# STI Policies toward Circular Economy and Net-Zero

176th CUEES

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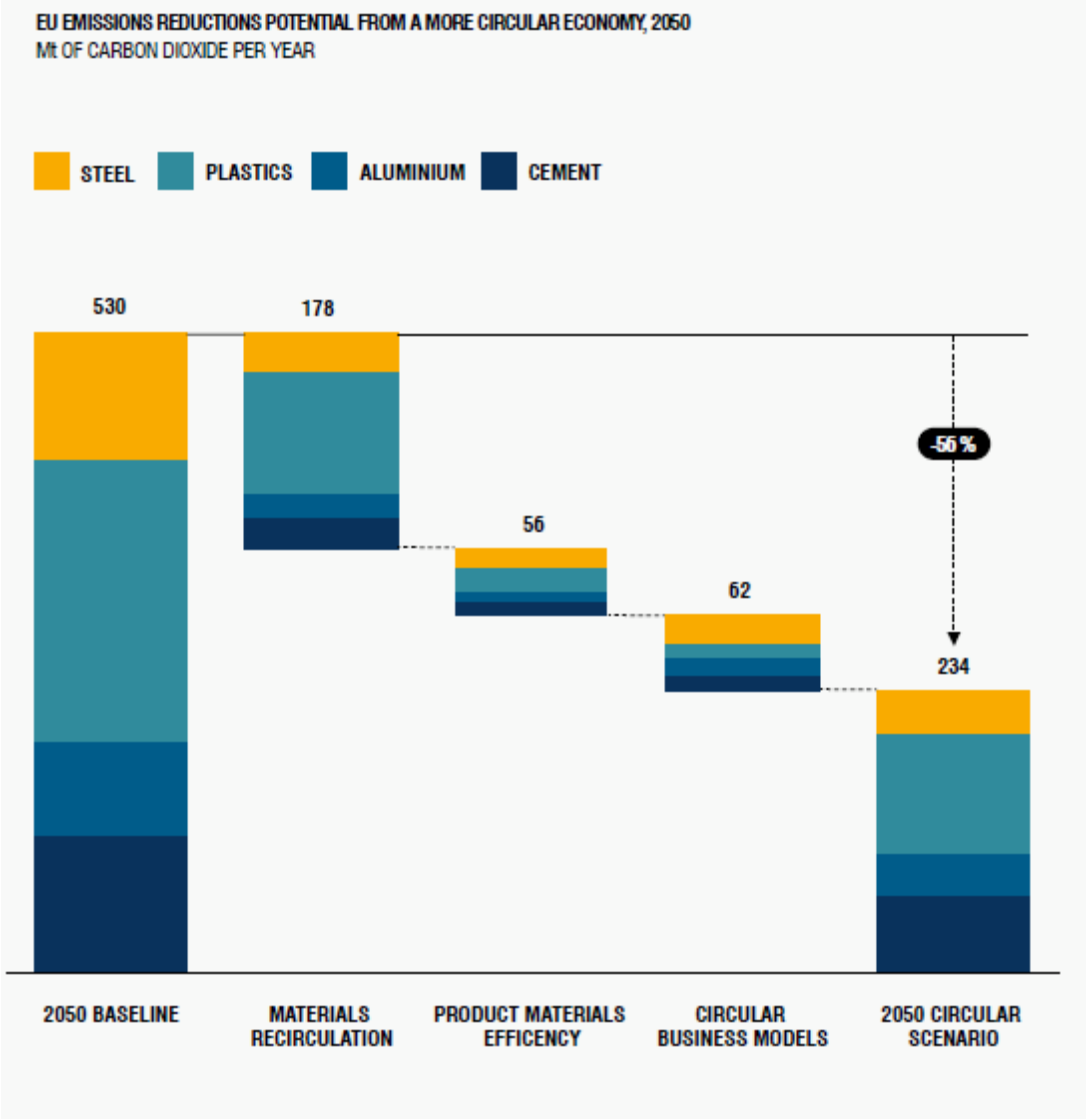
# Emission Reduction Potentials



