to which the region must align. This is not expected to change anytime soon, which emphasises the need for GMCA to know what powers it has at its disposal and to take advantage of them accordingly.

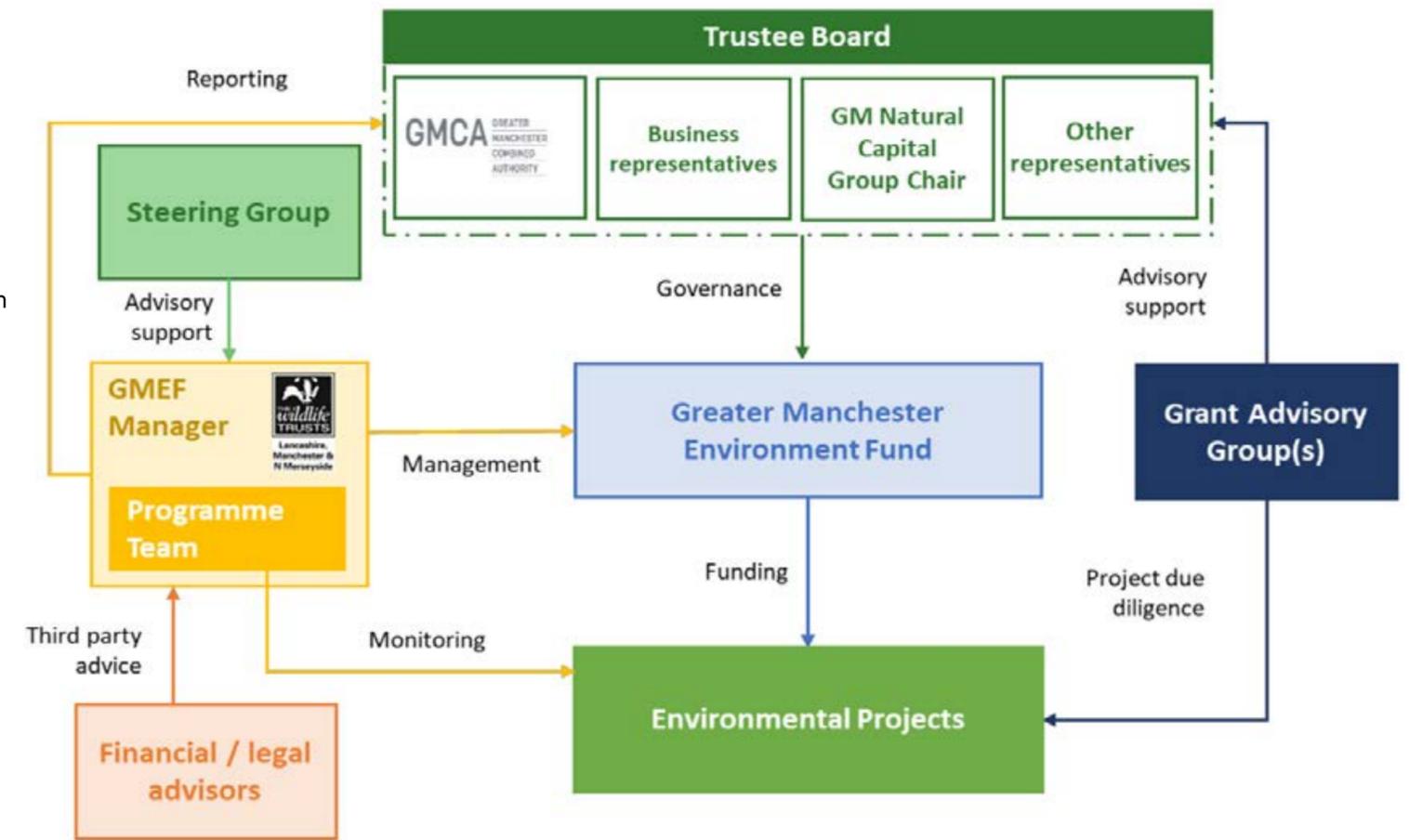


Figure 5: Initial governance structure of the GM Environment Fund. (Source: GMCA)

**GMCA used its position as the region's 'convener' to bring a number of partners together to place a competitive bid for the government scheme.**

## What has the GMCA missions team learned so far?

### Identify and understand the roles and powers that you can use.

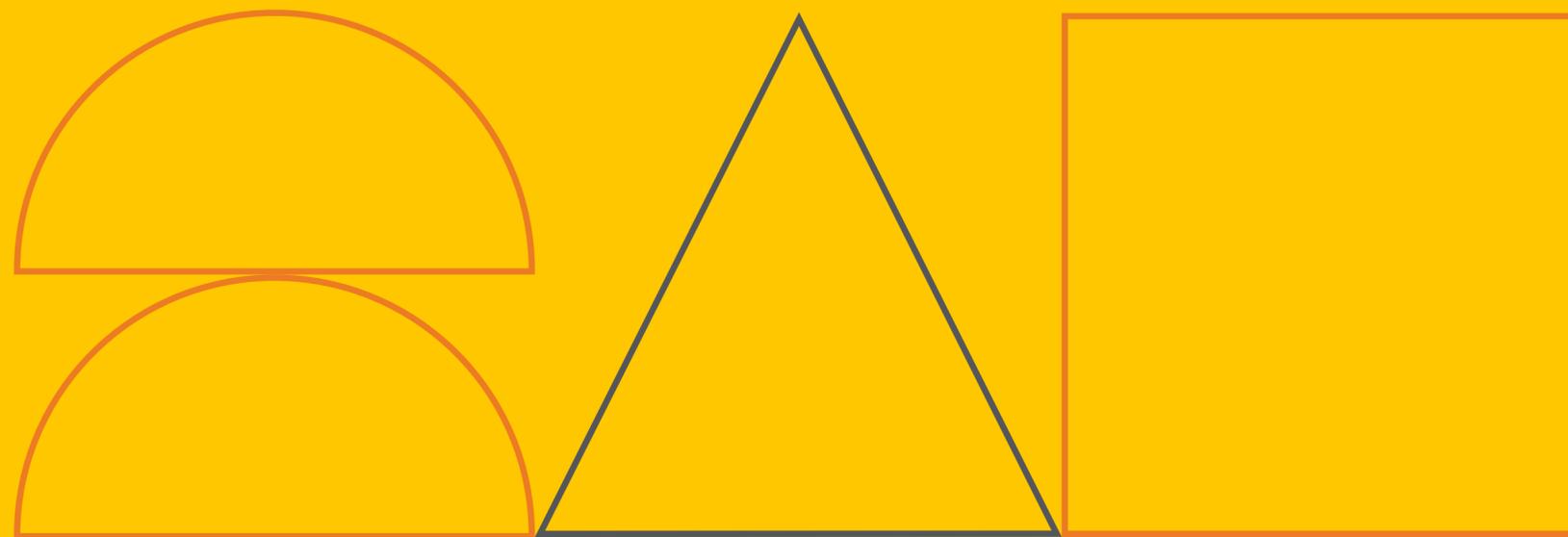
Regional and municipal authorities are often unaware of the full extent to which their powers enable them to bring about change. Conducting internal reviews of the powers they have and the roles they can play can offer combined authorities new ways of shaping markets and directing innovation.

### Find new and creative ways of aligning disciplines and cultivate a diversity of skills and capabilities.

To effectively flesh out and govern missions, sectors and disciplines must be coordinated in new ways. GMCA's challenge groups, for example, were thought of as common platforms that can bring together different actors and groups. In doing so, rather than remaining siloed, different domains were brought to the same table. Furthermore, GMCA cultivated the necessary skills and capabilities required to govern these challenge groups in an effective way.

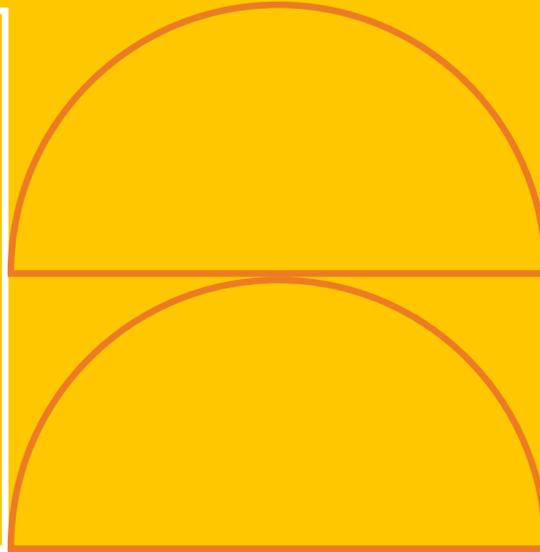
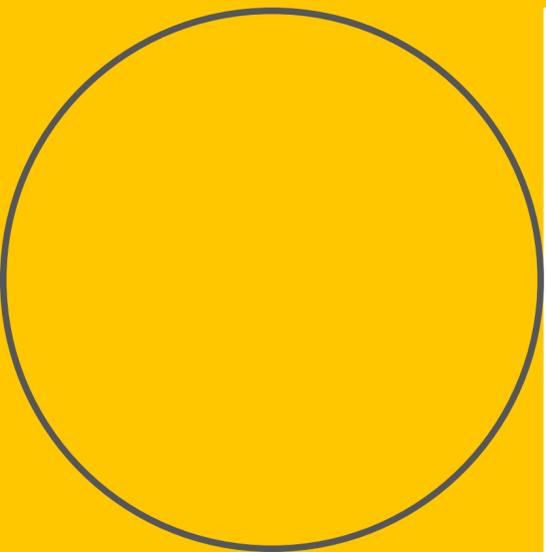
### Be bold and ambitious in the direction and targets you set.

Bold and ambitious targets not only offer direction and incentivise change, they can also be very popular from a political standpoint. Since 2017, using the carbon-neutral mission as one of his cornerstone policies, Andy Burnham has shown municipal, regional and national leaders around the UK that offering an inclusive and sustainable alternative vision for the future can mobilise political support. The 2021 GMCA municipal elections are proof of this: while Labour heartlands fell into the hands of the Conservatives, Burnham increased his vote share from 63% in 2017 to 68% in 2021.



Case story 5

# MISSIONS VALÈNCIA 2030: CONSENSUS BUILDING



## Case story 5

### Missions València 2030: consensus-building

#### What is Missions València 2030 and what are the drivers of this story?

In 2020, the European Commission acknowledged València as one of the most innovative cities in Europe. This recognition was in large part due to *Missions València 2030*, an Apollo-inspired commitment made by the city in 2019 to contribute to the Sustainable Development Goals and to improve the quality of life for its citizens. Driven by the *European Union's Horizon Europe (2021-2027)* programme and by its recognition of its own innovation potential, this commitment saw the city of València adopt a mission-oriented approach to innovation.

