

Evolution and Journey of Circular Economy Policies

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A bit about Circular Economy before we deep dive into policy evolution



Understanding Circular Economy



... is a regenerative economic system which focuses on transitioning from 'take-make-dispose' models to 'take-make-use-regenerate' resource models.

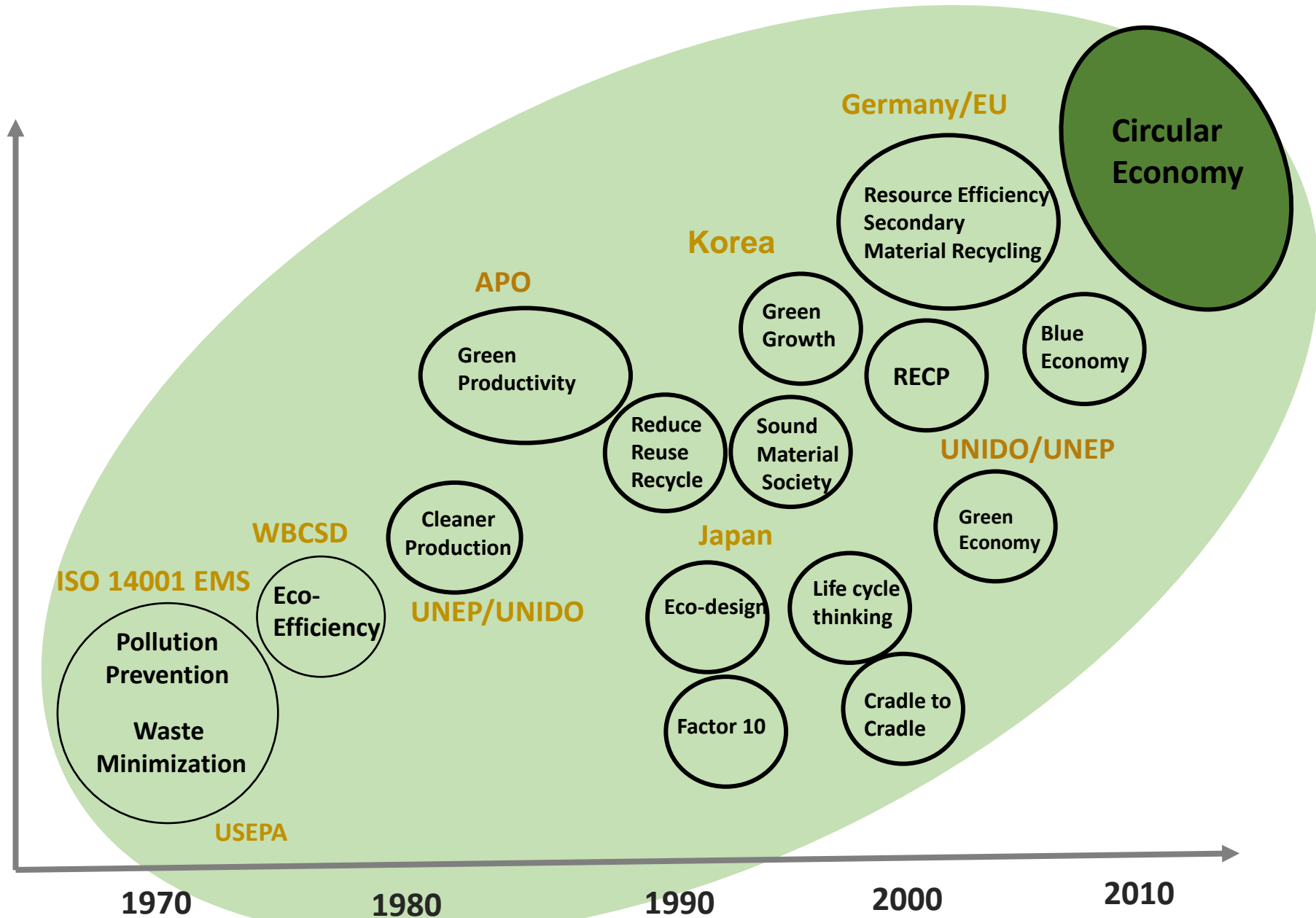


... it aims to redesign the production and consumption systems.



... it is a new model for sustainable development and green economies.