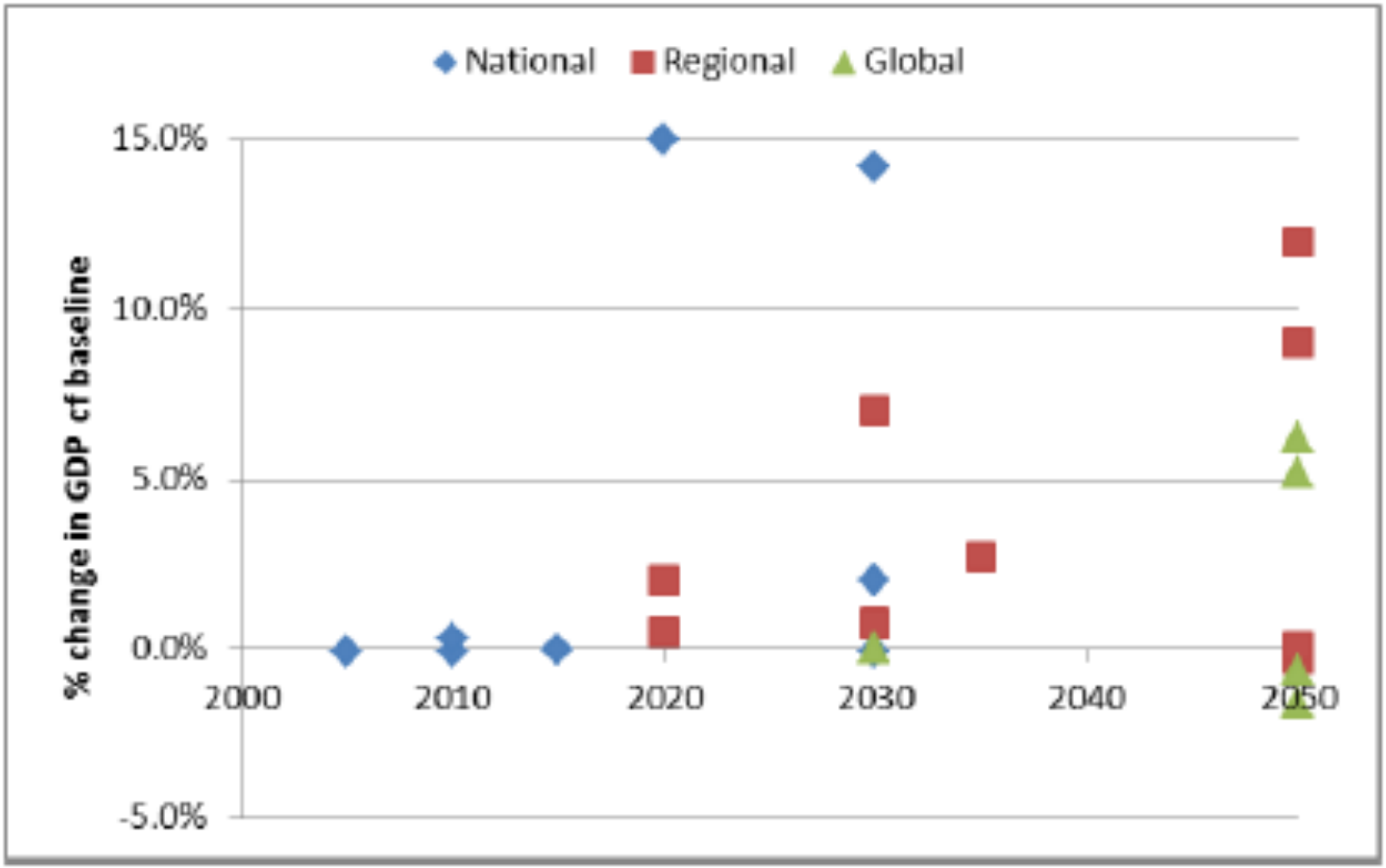

Source: OECD (2019) The Circular Economy: What, Why, How and Where

# Environmental and Resource Impacts

| Impact | Historical trends | Towards sustainability |
|---|---|---|
| **Material extraction** | 190 billion tonnes by 2060, more than double the 2015 level of 92 billion tonnes | 143 billion tonnes, 25% lower than under Historical Trends |
| **Greenhouse gas emissions** | 43% increase from 2015 to 70Gt $CO_2$e p.a. by 2060 | 90% decrease from 2015 to 4.8Gt $CO_2$e p.a. by 2060 |
| **Global pasture land** | 25% increase from 2015 by 2060 | 30% reduction compared to Historical Trends by 2060 |
| **Agricultural land** | 20% increase from 2015 by 2060 | 9% reduction compared to Historical Trends by 2060 |
| **Forests and other habitat** | 10% reduction in forests, and 20 % reduction in other habitat, from 2015 by 2060 | 11% increase in forests and other habitat from 2015 by 2060, with 13 million $km^2$ forest loss prevented and 4.5 million $km^2$ restored |