#### Which missions are being pursued?

València ratified the first of its six missions in February 2021. The mission that **'At least three districts in València become climate neutral by 2030 for and by the citizens'** strengthened the city's pledge to be a fully climate-neutral city by 2050. Five remaining missions are expected to be ratified by the end of 2021.

#### How has IIPP contributed to this work?

IIPP's work around missions has set the theoretical and intellectual frame for this programme. Joan Ribó, the mayor of València since 2015, was inspired by the work of Professor Mariana Mazzucato and also wanted to take advantage of the European Union's missions programme. The Missions València team are active, participating MOIN members and have contributed to MOIN events throughout 2021.

## What is the context for Missions València 2030?

València is Spain's third-largest city and 83% of the city's residents work in the service economy. As such, the COVID pandemic has hit the city hard, especially its young people: about 25% of employees between the ages

of 16 and 25 have been furloughed and an additional 25% are working on part-time contracts. València's municipal government, however, wants to use innovation to build a strong post-COVID recovery. In evaluating its former approaches to innovation projects, the city collected a number of learnings to guide this process. For example, the city found that former approaches to innovation in València saw limited citizen participation, lacked clear direction and were heavily siloed.

Each of these deficiencies could be solved using a mission-oriented approach to innovation. Practically speaking, a number of factors were important for València in adopting a missions approach. First, Joan Ribó, the city's mayor since 2015, sought to take advantage of the EU's Horizon Europe 2021-2027 programme, of which missions occupy a central role. Indeed, he was inspired by the ideas of Mariana Mazzucato and her work with

Carlos Moedas, while he was Research, Science and Innovation Commissioner at the European Commission. Second, València's municipal government recognised that it could tap into its strong existing foundations. Its universities, technological institutes, innovation ecosystems, and talent pool were already there, they just required a direction and framework. As a result, in 2019 Missions València 2030 was launched.

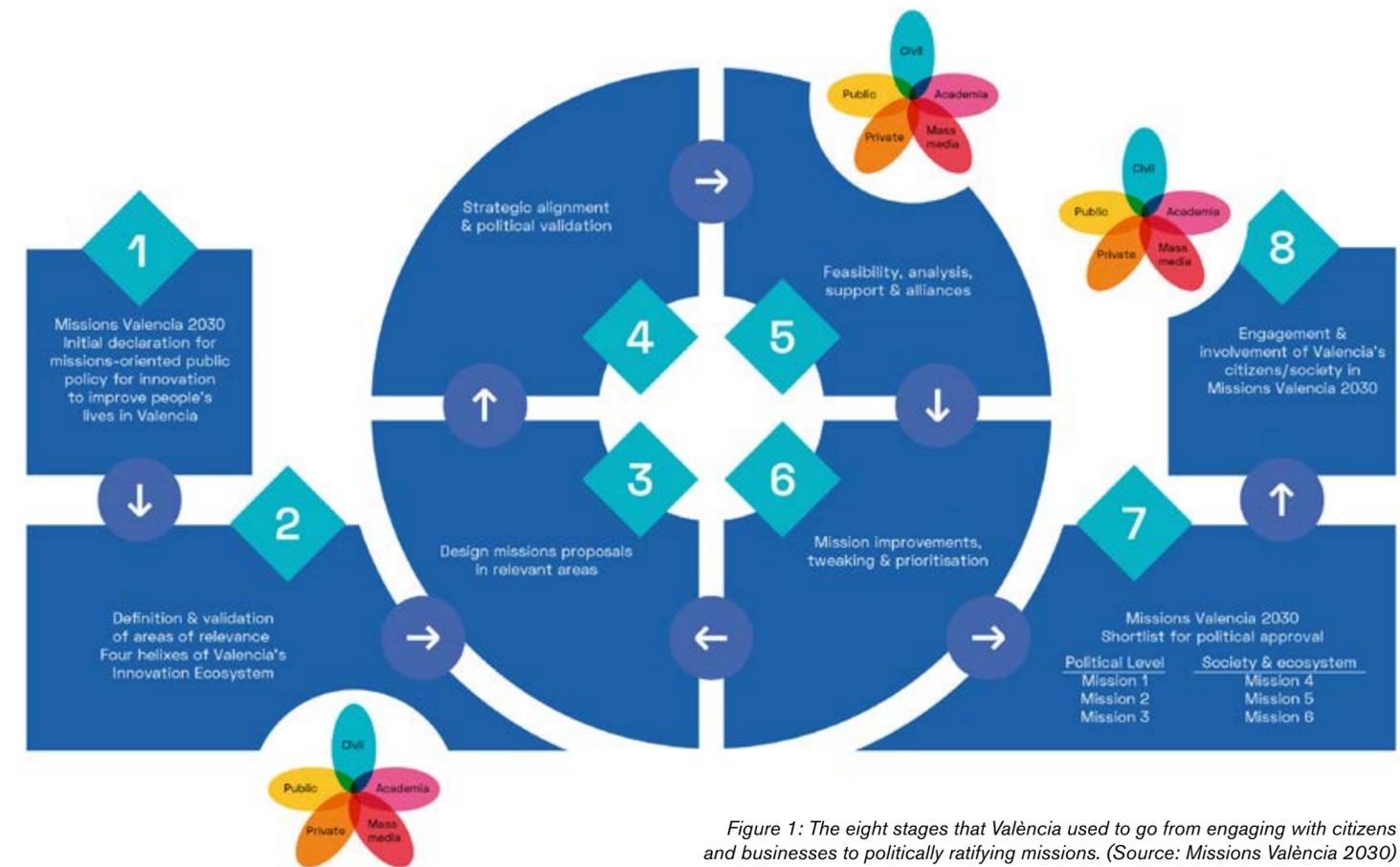


Figure 1: The eight stages that València used to go from engaging with citizens and businesses to politically ratifying missions. (Source: Missions València 2030)

### What approach did Missions València 2030 take?

Mission València 2030's approach consisted of eight key stages (see Figure 1). First, In March 2019, the València City Council's Local Government Board approved a proposal which would serve as a preliminary framework document for the Mission València 2030 initiative. The aim of this document was to support the City Council in conducting studies and collecting information. This stage looked at what organisational changes València's City Council would have to make to drive a mission-oriented approach to innovation.

The second stage, from April to September 2019, saw a number of workshops and dialogues held with civil society, academia and businesses to identify and co-create the key areas for the missions to focus on. This stage helped to deepen understanding of València's need for change. As a result of this, 12 areas of focus were chosen and organised in the form of four city models that València could strive towards: (1) Healthy City, (2) Shared City, (3) Entrepreneurial City, and (4) Sustainable City (see Figure 2). In parallel, the European Commission also defined five areas of relevance for European missions that have been added to the final set of areas on which the city's missions are focussed.

In stages three to six, València's mission team built strategic partnerships around these areas of focus: until June 2020, over 50 interviews and meetings were held with more than 600 people involved. Moreover, València's municipal government also worked diligently to gather political support for the initiative. This ultimately paid off when, in May 2020, the city's local government

and its main opposition parties voted heavily in favour of adopting Mission València 2030, with 31 out of 33 votes cast in favour of the project, making Missions València 2030 a decade-long governance model for the city's innovation activities.

Stages seven and eight, which are currently underway, intend to draft and legislate a repertoire of six missions around selected areas of importance. It is worth underscoring the political decision to draft three missions through the political sphere (as long as there is a broad consensus between government and opposition) and another three missions through participatory selection processes involving the citizens of València, which are scheduled to be chosen in the last quarter of 2021.

One mission has been chosen already, with the remaining five expected to be ratified by the end of 2021. Once the missions collect political support, specific research and innovation projects, as well as specified milestones and timelines, are expected to be developed in support of these missions.

In parallel to the mission selection process, Missions València 2030 also includes a process of organisational innovation to refocus efforts, build capacities and make the city of València and its City Council a true testing ground for mission-oriented innovation.

Innovation Governance	<ol style="list-style-type: none"> <li>1. Incorporate a strategic and transversal vision for mission-oriented innovation in Valencia</li> <li>2. Promote innovation in Valencia through public procurement</li> <li>3. Observe trends and use big data and AI to promote ethics and humanism in a smart environment</li> </ol>
Create an Innovative Profile & Culture	<ol style="list-style-type: none"> <li>4. Promote the training of local people for innovation and creativity</li> <li>5. Boost creativity and research in Valencia and attract talent to the city</li> <li>6. Give recognition to and reward social and urban innovation</li> </ol>
Boost Social & Urban Innovation	<ol style="list-style-type: none"> <li>7. Promote the development of urban and social innovation projects in Valencia</li> <li>8. Create spaces for experimentation in Valencia: Living Labs and Sand Boxes</li> <li>9. Boost Las Naves as an urban innovation centre in the city of Valencia</li> </ol>
Strengthen Alliance & Networks	<ol style="list-style-type: none"> <li>10. Promote alliances between and within the four helixes of Valencia</li> <li>11. Activate Valencia's alliances and local, national and international networks for innovation</li> </ol>
Communicate the Value of Innovation	<ol style="list-style-type: none"> <li>12. Communicate the value of innovation in Valencia to the community</li> </ol>

Figure 2: Strategies, commitments and innovation actions for organisational transformation (Source: Missions València 2030)

This transformation is driven by five strategies, 12 commitments and 80 innovation activities that are currently being deployed, with 70% of the activities already initiated and aiming for completion before 2023. The key aspects of this transformation include creating a cross-sectoral and open governance model for innovation; boosting public procurement of innovation;

the creation of an innovative culture; the promotion of mission-oriented innovation projects; the constitution of València as a living lab with sandboxes where the ecosystem can test its innovations; the strengthening of local, national and international alliances for greater involvement; and a radical commitment to communicating the social value of innovation (see Figure 3).

### A quintuple helix approach to missions

With the aim of mobilising innovation projects from the entire ecosystem to build a so-called mission constellation of R&I projects (see Figure 3), a membership programme, Missions València 2030 Ambassador Organisations, has been recently launched. More than 20 organisations (universities, private sector and civil society) have already joined the initiative. An active communications campaign has been designed to attract citizens, entrepreneurs and businesses to contribute to València's missions.