The Evolution of Circular Economy



The Transition

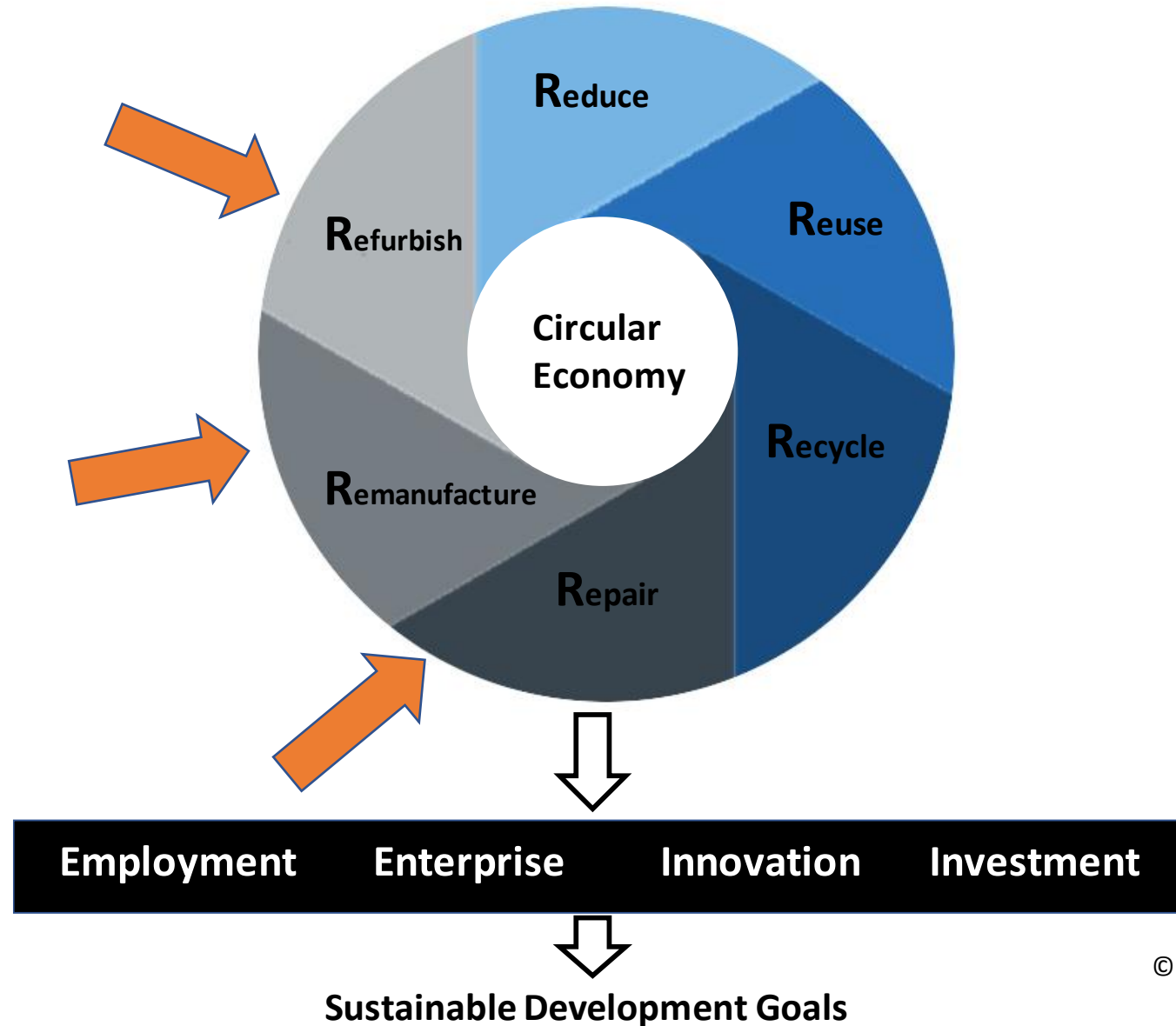
Linear Economy



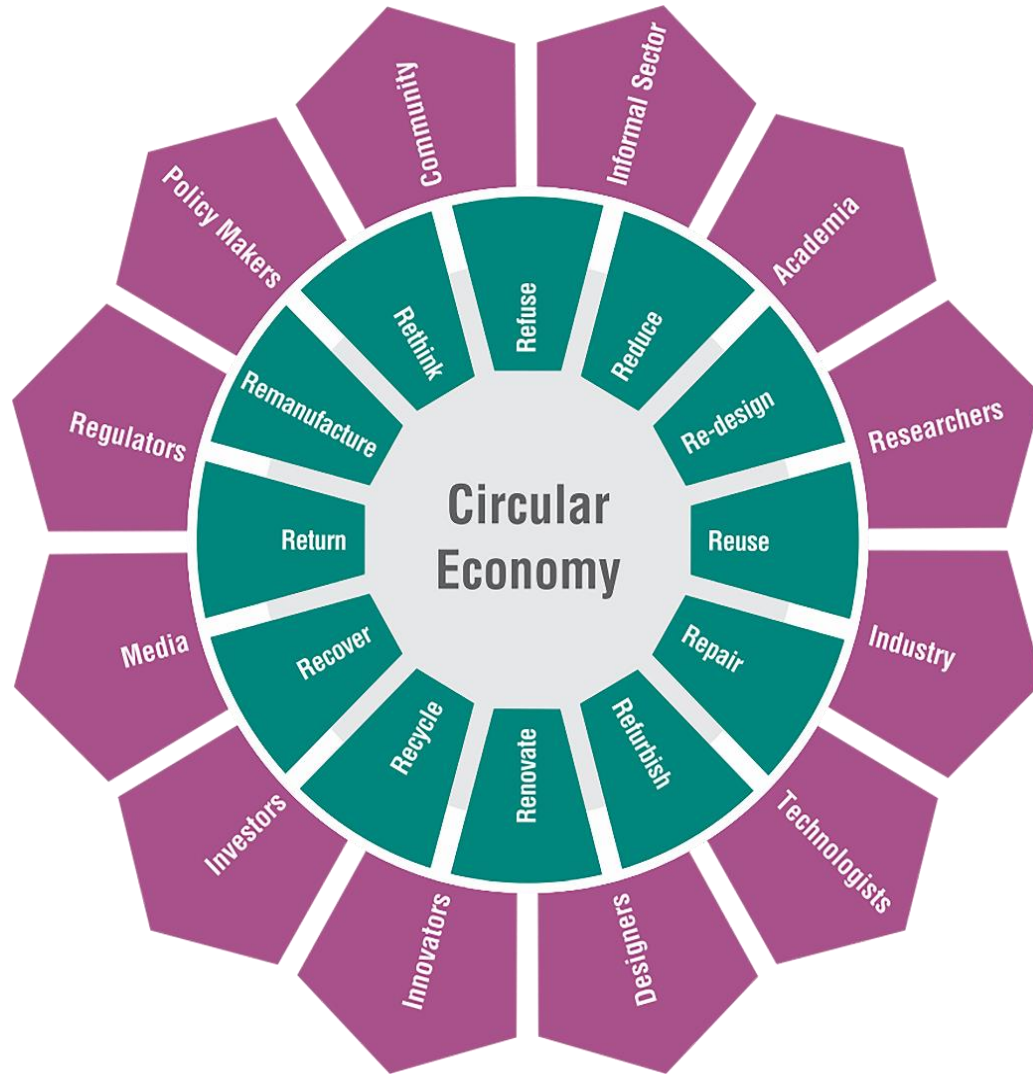
Circular Economy



Circularity– 3R Plus 3Rs (and more..)