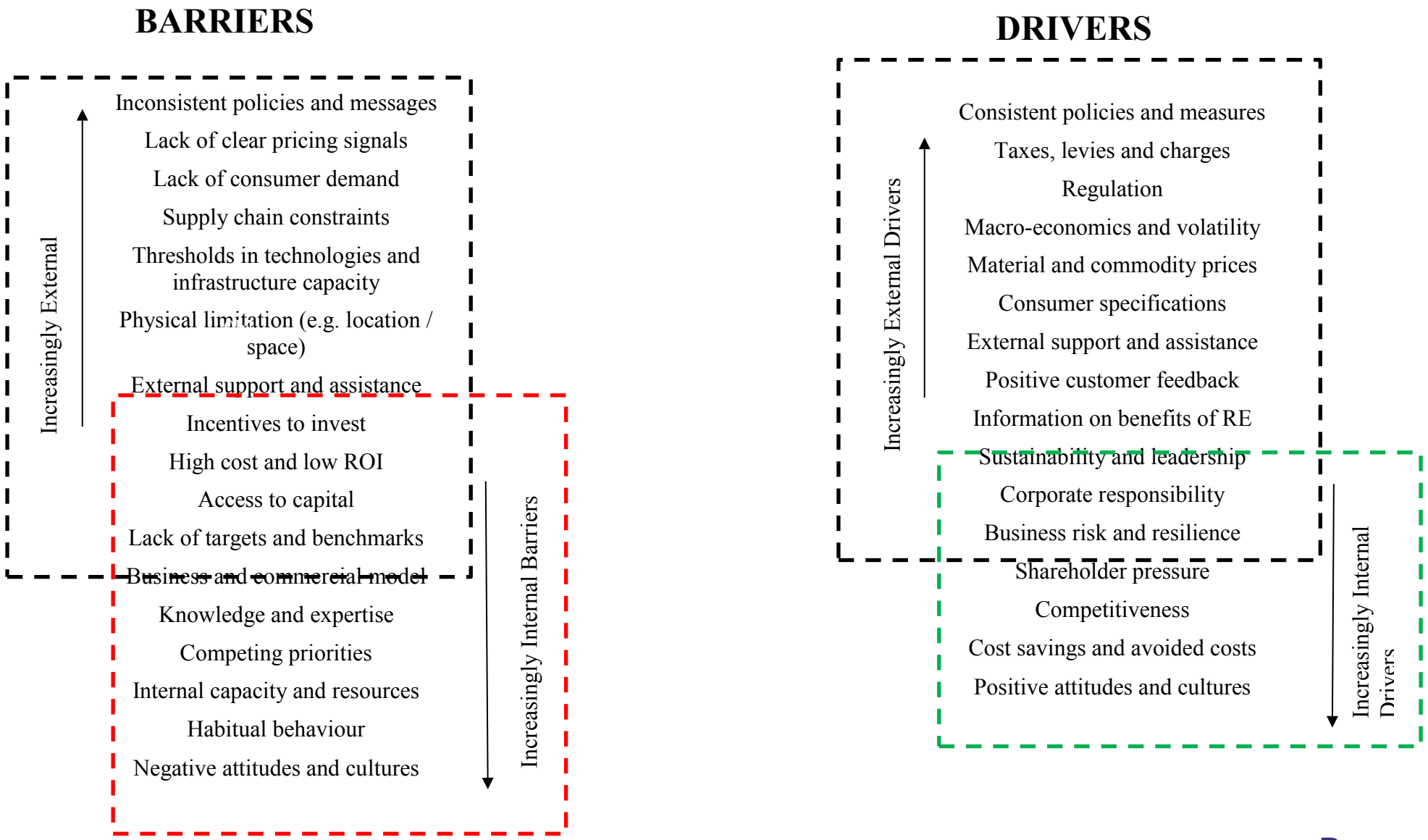
Source: OECD (2019)