Missions Constellation of R&I Projects	
<b>Cities - Missions Areas</b>	
Healthy City	
Sustainable City	
Shared City	
Entrepreneurial City	
<b>Five Helixes - R&amp;I Projects</b>	
Academy, Research Centre & Tech Institutes	
Civil Society & Citizenship	
Private Sector & Corporations	
Multilevel Public Sector	
Mass Media	
<b>Sustainable Development Goals (United Nations)</b>	
1	No poverty
2	Zero hunger
3	Good health & well-being
4	Quality education
5	Gender equality
6	Clean water & sanitation
7	Affordable & clean energy
8	Decent work & economic growth
9	Industry, innovation & infrastructure
10	Reduced inequalities
11	Sustainable cities & communities
12	Responsible consumption & production
13	Climate action
14	Life below water
15	Life on land
16	Peace, justice & strong institutions
17	Partnerships for the goals

Missions València 2030 has focused heavily on involving all five helixes of the innovation ecosystem: private sector, public sector, universities, civil society and media. València's City Council recognises that these multi-sectoral alliances will help the government to better understand the needs of, and reach, citizens. València's mission ambassador programme, as well as frameworks to align the different missions, such as Public Innovation Grants (€1 million per year) and the Public Procurement of Innovation (commitment to reach €5 million annually in the period 2021-2024), are intended to facilitate the engagement of different stakeholders from throughout the city's innovation ecosystem.

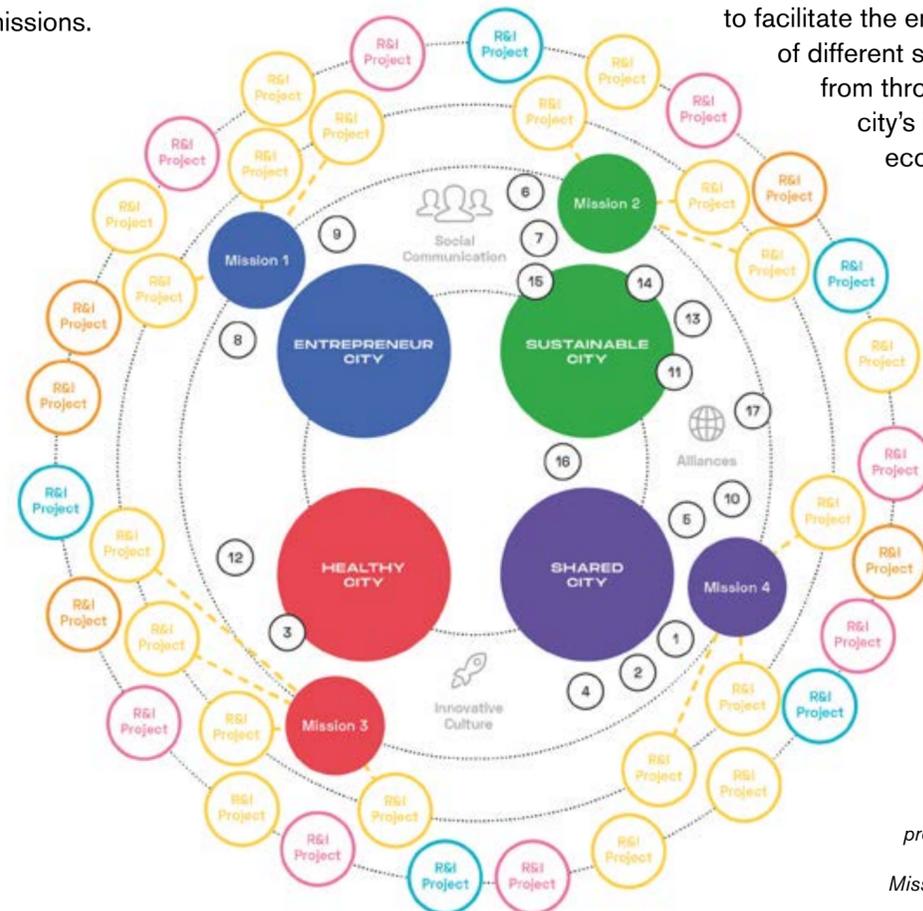


Figure 3: A mission constellation of R&I projects from the entire ecosystem. (Source: Missions València 2030)

### What solutions are emerging from the València missions approach?

Around the world, cities cause no less than 72% of total greenhouse gas emissions and most forecasts show that by 2050 85% of Europeans will be living in cities. The ratification of the first of València's six missions in February 2021, therefore, was cause for celebration. The mission strengthened the city's pledge to be a fully climate-neutral city by 2050 and for 'At least three districts in València become climate neutral by 2030 by and for the citizens.' In its ratification by the City Council, the initiative achieved broad political support from both sides of the political aisle.

In July 2021, València launched a €100,000 innovation challenge prize to meet this mission.

Importantly, València's climate-neutral mission, which is part of its Sustainable City area of focus, falls in line with the European Commission's own mission, adopted in September 2020, to achieve, '100 climate-neutral cities [in Europe] by 2030 by and for the citizens.' The EU's umbrella approach has led to accelerated cooperation between different cities in Europe. In January 2021, for example, an initiative led by Ana Hidalgo, the mayor of Paris, saw Joan Ribó sign a declaration that reinstated València's ambition to limit global warming to 1.5

degrees. This work speaks to Mission València 2030's success in strategically aligning itself with broader existing frameworks, including the Sustainable Development Goals (SDGs) and the Urban Strategy València 2030, enabling coordination on the municipal, continental and international level (see Figure 4).



Figure 4: Missions València 2030 is strategically aligned with other existing frameworks. (Source: Missions València 2030)

### What challenges does València face in implementing the missions?

Two challenges stand front and centre as València drives its missions forward. First, while the city has shown a remarkable propensity to achieve cross-party and multi-level political support for its missions approach, this has slightly slowed down the process. Given the city's ambitious targets, the slower speed of adoption may risk the achievement of the missions. What is more, political compromise can lead to the dilution of the missions themselves. Having said that, the focus on building robust social and political consensus has thus far justified these risks. Second, beyond presenting the quintuple helix model, València's mission team has not yet developed a fleshed out governance model that can coordinate and sustain the missions. Building cross-sectoral and cross-disciplinary links will be difficult, especially given the fact that existing institutional structures are organised in a siloed and sectoral way. More emphasis in this area will, therefore, be required.

### What has the Missions València 2030 team learned so far?

#### **Develop an effective communications strategy and tell a story that resonates with citizens and communities.**

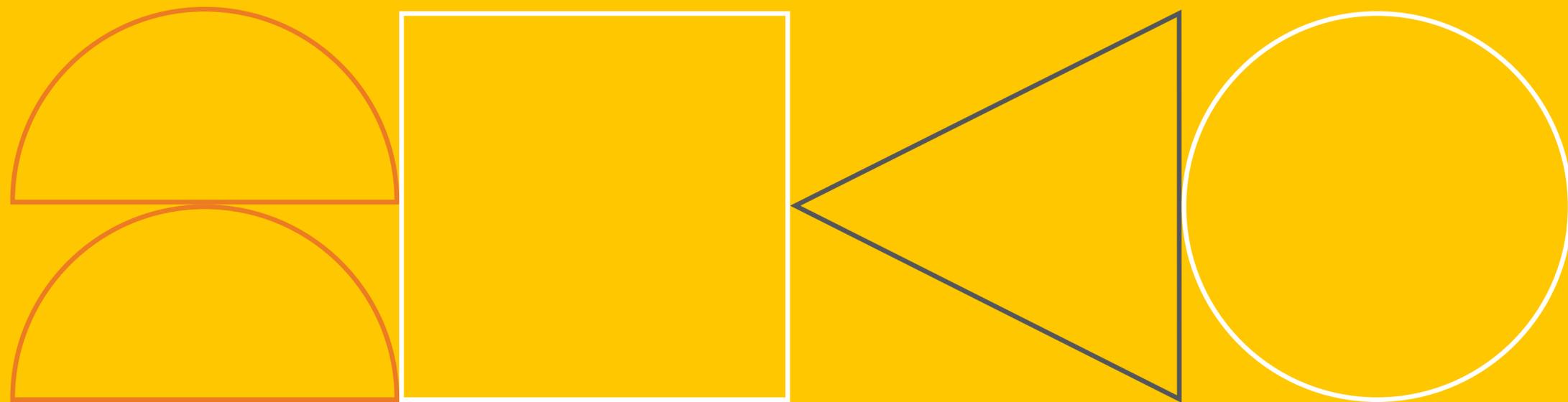
Developing a narrative that bridges current innovation efforts with the past and sets out a new vision for the future is crucial to collecting the endorsements of communities and citizens. Missions València 2030 did just this, cultivating a number of communications campaigns that linked the city's innovation efforts with its own history and with the Apollo programme of the 1960s. In April, 2021, for example, the team in València launched a social media campaign to recruit ambassador organisations, aiming to attract support and engagement from the city's entire innovation ecosystem.

#### **Strategically align your missions to broader existing frameworks.**

Missions València 2030 did well to integrate its missions approach within larger municipal, continental and international frameworks. Connecting the initiative to the SDGs, for example, can offer international purpose and direction to localised action. Furthermore, by aligning the missions to the Urban Strategy València 2030 they are likely to benefit from cross-disciplinary and cross-sectoral municipal coordination.