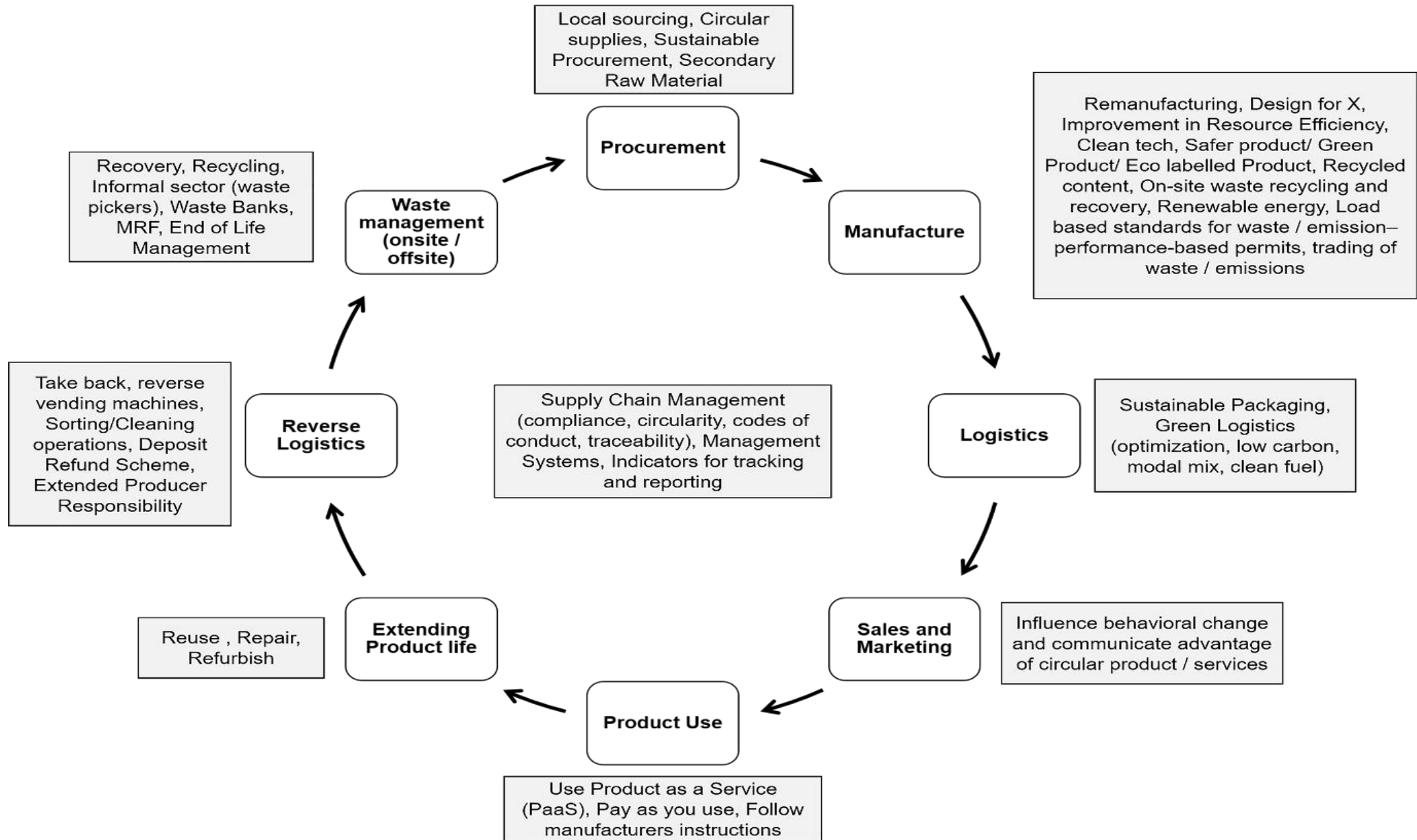


12 Rs and the Ring of Stakeholders



- While each of the Rs has their role, at times, they overlap in application or practice
- Stakeholders have to work together to ensure benefits across the value chain and align and adopt one or more Rs

Circular strategies across life cycle



Deep dive into policy evolution on Circular economy



Policy context for transition to Circular Economy

Approach as an economy-wide issue

Requires a comprehensive set of policy measures- macroeconomic level and sectoral level

Implementation at sub-national level

Synergies with other policy goals- net zero, decarbonization, social inclusion

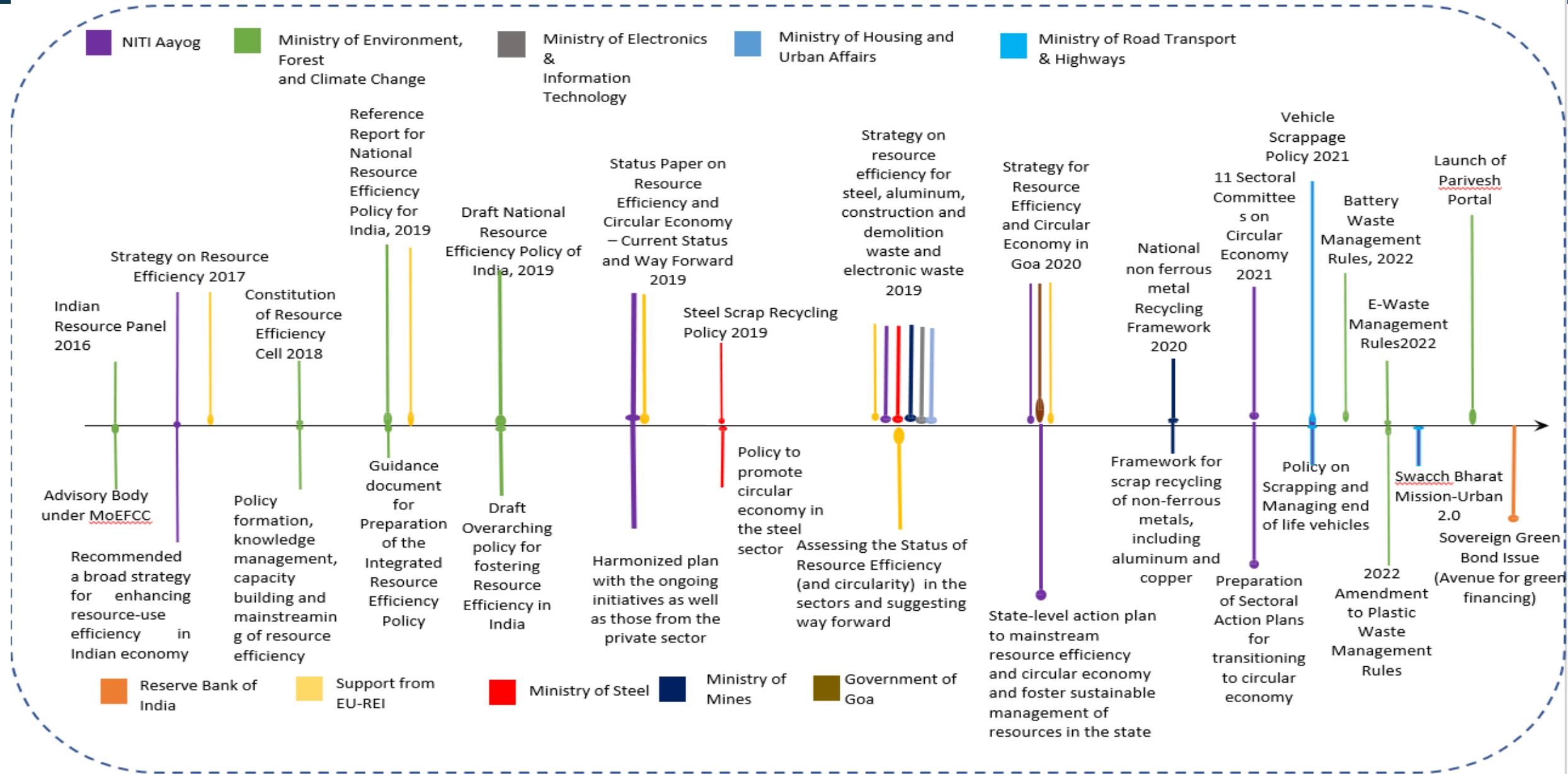
Mix of policy instruments- economic/market based instruments, regulations, information-based, Awareness and Capacity Building