# Economic Impacts: GDP Results for Model Studies



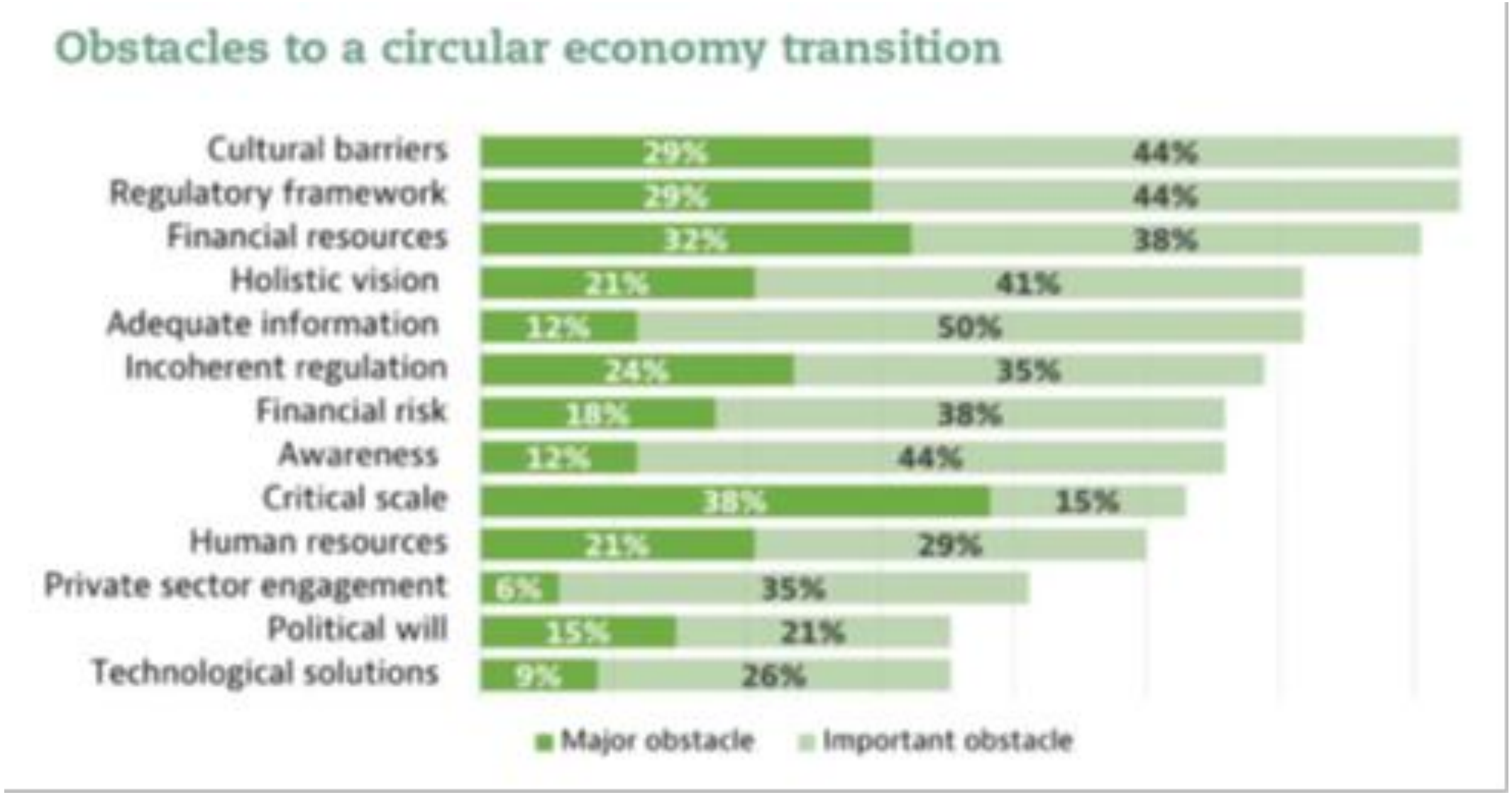

Source: OECD (2019)

# Barriers & Drivers to Stimulate