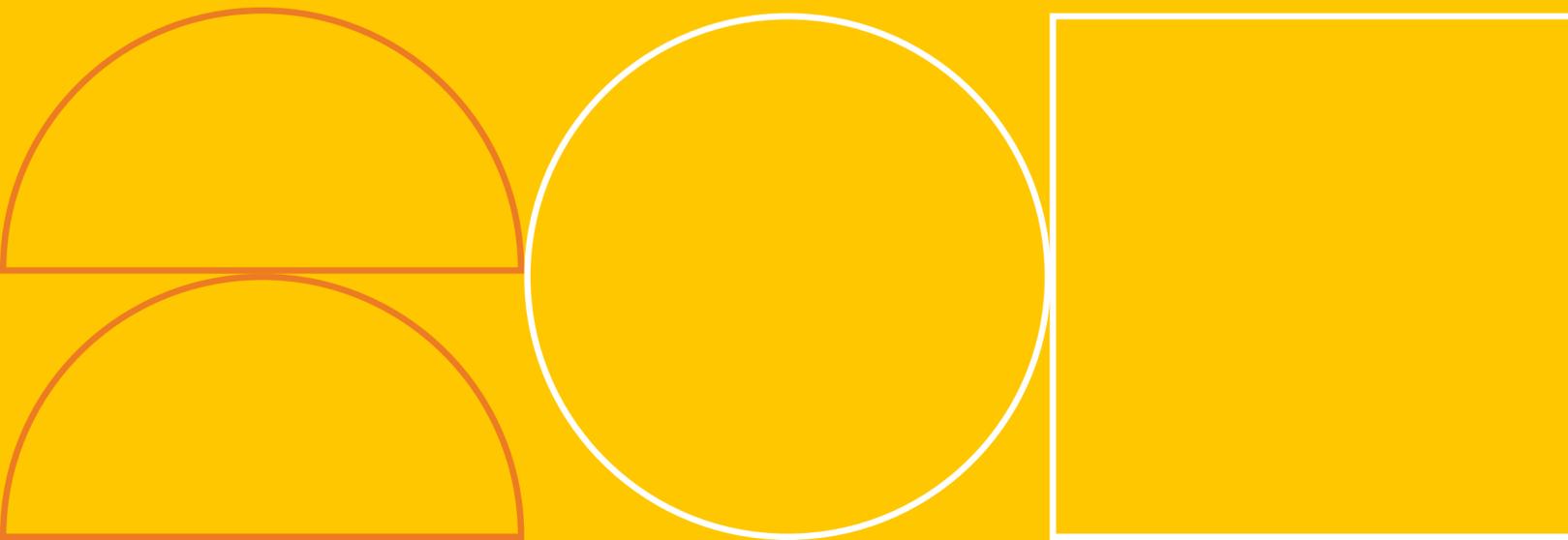
#### **Broad political support for missions can increase the resilience of your missions.**

València's team has placed immense emphasis on gathering wide-ranging political consensus, both from citizens and from members of the City Council. In doing so, Missions València 2030 is more resilient and robustly protected against the political variations in power that exist on the municipal level. As such, the missions that are agreed upon in 2021 are more likely to be carried forward to 2030 by future elected politicians.



Case story 6

# THE CLYDE MISSION'S APPROACH TO SUSTAINABLE AND INCLUSIVE GROWTH



## Case story 6

### The Clyde Mission's approach to sustainable and inclusive growth

#### What is the Clyde Mission and what are the drivers of this story?

Historically, the River Clyde has been a key driver of economic growth for Scotland. Today, however, its banks are scattered with vacant and derelict land, and its communities are facing the rising tides of climate change. With the growing recognition that these communities were in need of regeneration, and with the determined vision set out by the then Cabinet Secretary, the Clyde Mission was established: a national, place-based mission to make the Clyde an engine of sustainable and inclusive growth for the Glasgow region and for Scotland.

#### What mission is the Clyde Mission pursuing?

The overarching grand challenge of the Clyde team is to: 'Make the Clyde an engine of sustainable and inclusive growth for the city, the region and for Scotland!'

#### How has IIPP contributed to this work?

The Clyde Mission team are active participating members of MOIN. They regularly attend MOIN events. In 2020 and 2021 they hosted student placement teams from IIPP's Master in Public Administration. The student teams worked on the challenges of implementing missions and both placements were considered very successful.

## What is the context for the Clyde Mission programme?

The Clyde has been, and continues to be, a mainstay in Glasgow and Scotland's industrial and economic development. In the 1920s and 1930s, a quarter of all British ships were built on the Clyde, supporting the

region's and the Empire's economic prosperity. As of early 2020, more than 170,000 people still lived within 500 metres of one or other river bank and there were over 8,000 companies supporting around 138,000 jobs, which represented no less than 5% of Scotland's entire labour force. Climate change, however, is beginning to impact these communities. A 2018 technical report from [Climate Ready Clyde](#) identified coastal flooding and erosion, damage to infrastructure due to storms and extreme heat, and a depleting soil stock among the most pressing risks to the region.



Figure 1: The River Clyde has historically been a key driver of economic growth in Scotland. The Clyde Mission will make use of derelict land and protect communities from the impacts of climate change. (Source: Clyde Mission Programme)

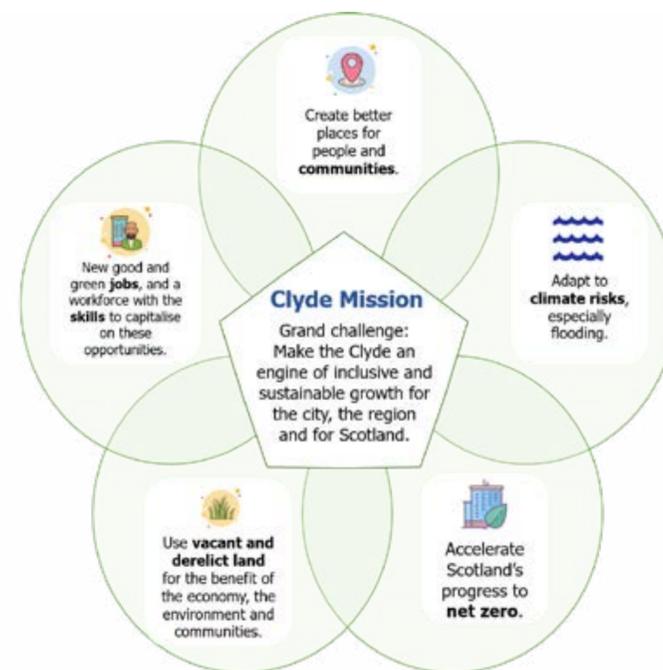
What is more, some Clyde communities are subject to high proportions of deprivation. Indeed, around a quarter of the local population live within the 15% most deprived areas in Scotland. At the same time, regions near the Clyde are severely under-utilised and there are over 250 sites of vacant and derelict land covering over 400 hectares. These high levels of deprivation coupled with lots of vacant land highlight an exciting opportunity for rejuvenation and regeneration. To take advantage of this opportunity, the Scottish Government launched the Clyde Mission.

### What approach did the Clyde Mission take?

Adopting a mission-oriented approach for the Clyde region was very much a top-down affair. In 2019, Richard Rollison created a division within the Scottish Government's Directorate for Economic Development (DED) and championed a missions approach which saw the rejuvenation of Clyde-side communities as a strategic objective, collecting high-level political buy-in from ministers and regional authorities. The Cabinet Secretary at the time (there have since been ministerial moves and an election) agreed on the grand challenge to **'Make the Clyde an engine of sustainable and inclusive growth for the city, the region and for Scotland!'** While the direction-setting was top-down, defining the missions was a participative process. Through workshops with multiple stakeholders, including local authorities, third sector interfaces, businesses and academics,

five mission areas were articulated:

1. Create new, good and green jobs and a workforce with the skills to secure those jobs.
2. Use vacant and derelict land for the benefit of the economy, the environment and communities.
3. Adapt to climate risks, especially flooding.
4. Accelerate Scotland's progress to net zero.
5. Use the river to create better places for people and communities.



Responding to the pandemic, the team were able to secure over £11 million of capital funding to help act as an economic stimulus for the area. The team sought to support the economy of the area by creating a Clyde Mission Fund, launched in November 2020, with the aim of supporting capital projects that would deliver economic stimulus and jobs to communities within 500 metres on either side of the Clyde. Importantly, conditions were set on the funding, with projects having to support key Scottish Government outcomes as defined in the National Performance Framework.

A panel of experts, including representatives from a number of different bodies, such as the Scottish Futures Trust, Scottish Enterprise and the Clyde Mission, evaluated the funding proposals and by March 2021 had secured additional funding, taking the total to over £13 million, and distributed funding to 13 specific projects. The Clyde Mission team worked closely with the different projects to co-shape their direction, so they aligned with one or more of the five missions, as well as with other key policy areas, such as community wealth-building.

### What solutions are emerging from the Clyde missions approach?

Although each of the 13 projects are aligned with the Clyde-based missions, one stands out in particular: the Scottish Marine Technology Park in West Dunbartonshire, northwest of Glasgow. West Dunbartonshire Council is working with a private sector partner (Malin Marine) and using £1.98 million in funding to support the development of a Scottish Marine Technology Park (SMTP), which will regenerate a contaminated area of vacant land by building infrastructure and supporting the region's maritime community. Not only does this

initiative take advantage of unused derelict land, but it also supports local residents by offering high-paying engineering jobs, with the site owners actively reaching out to local communities to generate interest in these high-value careers. Moreover, investing in these formerly vacant areas increases the likelihood of other plots of land in the region being developed, representing a 'first domino' of sorts. With the mission to innovatively create new sustainable high-quality, green jobs in the Scottish maritime manufacturing and technology sector and deliver wealth creation into the local communities of the Clyde, the park will place particular focus on green technologies for the shipping and energy markets.



Figure 3: The Scottish Marine Technology Park (SMTP) lies Northwest from Glasgow, up the River Clyde. The Clyde Mission team hopes the establishment of the SMTP will have a domino effect in the area. (Source Clyde Mission Programme)

It is expected that the projects being financed by the Clyde Mission Fund will **support the creation of 386 jobs** in the short term, and more than **500 jobs** and **29 apprenticeships** in the longer term. Furthermore, it is anticipated that these projects will unlock additional investment of over **£14.5 million**, suggesting that the Clyde Mission has already begun to crowd in investment to Clydeside.

### What challenges does the Clyde Mission face in implementing the missions?

There are a number of challenges the Clyde Mission will have to consider going forward. First, **aligning the Clyde Mission and its future areas of work with existing structures** (such as a Regional Economic Partnership in Glasgow City Region), while not being subsumed by them, will be crucial. Second, the cross-sectoral and challenge-driven focus of the Clyde Mission means its work does not align with existing evaluation methods and metrics, requiring the team to **develop tailored and bespoke measurement collections**. Lastly, the regions flanking the Clyde are deeply diverse and characterised by different communities and dynamics. This means the Clyde Mission's projects and initiatives must engage with the diversity and complexity of the specific areas.

The Clyde Mission Fund is, however, just part of the story. The team work intensively with partners and have also commissioned bespoke research into opportunities around maritime engineering, the innovative use of vacant and derelict land, and an energy masterplan (with funded feasibility studies) to support low carbon energy solutions, as well as conducting a public call for ideas to engage the wider community in designing the future of the region. In June 2021 a high-level strategy board was set up, alongside five mission sub-groups, to govern the respective mission areas.