Economic benefits- competitiveness, new business opportunities and innovation, greater resilience against scarcity of resources and volatile prices

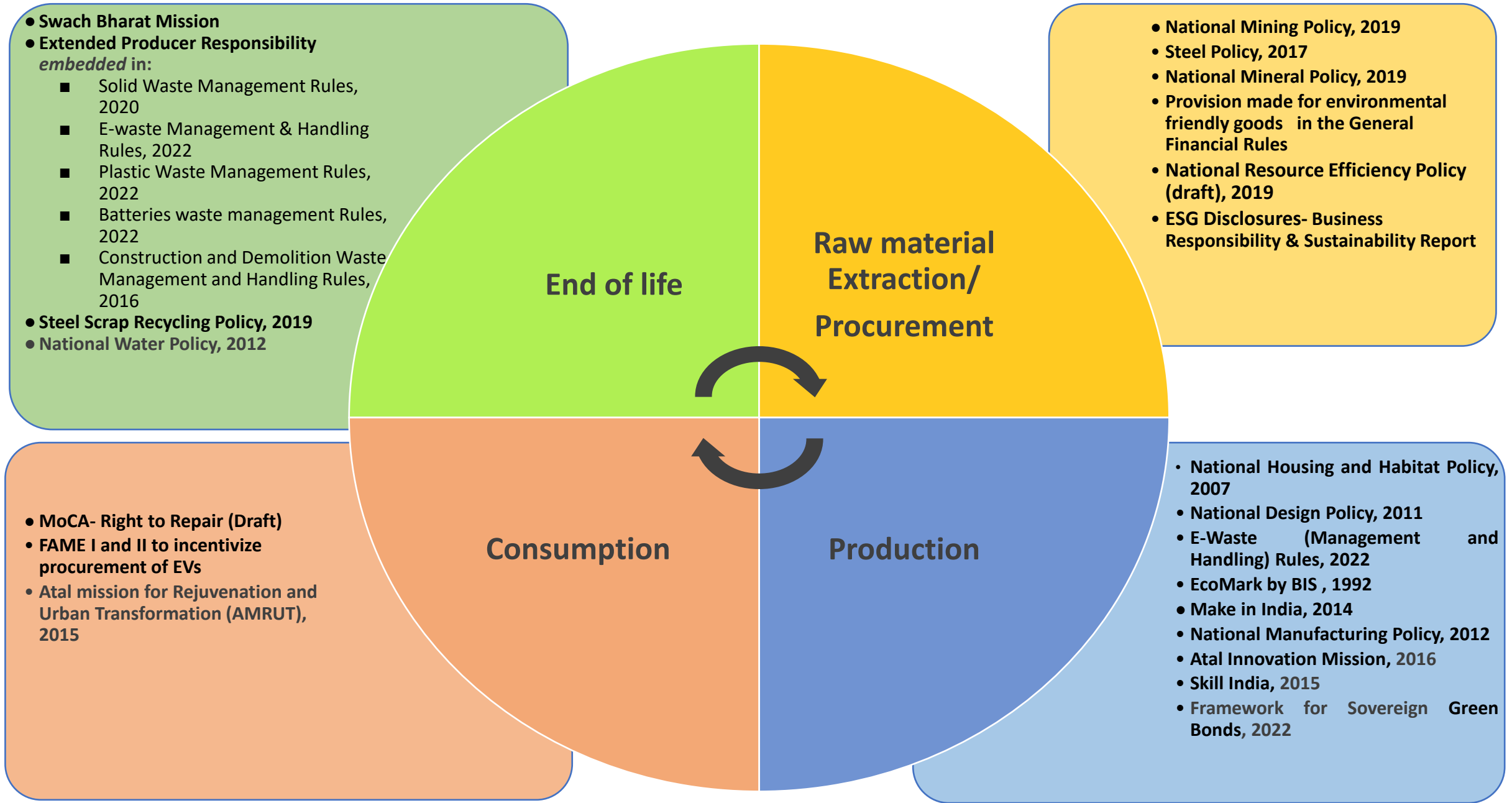
Key policy approaches- Extended Producer Responsibility (EPR), Green Public Procurement (GPP)

Case of India

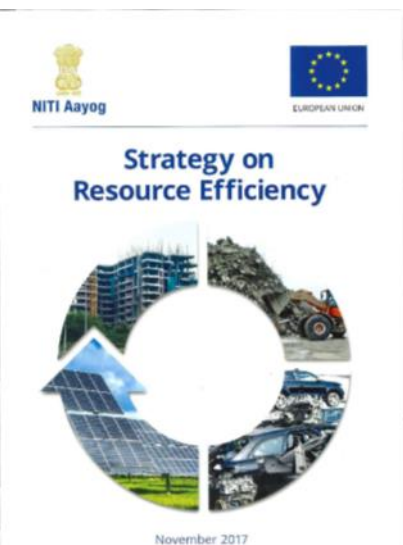
Evolution of Circular Economy (CE) policies in India