Circular Business




Source: OECD (2019)

# Obstacles to a Circular Economic Transition



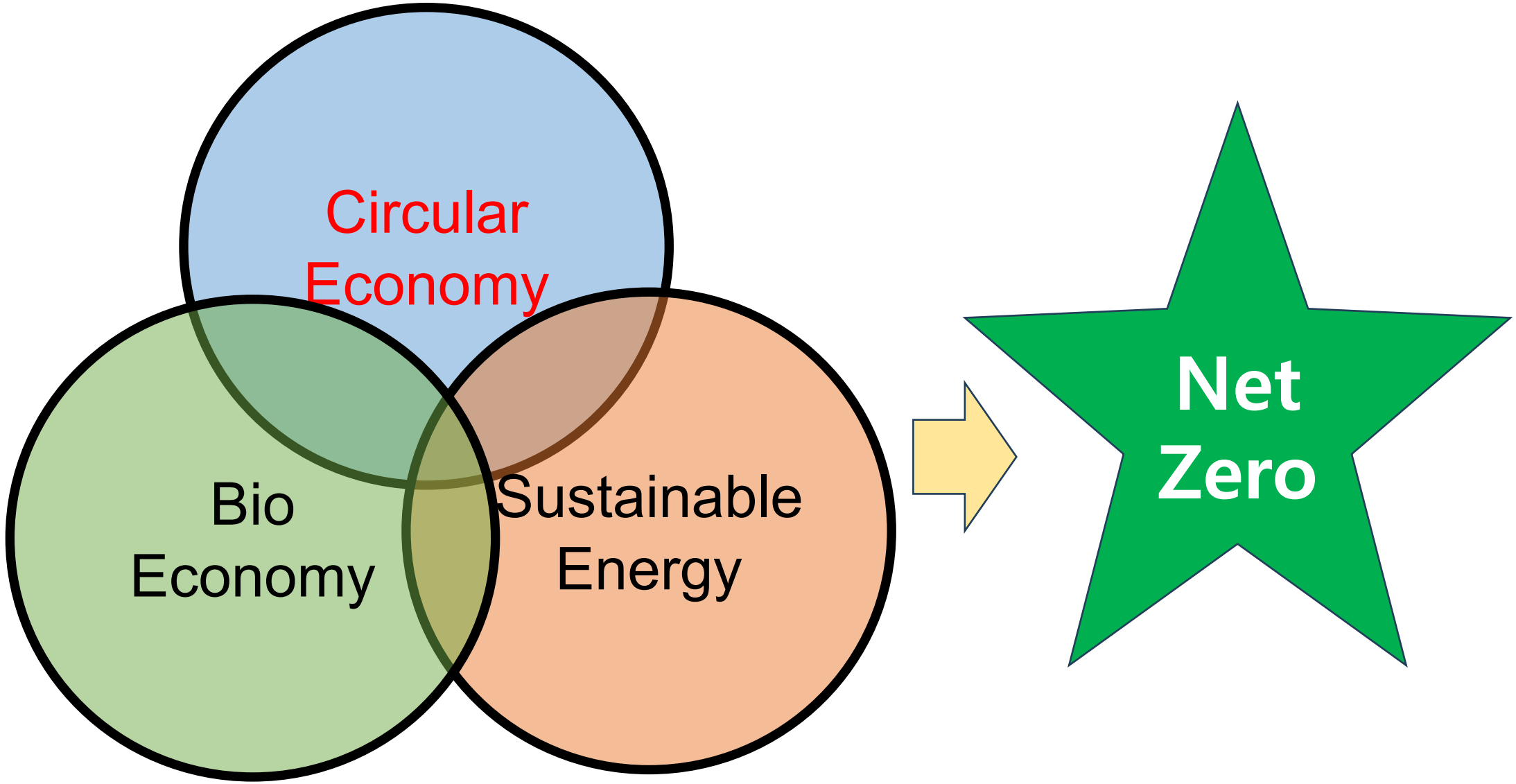

Source: OECD (2019)