### What have the Clyde Mission's Team learned so far?

#### Use your political capital to set a clear, long-term direction.

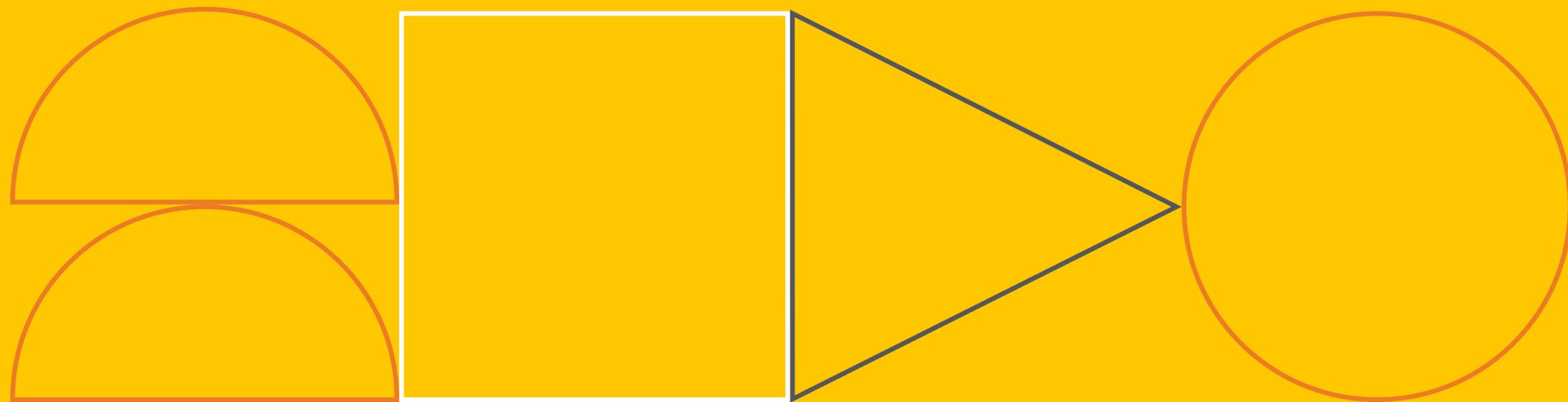
Sometimes, in the face of strong institutional inertia, missions need to be set in a top-down way. Richard Rollison used his influential position in the Directorate for Economic Development to collect high-level political buy-in for a long-term and ambitious vision for the Clyde, a key driver of Scottish economic growth. A successful mission-oriented approach is, therefore, dependent on brave and determined voices that can chart a new course for cities, regions and countries.

#### Make funding conditional and co-shape the projects you finance.

To effectively direct innovation and change, funding must be made conditional on sustainable and inclusive outcomes. Constrained by temporal pressures, the Clyde Mission made financing conditional on projects being aligned with Scottish Government's National Performance Framework, but there was not time to fully work with project owners to co-shape their projects. For such funding initiatives, therefore, bigger lead times and a more hands-on approach can support the ability to more fully shape markets and direct innovation at the relevant mission area.

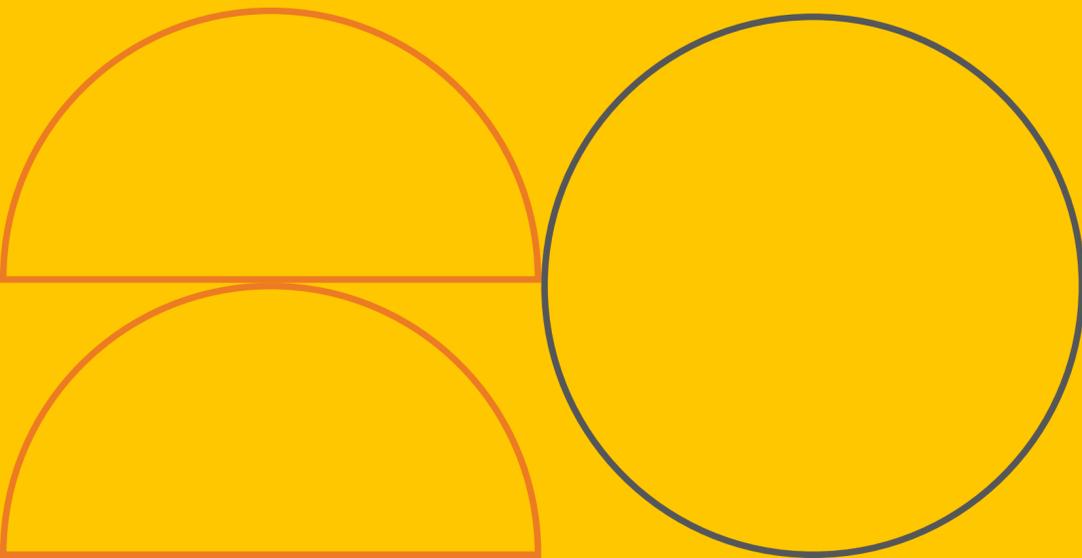
#### Many people don't understand missions, so explain what they are.

Although mission-oriented approaches to innovation are being applied in a host of different contexts, the concept of missions is not yet widely understood and it is easy for the term to be thrown around, devalued and interpreted in different ways by different people. To garner support for their agenda and to develop a common definition of missions, the Clyde Mission team has had to do as much, if not more, educating as funding. For example, workshops on mission-oriented innovation have been held with the DED Senior Management Team and IIPP members joined the first meeting of the Clyde Mission Strategy Group to further explain and crystallise the concept. In doing so, the Clyde Mission has begun to embed the missions approach in the Scottish Government.



Case story 7

# CAMDEN'S CITIZEN-CENTRIC APPROACH TO MISSIONS



## Case story 7

### Camden's citizen-centric approach to missions

#### What is the Camden Renewal Commission and what are the drivers of this story?

Camden is a thriving London hub of business and culture, but also has deep social, economic and health inequalities. However, Camden 2025, the vision for the borough, sets out an ambition and set of priorities for Camden to be a place where everyone has a chance to succeed and no-one is left behind. The Camden Renewal Commission was convened in September 2020 to bring together people from across Camden's community, and through its four missions, the Commission has put building an inclusive, healthy and sustainable vision at the heart of the borough's long-term ambition.

#### What mission is Camden pursuing?

1. By 2030, those holding positions of power in Camden are as diverse as the community
2. By 2025, every young person has access to economic opportunity that enables them to be safe and secure
3. By 2030, everyone eats well every day with nutritious, affordable, sustainable food
4. By 2030, Camden's estates and streets are creative and sustainable.

#### How has IIPP contributed to this work?

The Camden Renewal Commission, tasked in 2020 with the transformation of the London borough of Camden, is co-chaired by Professor Mariana Mazzucato and is supported by 15 commissioners. An IIPP research team also supports the delivery of the missions and is learning from Camden's implementation approach through a series of knowledge exchange workshops with the council and its key stakeholders. Camden Council are active MOIN members; council representatives have spoken of their work at MOIN events and they hosted an IIPP MPA student placement team in 2020.

## What is the context for Camden Council's missions programme?

Camden is a borough marked by contrasts, contributing no less than 1.2% of the UK's entire GDP, while 43% of its children grow up in poverty.

Indeed, the area boasts the third highest number of businesses of any region in the country, including Google and Facebook, and the square kilometre around Kings Cross contributes more to UK GDP than Manchester and Birmingham combined. This GDP contribution is notable, but only part of Camden's 'richness'. Camden is home to citizens who speak over 130 languages and it is a borough with a radical history of civic action and people-powered movements.

Despite these strengths, the child poverty rate is 7% higher than that of London as a whole and one in four Camden children claim free school meals. What is more, while Camden does have lower gender and disability employment gaps, it has a much higher ethnicity employment gap than the UK and London average (see Figure 1).

The borough has been working to address these challenges. Developed with the community through a citizen assembly, public events and resident surveys, Camden 2025 sets out a vision for Camden to be a borough where everyone has a chance to succeed and where nobody gets left behind. Camden 2025 and the Council's response have been developed — and are being delivered on — in the spirit of shared endeavour, recognising that everyone who lives and works in Camden has a role to play in making it the unique place it is.

Since Camden 2025 was written, Camden has declared a climate emergency and through a citizen assembly set a bold and ambitious climate action plan to achieve net-zero emissions by 2030.

The COVID pandemic and the Black Lives Matter movement have also given the ambition of Camden 2025 to address inequality more urgency, and shown what can be achieved when people come together with a shared purpose.

In September 2020, Camden Council and IIPP convened the Camden Renewal Commission to bring this spirit of shared endeavour into Camden's approach to renewal beyond the pandemic and adopt a mission-oriented approach.



Figure 1: Camden has an ethnicity employment gap that is much higher than the London and UK average.

### What approach did Camden Council take?

Since September 2020, the Camden Renewal Commission has been co-chaired by Professor Mariana Mazzucato and the Leader of the Council, Councillor Georgia Gould, with the overarching aim to reduce inequality and create a fairer, healthy and sustainable local economy. The commission has brought together a diverse group of people from across Camden's community, voluntary, business and academic sectors to look beyond the pandemic and think about how Camden could not just recover from the crisis, but to renew and build a more equal, sustainable borough. There are 15 commissioners supporting this process, including representatives from Camden's anchor institutions such as Christine Foster from the Alan Turing Institute (national institute for data science and artificial intelligence), those working in key areas of housing and urban planning such as Pooja Agrawal from Public Practice, and cultural voices such as that of George the Poet, who uses spoken word art to explore social and economic currents that affect London's communities.

Inspired by community stories and informed by evidence, both of which reflect on local people's lived experience of the pandemic, and with the desire to help inspire borough-wide action, the Renewal Commission has developed, and continues to test with wider communities, four renewal missions for Camden:

1. By 2030, those holding positions of power in Camden are as diverse as its community
2. By 2025, every young person has access to economic opportunity that enables them to be safe and secure

3. By 2030, everyone eats well every day with nutritious, affordable, sustainable food.
4. By 2030, Camden's estates and streets are creative and sustainable.

Camden is experimenting with mission road-mapping and one of the strengths of a missions-based approach is the ability to focus on the different levers for change that can be used to create change. The Renewal Commission has looked at the levers for change in Camden, from providing services to residents and shaping public health, to planning, procurement and public investment. The Commission is also exploring new ways in which Camden Council could raise funds for renewal, for example through community wealth funds, and has considered alternative forms of ownership, such as co-operatives or public-commons partnerships.

Camden's work on missions is still in its early days and the next step will be to experiment with collaborative mission projects that can support each of the respective missions (see Figure 2).

### What solutions are emerging from Camden's missions approach?

Across the missions, a key area of focus is enabling the community to lead and to seed experimentation across the borough in pursuit of the missions. For example, in February 2021, Small Green Shoots and Fitzrovia Youth in Action organised a summit that brought together young people to talk about what the 'youth mission' means to them.