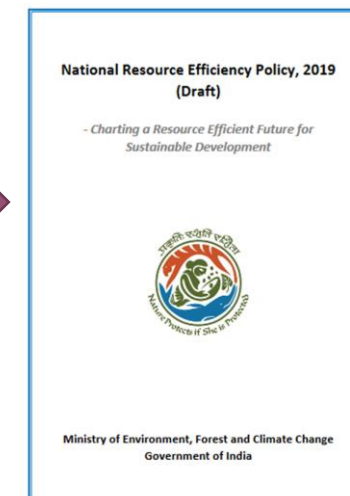
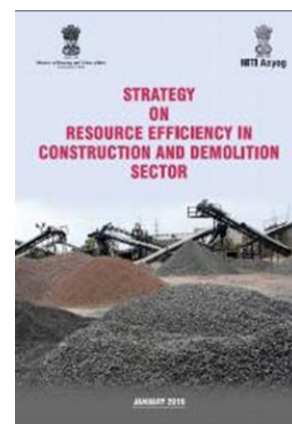
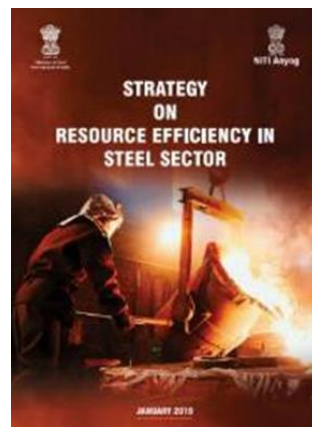
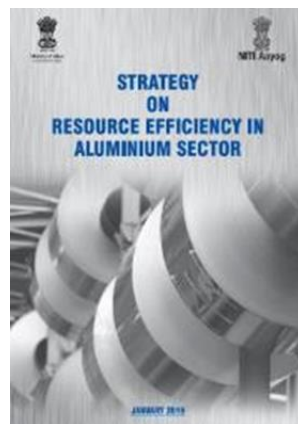
Government of India's Policy and Program Push across Life Cycle



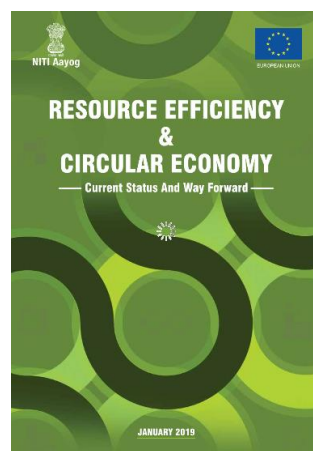
Leadership taken by NITI Aayog and MoEFCC



NITI Aayog, EU-REI



Ministry of Environment,
Forests and Climate
Change, EU-REI



NITI Aayog, EU-REI

NITI Aayog and Mo/Steel, Mo/ Mines,
MoHUA, MEITY release

- Strategy on RE in Steel Sector
- Strategy on RE in Aluminium Sector
- Strategy on RE in EEE Sector
- Strategy on RE in C&D Sector

CE Committees and Action Plans

In February 2011, to expedite the transition of the country from a linear to a circular economy, 11 committees were formed - led by the concerned line ministries and comprising officials from MoEFCC and NITI Aayog, domain experts, academics and industry representatives.

Gypsum
Toxic and Hazardous Industrial Waste
Used Oil Waste
Agriculture Waste*
Tyre and Rubber Recycling
End-of-life Vehicles (ELVs)

Municipal Solid Waste and Liquid Waste
Scrap Metal (Ferrous and Non-Ferrous)
Electronic Waste
Lithium Ion (Li-ion) Batteries
Solar Panels



All 11 Committees prepared their respective Action plans and submitted the reports to NITI Aayog

**CE Action Plan for Agriculture Waste was never prepared*

Strategy for fostering Resource Efficiency and Circular Economy in Goa

- Overall state-level action plan to mainstream resource efficiency and circular economy and foster sustainable management of resources in the state.
- Released in 2020- Goa became the first state in India to come out with a resource efficiency strategy.
- The strategy focusses on three priority sectors- *Tourism, Construction and Marine litter*.
- Strategy proposed a set of sectoral recommendations to foster resource efficiency and circular economy in the priority sectors but also presents an overall state-level action plan on mainstreaming resource efficiency and circular economy in Goa.
- Strategy was prepared by Directorate of Planning, Statistics and Evaluation (DPSE), Government of Goa. The Energy and Resources Institute (TERI) was assigned to help them develop this Strategy with support from the European Union-Resource Efficiency Initiative (EU-REI)

Circular Economy Efforts in Angul District of Orissa

- Angul is the industrial capital of Odisha, being a major hub for coal extraction and coal-based resources.
- In efforts to transition towards a circular economy, the district administration of Angul launched the GRACE programme in 2021. GRACE is an acronym for Governmental Response for Achieving a Circular Economy and Resource Efficiency.
- The objective of the programme is to model a replicable model that could help in achieving scalable circular and green economic growth.
- This ground-breaking initiative by the Angul district administration and the United Nations Environment Programme will bring a transformational shift for integrating circularity in sectoral actions at the implementation level and can become a role model for other districts.
- Based on stakeholder consultations and engagement, vertical covered under the project include- Plastics, Electronics , Textiles , Aluminium & Steel , Infrastructure , Water Management and Eco-Restoration of Abandoned Mines

Mission LiFE

- At the 2021 UN Climate Change Conference (UNFCCC COP26), Hon'ble Prime Minister of India Shri Narendra Modi announced Mission LiFE, to bring individual behaviours at the forefront of the global climate action narrative.
- LiFE envisions **replacing the prevalent 'use-and-dispose' economy—governed by mindless and destructive consumption—with a circular economy, which would be defined by mindful and deliberate utilization.**
- The Mission intends to **nudge individuals to undertake simple acts in their daily lives** that can contribute significantly to climate change when embraced across the world.
- The Mission plans to create and nurture a global network of individuals, namely 'Pro-Planet People' (P3), who will have a shared commitment to adopt and promote environmentally friendly lifestyles.
- Through the P3 community, the Mission seeks to create an ecosystem that will reinforce and enable environmentally friendly behaviours to be self-sustainable.
- You can take a **21 day challenge pledge**