# Policy Interventions for Circular Economy

| Policy Intervention Category | Examples |
|---|---|
| **Regulatory Frameworks** | Strategies and targets for resource efficiency/productivity; product regulations (e.g. material requirements, product warranties); waste regulation (e.g. landfill bans, recycling requirements, Extended Producer Responsibility) |
| **Fiscal Frameworks** | Material use taxes, waste or landfill taxes and charges, subsidies or tax reduction for resource-efficient or circular products or activities |
| **Education, Information & Awareness** | Communication and information campaigns, requirements or resources targeted at businesses or the public |
| **Public Procurement & Infrastructure** | Inclusion of resource efficiency elements in public procurement criteria, investment in enabling infrastructure. |
| **Innovation Support Schemes & Collaboration Platforms** | RD&D programmes, public-private partnerships, financial, technical and training support to business, voluntary business collaboration platforms |

Source: OECD (2019)

# Policy Approach to Circular Economy & Net-Zero



# Six EU Identified Environmental Objectives

- Climate Change Mitigation
- Climate Change Adaptation
- Sustainable Use and Protection of Water and Marine Resources
- Transition to a Circular Economy, Waste Prevention and Recycling
- Pollution Prevention and Control
- Protection of Healthy Ecosystems

# Net Zero+

- OECD Cross-cutting Horizontal Project led by EPOC (Env. Policy Cmmt.)
- A Comprehensive Multidisciplinary Whole-of-Gov. Policy Approach
- 17 Cmmt. Including CSTP Participated
- CLG (Cmmt. Leadership Group)
- IPAC (International Programme for Action on Climate) – The Climate Action Monitor
- IPAC-TEG (Technical Expert Group)

Net Zero+

CLIMATE AND ECONOMIC RESILIENCE
IN A CHANGING WORLD

OECD

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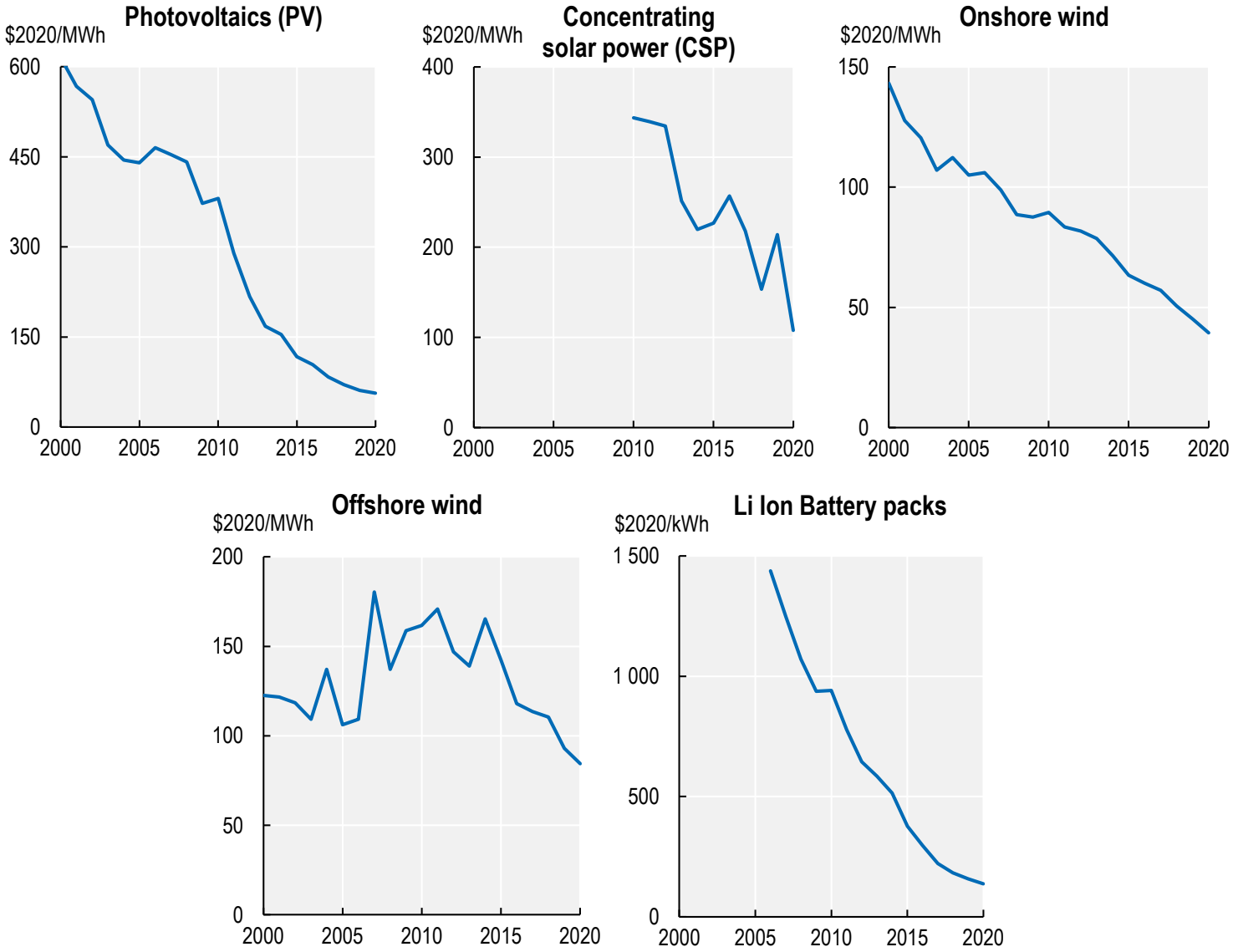
# Net Zero+ Synthesis Report Chapters