Camden Council has also partnered with a participatory grant-making organisation in Camden, Camden Giving, to make available a We Make Camden kit of funding, support and networking to take forward their ideas in relation to the missions. Camden Giving currently has £145,000 available for such grants in 2021. The decision about who receives funding will be made by a panel of

Camden citizens. The council is also building on the early partnerships developed through the commission to take forward activity to achieve the missions. Ultimately, the aim is that community leaders, private sector organisations, anchor institutions and citizens themselves drive forward and co-own the missions with the ultimate aim of cultivating deep and sustainable roots within Camden.

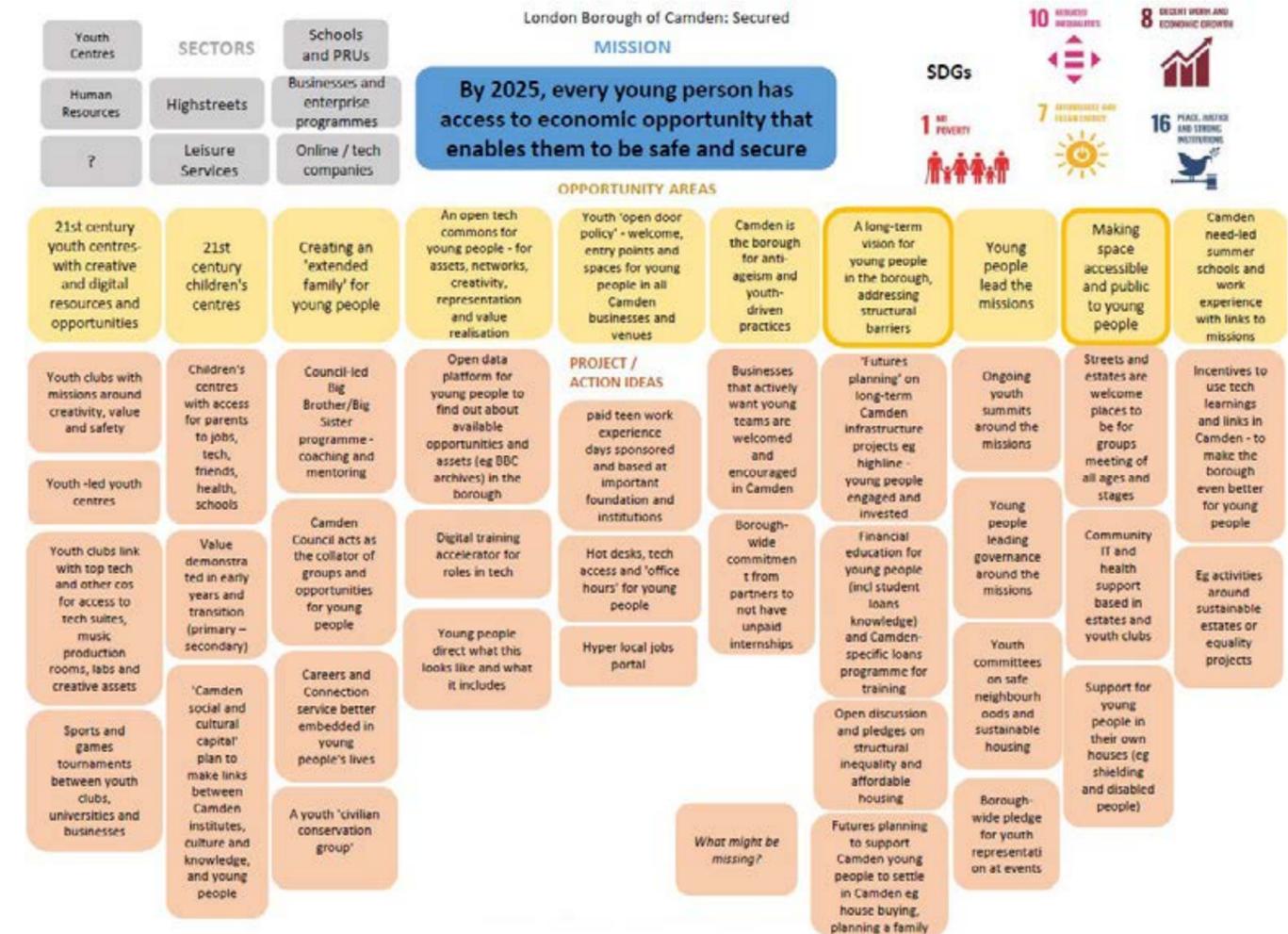


Figure 2: A hypothetical set of projects that could be implemented to support Camden's youth mission. (Source: Camden Council)

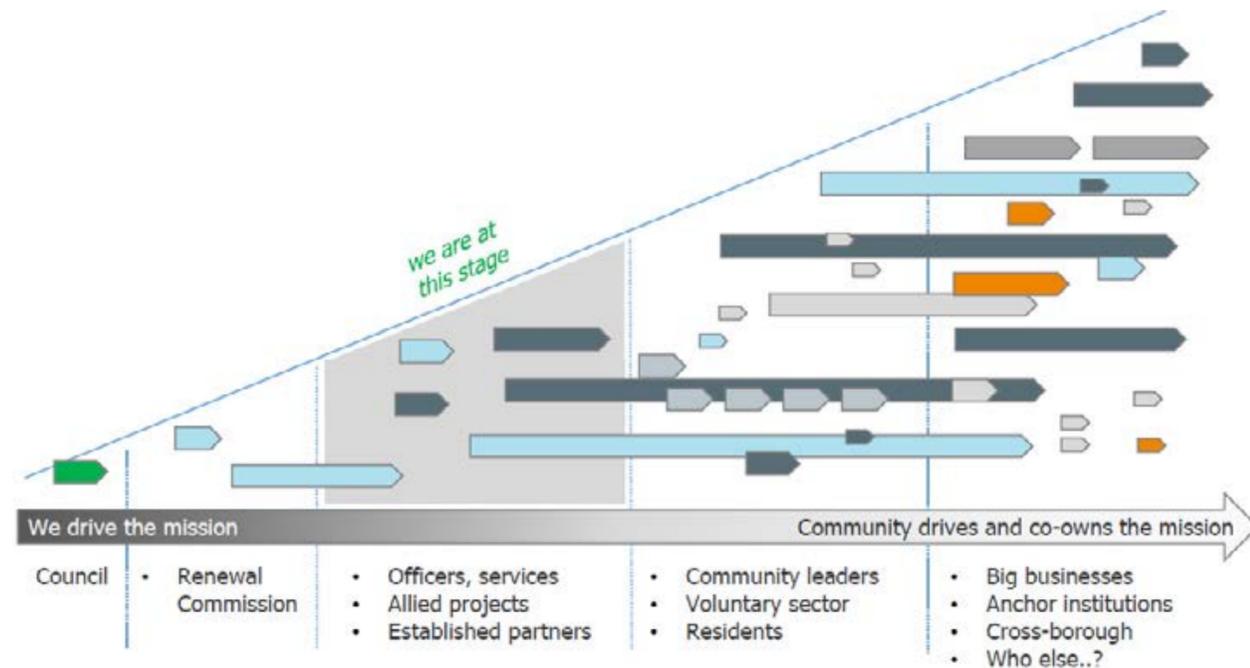


Figure 3: The Renewal Commission's community-driven and co-ownership approach. (Source: Camden Council)

### What has Camden Council learned so far?

#### Build on, and give structure to, existing momentum for change.

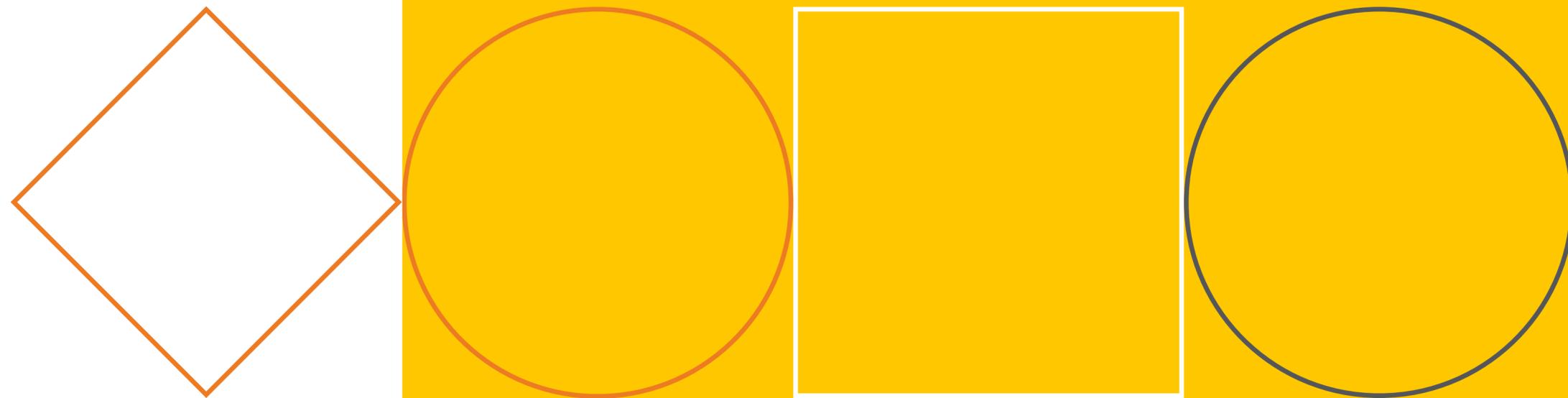
Camden's calls for change as a result of the COVID pandemic were not unique, but the borough did effectively build on the momentum that had been developing since the Camden 2025 action plan was published in 2019 and that was demonstrated in the collective response to the pandemic. What is more, the Renewal Commission used the mission approach to offer a practical framework through which to understand the changes that Camden's citizens were calling for.

#### Work with local communities to co-own and drive missions.

The approach to localised missions should be designed in such a way that centralised political bodies eventually let go and relinquish control. Camden Council, in initially creating the Renewal Commission and then working with local communities to co-create and drive the missions themselves, has done just this. As a result, missions have been put in the hands of Camden's communities and businesses, and are more resilient to the ebbs and flows of political cycles.