*Journey of CE policies
across the world*

International Experience on Circular Economy

Japan	<ul style="list-style-type: none">•Law for the Promotion of the Effective Utilization of Resources (1991)•Sound Material Society Framework focusses on sound materials management, integrates the 3Rs. Framework includes Basic Act for a Sound Material-Cycle (SMC) Society (2000) and Fundamental Plan for Establishing a SMC Society (2003, revised in 2008)
China	<ul style="list-style-type: none">•Circular Economy Promotion Law 2008•Circular Economy Development Strategies and Action Plan 2013•Designation and funding of specific provinces, cities, or zones (such as industrial parks) as CE pilots or demonstrations.
South Korea	<ul style="list-style-type: none">•Deposit System 2003- expanded to an “Extended Producer Responsibility” system.•Act on the Resource Circulation of Electrical and Electronic Equipment and Vehicles (EEEV Act)•First Framework Plan for Resource Circulation (2011-2015)•Framework Act on Resource Circulation (FARC) 2016 (in effect from 2018)•Second National Master Plan for Waste Management (2002-2011)•Construction Waste Recycling Promotion Act 2003 (later amended multiple times)•Measure for Promotion of Transition to a Resource Circulation Society 2013
Germany	<ul style="list-style-type: none">•Material resource efficiency strategy- German Resource Efficiency Program – ProgRess 2012, ProgRess II in 2016, and ProgRess III 2020
Singapore	<ul style="list-style-type: none">•Resource Sustainability Act and an Extended Producer Responsibility Clause in Resource Sustainability Act
United States of America	<ul style="list-style-type: none">•Sustainable materials management (SMM) since 2009•The National Recycling Strategy 2021

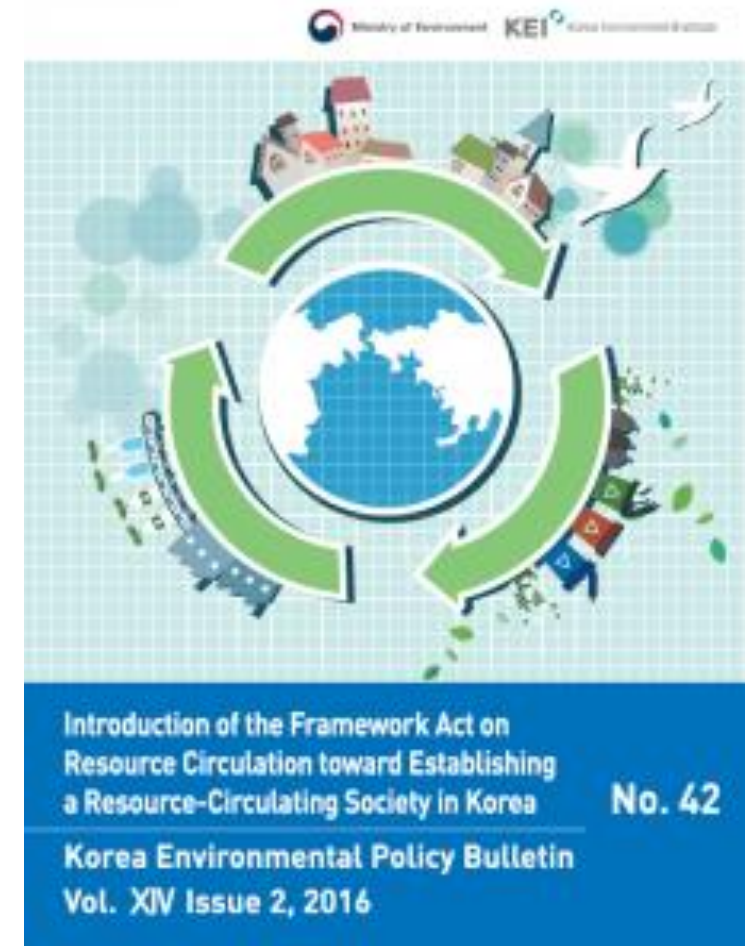
Resource Sustainability Act (2019) in Singapore

- The Ministry of Environment and Water Resources in Singapore designated 2019 as the “Year Towards Zero Waste”.
- The government passed the Resource Sustainability Bill in 2019 and subsequently the act in September 2019
- The Act also has a separate “purposes clause” that sets out its purposes as:
 - implement a framework where persons who profit from the supply of products bear the cost of collecting and treating these products when they become waste.
 - encourage producers of packaging to reduce, re-use or recycle packaging.
 - enable proper segregation and treatment of food waste.



Framework for Resource-recirculation in South Korea

- Korea follows a “Zero Waste” policy
- In 2002, the “Second National Master Plan for Waste Management” (2002-2011) was established, and revised in 2007
- In 2003, the “Deposit System” was expanded to an “Extended Producer Responsibility” system.
- From late 2000s onwards, the government emphasized the need for resource and energy recovery from waste.
- In September 2011, the Korean Ministry of Environment established the “First Framework Plan (2011-2015) for Resource Circulation” to form a foundation for upcycling waste resources and thereby promote a resource circulating (zero-waste) society.
- “Measure for Promotion of Transition to a Resource Circulation Society” (2013) were introduced
- The “Framework Act on Resource Circulation” (FARC) was decreed in 2016 to form a basis for the implementation of these measures and associated policies. FARC was enforced since 2018.



Australia's National Waste Policy (2018)

- Australia developed a National Waste Policy (Less Waste, more resources) in 2018 building on 2009 waste policy.
- This policy provides a framework for collective action by businesses, governments, communities, and individuals until 2030.
- This policy responds to the challenges facing waste management and resource recovery in Australia – excluding radioactive waste.
- It also reflects the global shift towards a circular economy.



Wales, 2020 - Circular Economy Strategy

- 'Beyond Recycling', outlines plan for Wales to become a zero-waste, net-zero emissions nation by 2050, making savings of up to GBP 2 billion for the Welsh economy.
- The Welsh Government set an interim target of a 70 per cent household, municipal and industrial recycling rate by 2025, alongside a 50 per cent reduction in avoidable food waste and a limit of five per cent waste to landfill
- The Welsh Government plans to work with the other governments of the UK to accelerate the introduction of EPR for packaging and a deposit return scheme (DRS) for drinks containers, with an EPR regime and a ban on highly littered single-use plastics to be implemented by 2021.