- 1 Net Zero+: Introduction and extended summary
- 2 Climate system tipping points and the need for urgent climate action
- 3 Unpredictable and overlapping global crises: risks and opportunities for climate Policy
- 4 Systemic resilience: an approach to future-proofing climate action
- 5 A resilience lens on the net-zero transition
- 6 Public finance implications of the net-zero transition
- 7 The importance of innovation for a resilient net-zero transition
- 8 An effective, fair and equitable transition
- 9 Aligning finance flows and private sector action with a resilient net-zero transition
- 10 Interlinkages between the net-zero transition and development
- 11 Climate impacts, adaptation needs and limits
- 12 Beyond adaptation: Systemic interlinkages with mitigation and other natural Systems
- 13 Financing adaptation amid increasing climate risks
- 14 Building systemic resilience in practice: examples from key systems
- 15 Policy recommendations for building climate and economic resilience in a changing world

# Declining Renewable Energy & Battery Costs




Source: OECD (2023)

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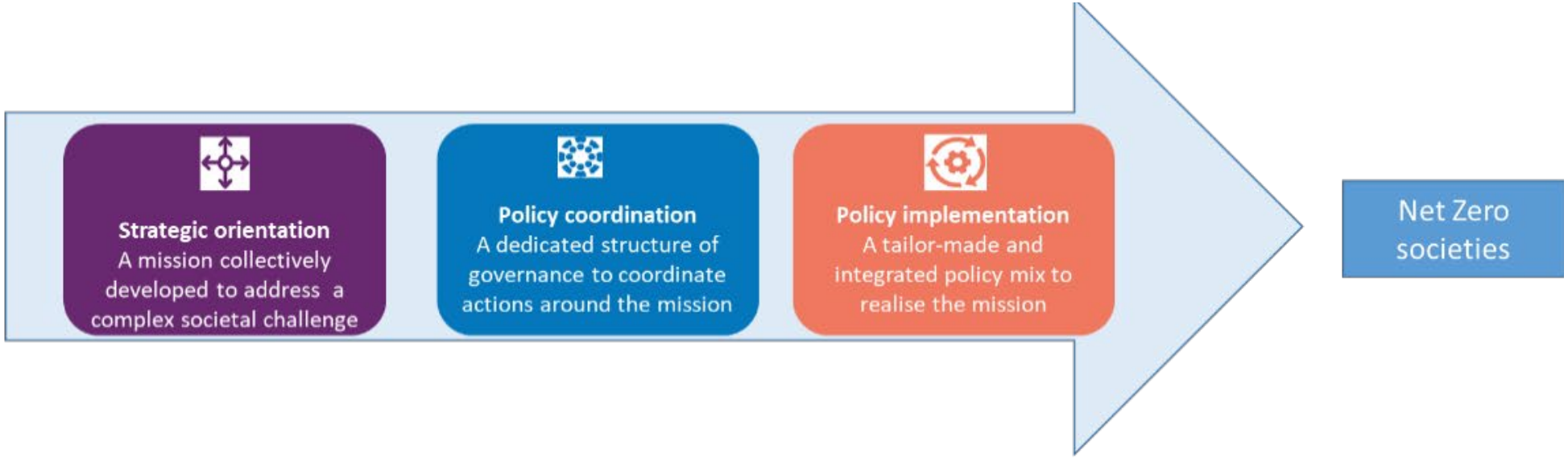
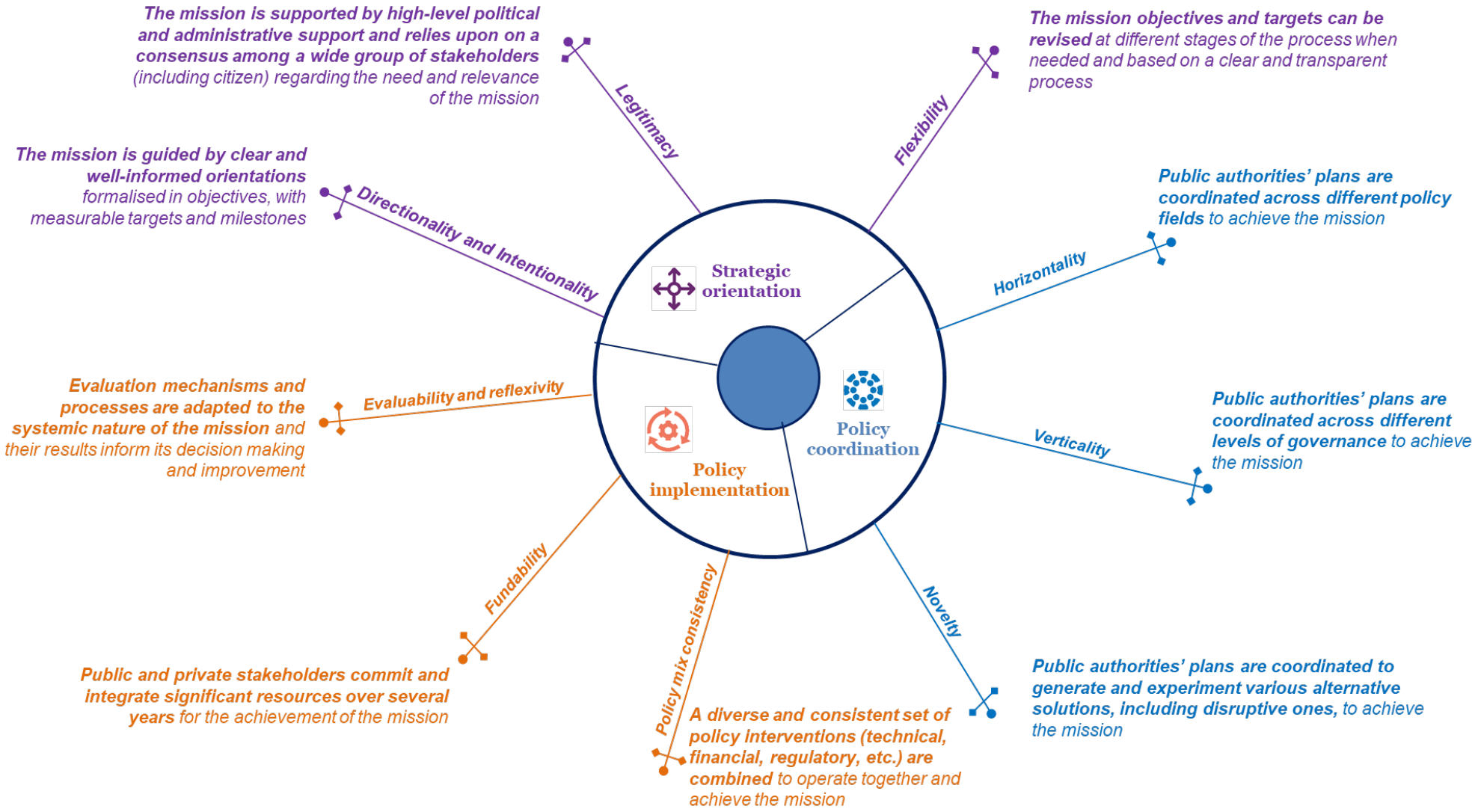
# Mission-Oriented Innovation Policies