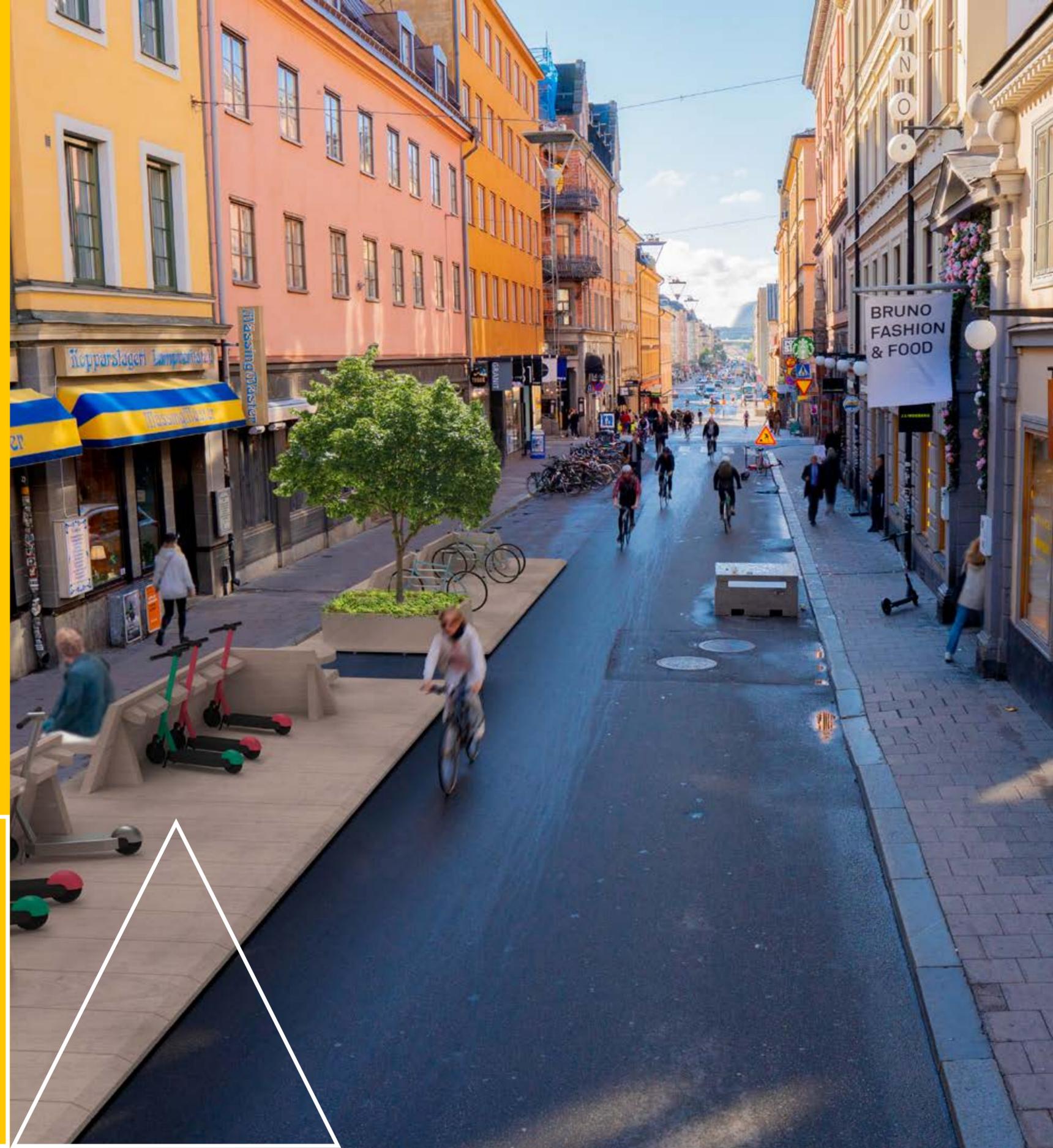
### What challenges does Camden Council face in implementing the missions?

Going forward, Camden Council must keep two risks in mind: first, as is the case for all missions, institutional support for such locally and municipally based initiatives are subject to continuous political cycles. As such, the missions will need to gain deep political traction in the borough and legitimacy in the Greater London Authority and beyond. Second, the missions will require distributed ownership among Camden-based businesses and anchor institutions. As the missions come to life through early projects and activity, collaborations across a variety of strategic partners and sectors for support will be critical.



Case story 8

# VINNOVA'S MISSION TO HAVE HEALTHY, SUSTAINABLE STREETS



## Case story 8

### Vinnova's mission to have healthy, sustainable streets

#### What is Vinnova and what are the drivers of this story?

Vinnova is the Swedish government's innovation agency. Driven by the European Union's Horizon Europe mandate on mission-oriented innovation, as well as numerous national and regional policies for sustainable transformation, and with the leadership of Darja Isaksson, Director General, and Dan Hill, Director of Strategic Design, Vinnova has designed and tested new methods to stimulate innovation and apply the missions framework for not only Sweden, but also for the Nordic and European context.

#### What mission is Vinnova pursuing?

##### Vinnova is currently pursuing two missions to:

1. Ensure that every street in Sweden is healthy, sustainable and full of life by 2030
2. Ensure that every student in Sweden eats sustainable and tasty school food by 2025.

This story deals with the streets mission.

#### How has IIPP contributed to this work?

IIPP's work around missions has set the frame for all Vinnova's work. IIPP provided the theoretical and intellectual backdrop, and then Vinnova was responsible for taking this down to the ground and testing it in reality. Equally, Professor Mariana Mazzucato was instrumental in preparing the ground for missions work by delivering key speeches in Sweden and advising on Vinnova's positioning, as she is on Vinnova's international advisory board. Dan Hill led this work for Vinnova and he is also Visiting Professor of Practice at IIPP, so the synthesis between the thinking is key. Dan was able to describe and test Vinnova's work with IIPP's Master of Public Administration (MPA) in Innovation, Public Policy and Public Value students through his teaching on that course, as well as in ongoing work across IIPP.

## What is the context to Vinnova's missions programme?

Operating under the Ministry of Enterprise, Energy and Communications, Vinnova is the Swedish Government's innovation agency. As a government agency within the Swedish model, it is politically independent and can, for the most part, use its role as a technical and expert-driven agency to set its own direction within the framework set by parliament: to ensure that Sweden's innovation systems are fit for purpose in order to enable sustainable growth.

This applies to Vinnova's own culture and from 2019, with the arrival of new Director General Darja Isaksson, the organisation continued to develop from being an innovation funding agency into an innovation agency. As Dan Hill, Director of Strategic Design, notes, 'Innovation is more than funding, it's an interactive process.' As a result, the agency continued to move beyond solely funding research and innovation, and began identifying common objectives and mobilising stakeholders around them.

Sweden's government departments are relatively well-resourced, robust and politically independent. There exist a number of different levels of decision-making and responsibility. Taking mobility as an example, national agencies run transport policy and major infrastructure plans, municipal departments run policy around mobility and planning in towns and cities, while public transport is run by regional governments. Public health, which is directly affected by mobility choices in numerous ways, also sits at this regional government level, whereas

sustainability and social justice questions can sit at all levels. Together, these factors make coordinated policy decisions difficult.

While such traditional sector-based approaches allow for the efficient subdivision and management of a problem, they have perhaps emphasised 'downstream' operational management over the ability to address 'upstream' causes. This can create problems and mean opportunities are addressed in a fragmented fashion, so complexity is not engaged with in a coordinated, holistic and integrated way.

#### What approach did Vinnova take?

With their responsibility for stimulating a continual evolution of Sweden's innovation systems, Vinnova decided to pursue two mission pilots to develop a preliminary strategy to mission-oriented innovation. Aware that numerous politically agreed targets were already in place — from the UN's Sustainable Development Goals, to the Paris Climate Change Accord, to Swedish national policies for a 'fossil free welfare state' — Vinnova decided to centre its work on two mission areas: healthy sustainable mobility and healthy sustainable food. The same approach was employed for both themes and this case story concerns itself with the challenge of healthy sustainable mobility.

Vinnova's work around mobility has been deeply participative, thanks in large part to the bespoke design process for mission-oriented innovation developed by Hill and his team at the agency. The mission-design framework is a four-stage process that fuses strategic design, participative cultures and complex systems practice within the overarching framework of mission-oriented innovation.

**Stage 1: Identifying angles**

The first stage (see Figure 1) — identifying angles, or intervention or leverage points in systems language — explores different framings of the problem and opportunities within the theme, derived from in-depth interactive workshops with stakeholders, interviews and strategic dialogues, desk research and ethnographic research. These produce shared ‘system canvases’, large canvases to sketch systemic angles on the theme and a form of shared systems mapping with intent, used to identify, and build momentum for, next steps.

With the help of ‘front-line actors’, including municipal traffic planners, health researchers and micro-mobility start-up representatives, Vinnova’s mobility team identified four key intervention points (street, shop, grid and village) in the mobility system, each of which is likely to contain a clear mission, and each of which balances both demand-led and supply-side innovation, complex systems and cultures, technology and politics, and the potential for place-based systems demonstrators.

**Stage 2: Develop angles into missions and design principles**

The second stage — missions — expands on each of these clusters of intervention points and works with stakeholders to more accurately frame missions within them. Each of these angles can contain a mission, as it is unlikely that a complex mission theme can be solved from a single mission. Vinnova sees that an area, like healthy sustainable mobility, will require a portfolio of missions, just as those missions will in turn require a portfolio of projects and other activities. This co-design process with all relevant city stakeholders identifies the mission lying within these areas, as well as building a network for delivery. This enables a kind of ‘crowding-in’ of expertise and capability around a mission. It became clear after engagement with stakeholders that ‘streets’ was the angle that was of most interest to stakeholders as a starting point. Using design workshops and other participatory activities, the stakeholder groups coordinated by Vinnova developed an ambitious place-based mission, focusing on streets to ensure that every street in Sweden is healthy, sustainable and full of life by 2030.

From a systems perspective, the 40,000 kilometres of streets that already exist in Sweden offered huge potential to scale solutions quickly. A constellation of actors, including large industry players such as Volvo Cars, contributed to design workshops, with the intention of collectively identifying a portfolio of projects that could support the street mission.

**Stage 3: Co-design a portfolio of prototypes to articulate the mission**

The third and fourth stages — Prototypes and Demonstrators, respectively — design and deliver a portfolio of prototypes and public interventions that begin to concretely deliver on the mission. Prototypes are used as real interventions into real streets, and are seen as the richest and fastest way to learn as much as possible about a mission, before scaling into systems demonstrators. By virtue of being present on the street, they stimulate meaningful engagement with citizens. Vinnova seeded a range of prototypes, which were conceived using overarching principles.