Roadmaps towards Circular Economy

Finland's Road Map

- Finland was the first country in the world to prepare a national road map to a circular economy in 2016, under the leadership of the research organisation Sitra.
- In March 2019 an updated version was published that includes descriptions of the essential circular economy measures to which Finnish stakeholders have already committed themselves.

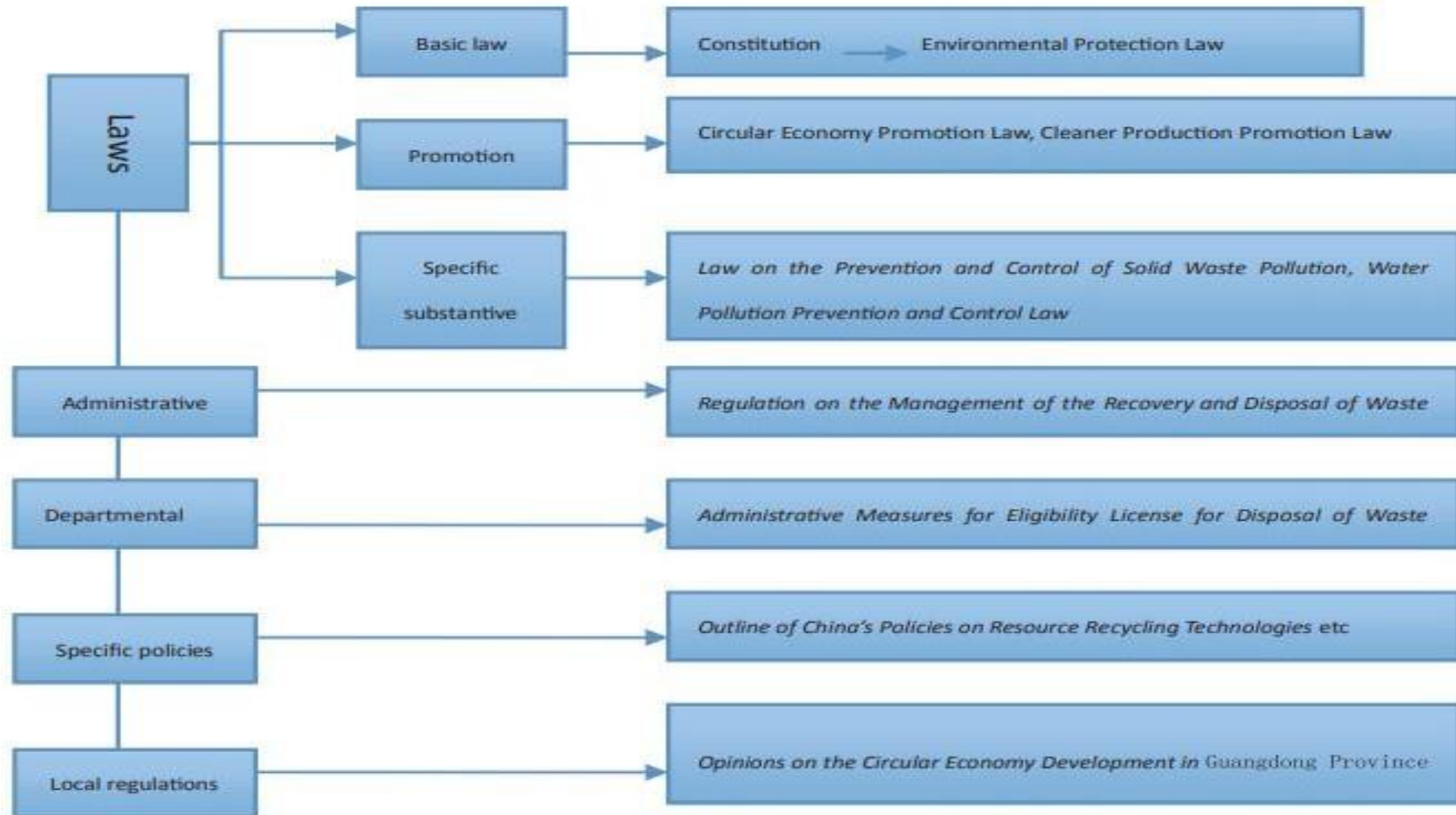
Netherlands, Road map towards Circular Economy Goal 2050

- In 2016, The Netherlands set a goal to be fully circular by 2050.
- The cabinet formulated three objectives to make the Dutch economy circular.
- A Circular Economy Implementation Program was developed to meet the goal for the years between 2019 to 2023.

Sweden's National Action Plan 2020

- In 2020, Sweden adopted a national strategy for a circular economy
- The national action plan focuses on sustainable production and product design; sustainable consumption of materials, products, and sustainable services; toxin-free and circular eco cycles.
- Circular economy is considered as a driving force for the business and other actors by promoting innovation and circular business models.

Framework of China's Legal and Regulatory Policies on Circular Economy



Germany

- Material resource efficiency strategy- German Resource Efficiency Program – ProgRes 2012, ProgRes II in 2016, and ProgRes III 2020
- Germany holds an estimated 1260 patents of having sustainable and innovative products, services and processes (Linnenkoper, 2018)
- Has an impressive recycling rate for all the relevant waste streams.
- Automotive industry is an exemplary case of the effective circular economy model in Germany
 - Under the guidelines of ‘Design for Environment’, vehicles are designed in such a manner that should be resource and environment friendly.
 - “Up to 85% of all the raw materials used in Mercedes-Benz is recyclable and 95% of the materials can be used again for other purposes” (Valavanidis, 2018).