- Awareness of limitations of traditional approaches to tackle complex societal challenges
- Sense of urgency related to the growing impacts of societal challenges



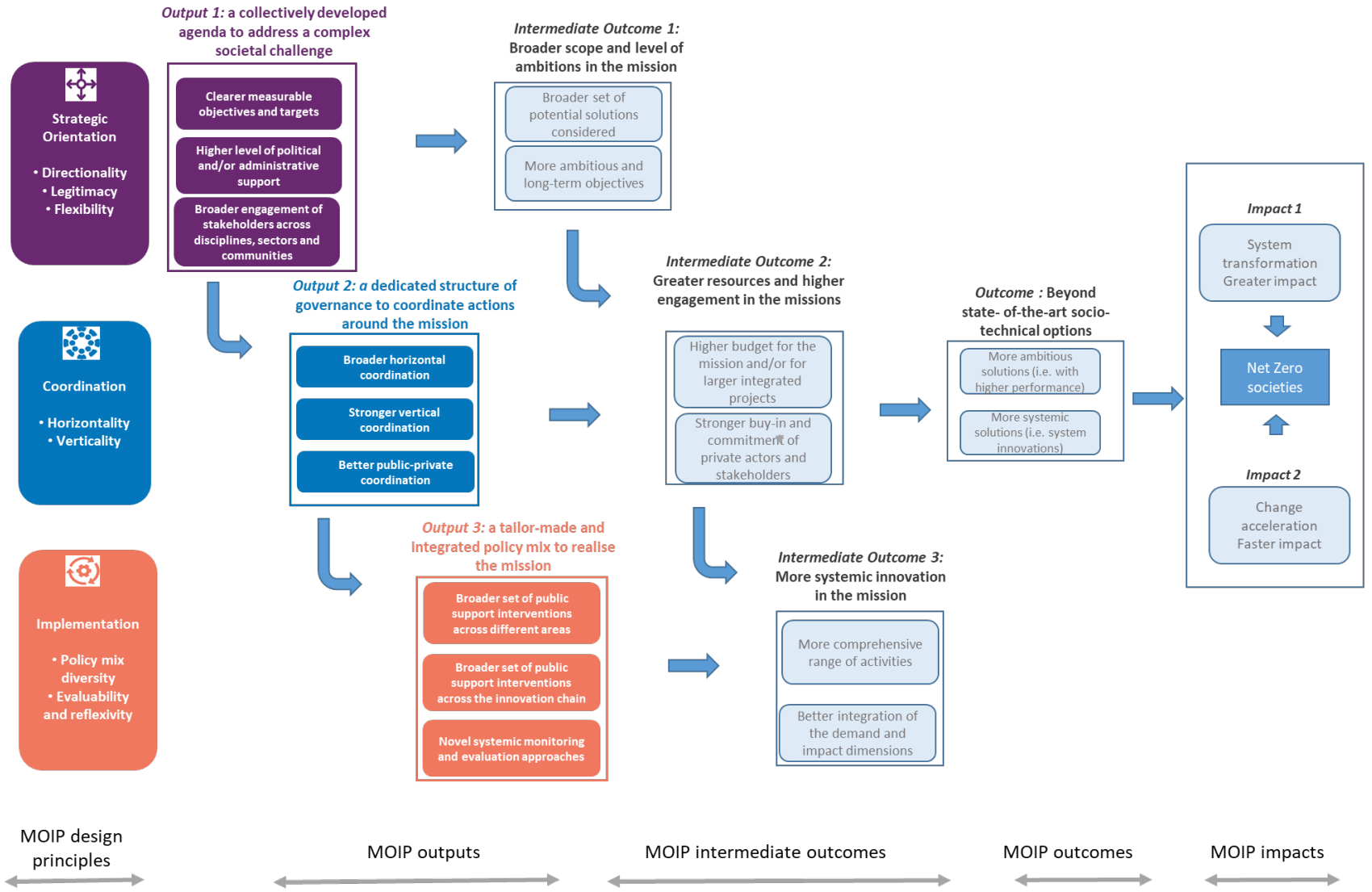

Source: OECD (2022)

# Design Principles of Mission-Oriented Policies




Source: OECD (2022)

# Theory of Change of a Net-Zero Missions

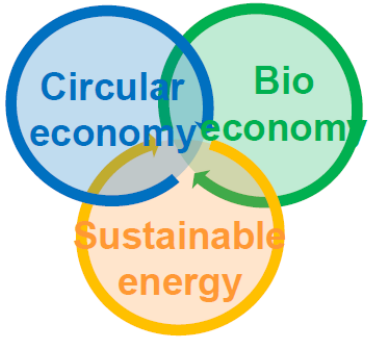



Source: OECD (2022)

# Responses of OECD CSTP: Net Zero


(CSTP)

- Data: open access to climate and biodiversity data, public ocean observation data (CSTP, IPSO)
- Carbon management technologies, the circular carbon economy and related policies (BNCT)
- Blended finance mechanism to support investment in climate mitigation technologies (CSTP)
- STIP Compass Net Zero Portal (with IEA)
- Driving Low Carbon Innovation for Climate Neutrality (CSTP and CIIE)
- Project on "Accelerating Low Carbon Innovation through post-Covid Recovery Packages" (CSTP-CIIE)
- CSTP is contributing to the OECD Horizontal Project on Climate and Economic Resilience


# STI Outlook 2023

- **Chapter 1: STI Policy in times of Global Crises**
  - COVID-19; Russia's War against Ukraine; Securitisation of STI; Polycrisis or Permacrisis
- **Chapter 2: STI Policy in times of Strategic Competition**
  - Protection, Promotion, Projection; STI Decoupling; Balance of Competition and Cooperation
- **Chapter 3: STI Policy for Sustainability Transition**
  - Socio-technical System Transition; Reform of STI Policies
- **Chapter 4: Mobilising Science in times of Crisis: Lessons learned from COVID-19**
  - Policy for Science; Science for Policy and Decision-making
- **Chapter 5: Reaching Net Zero: Do mission-oriented policies deliver on their many promises?**
  - STI-only Trap; Orientation Trap
- **Chapter 6: Emerging Technology Governance: Towards an Anticipatory Framework**
  - Responsible, Responsive and Good Tech Governance; Need Anticipatory Framework

# CSTP Ministerial Meeting 2024

| | | | | |
|---|---|---|---|---|
| Ministerial Start | 17:00-18:30 | ☆ **Ministerial Opening Plenary: International cooperation and competition in times of disruption** | | |
| | 18:30-20:00 | Social Event for Delegations | | |
| | 19:00-21:00 | Ministerial Dinner hosted by France at the restaurant “les Ombre” (musée du quai Branly)<br>*Logistical information will be shared in due course* | | |
| **Wednesday 24 April 2023 Ministerial Day 2** | | | | |
| Ministerial Meeting Day 2 | 8:30-10:00 | **Plenary 2:** Anticipatory governance of emerging technologies (breakfast provided)<br>*Plenary open to OECD Members, EU, and Accession Countries* | | |
| | 9:30-10:15 | **Networking opportunity for non-members and other participants** | | |
| | 10:15-11:45 | **Plenary 3:** Science, technology, and innovation for the green transition | | |
| | 11:45-13:15 | **Ministerial working lunch topic TBC, including break for family photo** | | |
| | 13:15-14:45 **Parallel Sessions** | **How to engage society in science, technology, and innovation for green and just transitions** | **How to direct research and innovation funding to address the climate challenge** | **How to ensure whole-of-government coherence for transitions** |
| | 14:45-15:00 | **Break and networking opportunity** | | |
| | 15:00-16:30 | **Plenary 4:** International actions for global challenges: making open science a reality | | |
| | 16:30-17:00 | **Closing plenary session:** Concluding session and adoption of the Ministerial Declaration | | |
| | 17:00-19:00 | Social event | | |

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# Muchas Gracias!

# Thank You !