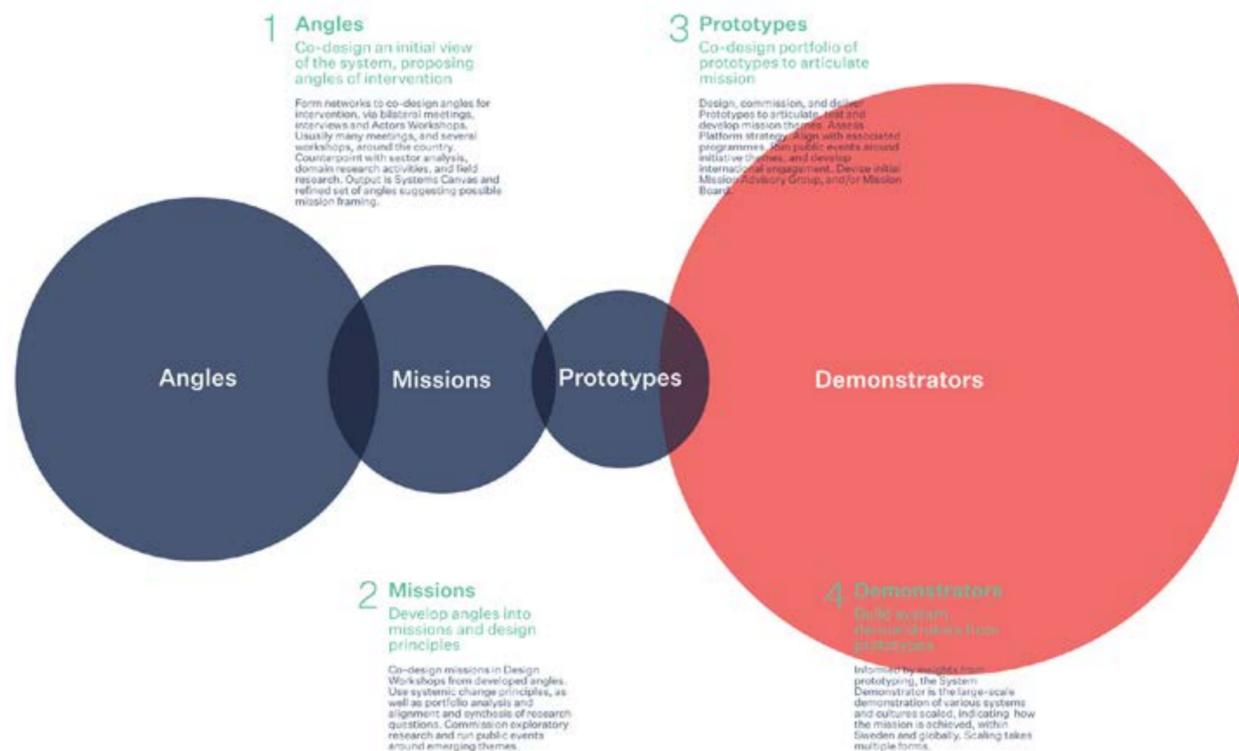


Figure 2: The four steps in Vinnova's mission-design framework. (Source: Dan Hill, Vinnova)

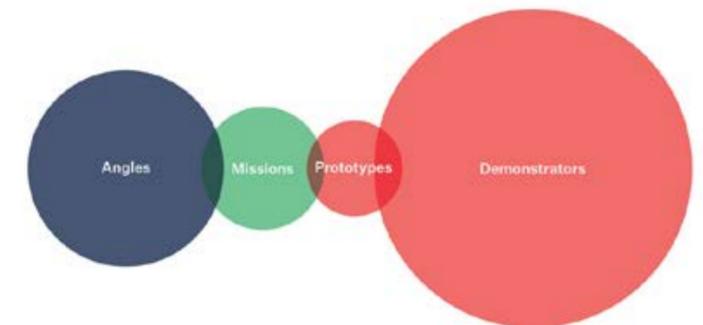
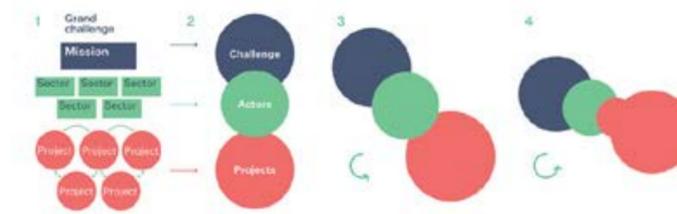


Figure 3: The Vinnova team turned the mission roadmap structure on its side, to demonstrate how it can be transformed into a participative process. (Source: Dan Hill, Vinnova)

#### Stage 4: Build systems demonstrators from prototypes

Prototypes are a method for identifying, defining and refining the systems demonstrators. Although prototypes are fully working interventions at a small or limited scale, systems demonstrators are more fully realised and fleshed out versions of the concept. They demonstrate what happens once several prototypes are threaded together to demonstrate 'greater than the sum of the parts' results. Vinnova's works has not yet progressed to the demonstrator phase.



Figure 4: Shared system canvases. (Source: Vinnova)

#### What solutions are emerging from Vinnova's missions approach?

Initially, Vinnova's mobility team designed a set of prototypes and it is now scaling its Street Moves initiative, a project which aims to investigate what happens when cars are displaced and how every street in Sweden could be healthy, sustainable and vibrant by 2030.

Through employing a set of easily deployable and modular wooden structures that take the form of benches, bike stands or gardening plots, Street Moves creates a series of street scenarios about how streets could be used differently by taking away parking places. The aim was to reimagine those spaces so that citizens value, rather than oppose, the change in use. The project was also designed as a solution to the problem of e-scooter parking.

With prototypes having already been deployed in Stockholm, Street Moves has allowed communities to become directly involved in reshaping their neighbourhoods.

**The design of each street is inspired by workshops and interactive planning sessions with local residents, including shop owners, parents or schoolchildren.**

Local communities in Stockholm are already expressing their satisfaction: of the 322 people surveyed about 70% of replies were positive. Following further successful expansions to Gothenburg and Helsingborg, Street Moves is also spreading to Umeå and Malmö.



Figure 5: The Street Moves initiative is in the process of expanding to more cities in Sweden. (Source: Vinnova)

### What challenges does Vinnova face in implementing the missions?

Vinnova has managed to organise this entire mobility mission with a relatively small budget, which was primarily dedicated to low-cost workshops and late-stage prototypes. Hill explains that much like using kindling to start a fire, the agency's budget initiated the project. Eventually, however, it must be incorporated into existing systems and budget structures. This speaks to a broader challenge around design-led missions: if the mission does not receive high-level political or private-sector buy-in and is therefore not integrated into existing structures, then it is unlikely to survive.

A further challenge is that measuring the non-monetary impact of initiatives such as Street Moves will be difficult. Costs that municipal governments expect to incur, including foregone parking space revenues, are easily measured, while the resulting benefits, including public health and wellbeing savings, environmental benefits, or maintenance benefits are difficult to take into account. New forms of evaluation and assessment must, therefore, be developed to bolster the legitimacy of these missions.

### What has the Vinnova team learned so far?

#### Don't break your silos down – master them.

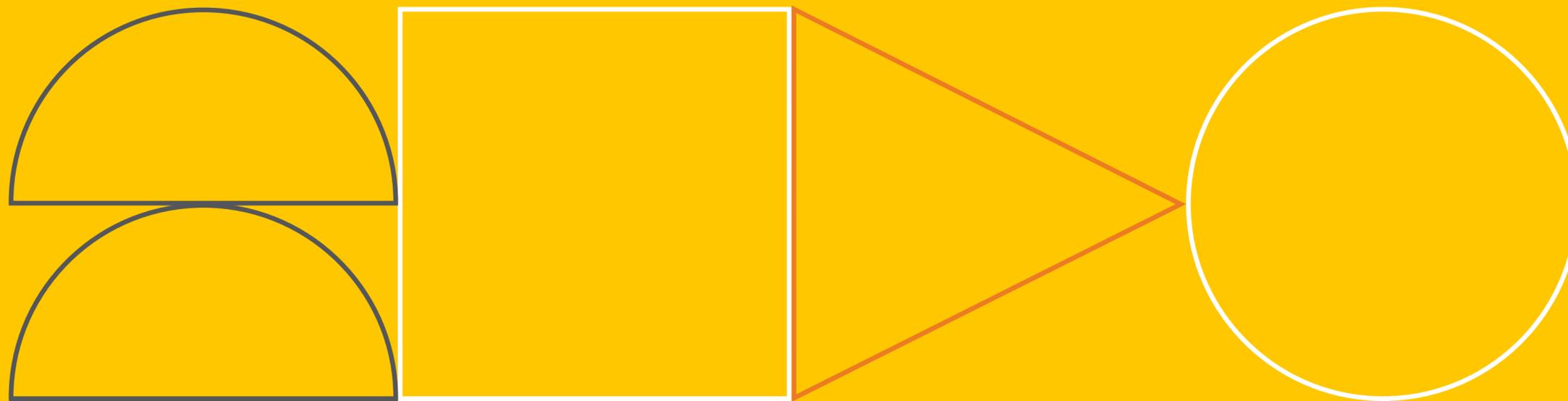
Though hierarchical and siloed institutions can inhibit collaboration, sometimes it is more effective to navigate them than to break them down entirely or simply ignore them. Using place-based missions, Vinnova developed multi-stakeholder design, delivery and governance models to mobilise typically siloed departments to work in a collaborative way. Streets were no longer the spaces through which departments could carry out their separate mandates individually; imagining and governing streets became a common mandate, just as a street is in reality a holistic, integrated and complex system, not a complicated siloed one. Such existing systems, or real-world environments, are often well-regulated and sometimes well-funded. Using its flexibility, neutrality and legitimacy to navigate the system, Vinnova could tap into those existing funding structures, operational environments and capabilities, and work with them to reorient them towards new 'north stars'.

#### You don't need top-down direction setting to develop and execute a successful mission.

Vinnova turned the mission framework on its head. Instead of getting top-level buy-in from the start, the agency focused on developing momentum before bringing its ideas to the national level. Hill calls this approach 'the snowball', suggesting a small snowball rolling down a hill, gathering actors and generating insights as it goes. Begin by engaging with local politicians and communities, and cultivating small-scale prototypes. As shared learnings and evidence are collected and prototypes are disseminated, then the mission has the necessary 'gravity' to garner top-level political and administrative support.

#### Root your missions in reality with the help of real people and real places.

Co-creation is not only about broad participation, but also about consciously deciding when to involve which stakeholders. While representatives of the public sector, industry and communities can help frame the mission at the start, citizen participation is most valuable when testing downstream applications in localised contexts, with genuine decision-making and even co-ownership in play. In these missions, the key decisions are being made by the users themselves. Furthermore, grounding a mission in places using prototypes or public interventions offers the opportunity to gather real-time feedback on its direction and dynamic, and to run these demonstrators as ongoing, situated innovation environments.



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