*Case of
European Union*

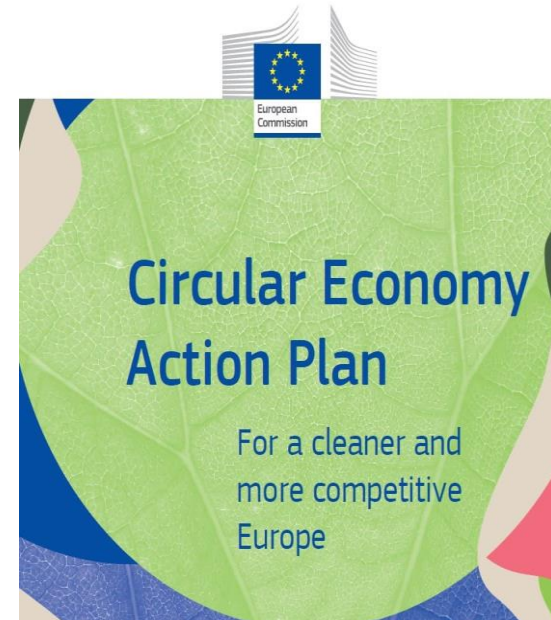
EU Green Deal

- Presents a roadmap for making the EU's economy sustainable by turning climate and environmental challenges into opportunities across all policy areas and making the transition just and inclusive for all
- Green Deal aims to boost the efficient use of resources by moving to a clean, circular economy and stop climate change, revert biodiversity loss and cut pollution.
- Outlines investments needed and financing tools available and explains how to ensure a just and inclusive transition.
- Covers all sectors of the economy, notably transport, energy, agriculture, buildings, and industries such as steel, cement, ICT, textiles and chemicals.
- Provides an Action Plan to boost the efficient use of resources by moving to a clean, circular economy and to restore biodiversity and cut pollution and embraces various policy areas



New Circular Economy Action Plan (CEAP) (2020)

- Provides a future-oriented agenda for achieving a cleaner and more competitive Europe
- Building block of the EU Green Deal, which is Europe's new agenda for sustainable growth
- Sets out a product policy framework in order to increase sustainable production of goods and services.
- Member States to integrate in their own national strategies.
- Contains specific measures for vehicles and batteries, identified as key product value chains:
 - improve the recycling rates of batteries and the recovery of their valuable components in order to reduce the dependency on external suppliers;
 - use alternatives to non-rechargeable batteries when they exist;
 - implement sustainability and transparency requirements for batteries and their raw materials
- Other focus sectors include electronics and ICT, packaging, plastics, textiles, construction and buildings, food, waste and nutrients
- Includes actions to create a well-functioning market for secondary raw materials, including:
 - develop further EU-wide end-of-waste criteria for certain waste streams;
 - enhance the role of standardisation; and
 - assess the feasibility of establishing a market observatory for key secondary materials.

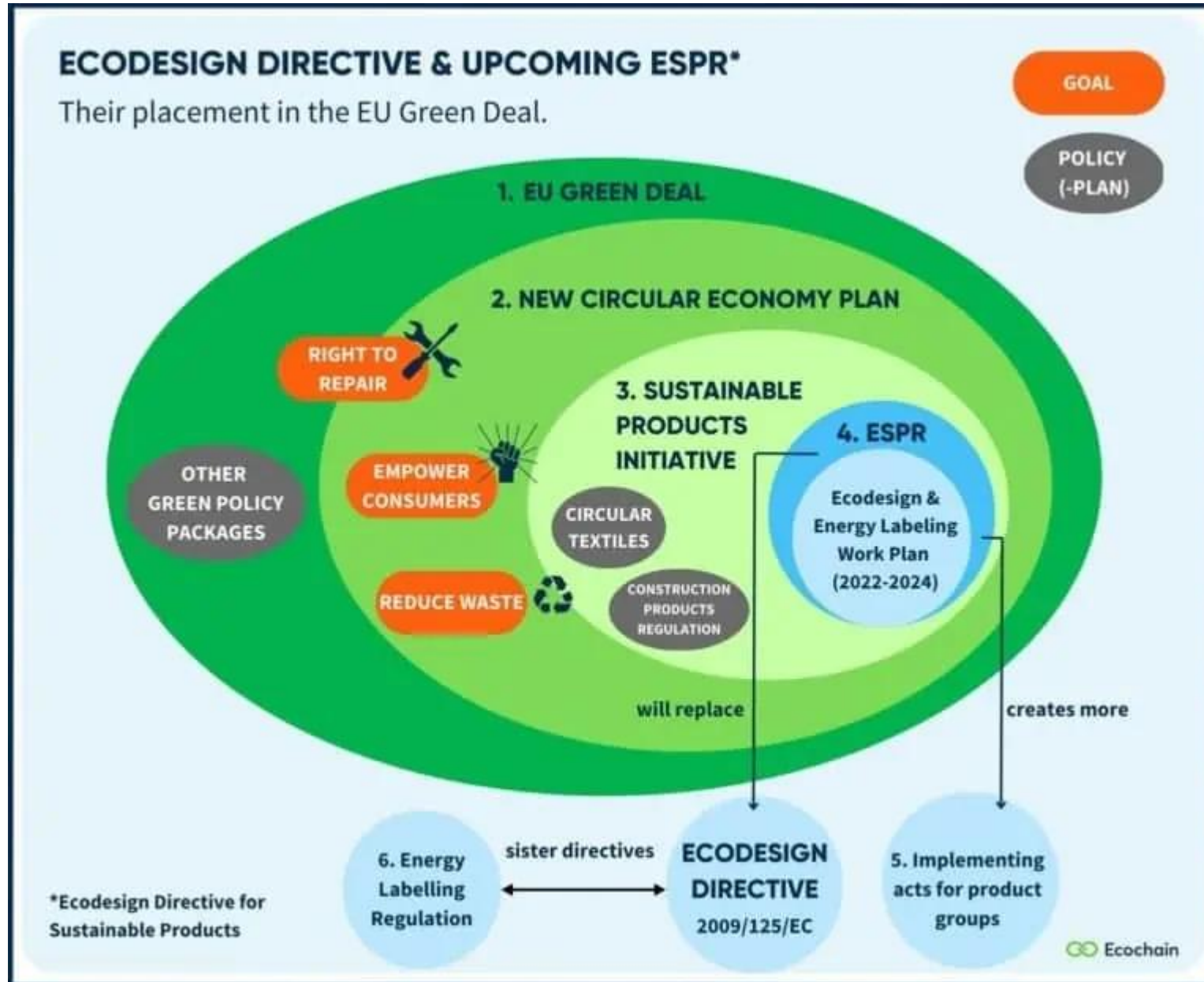


Transition to circular economy is being considered a prerequisite to achieve the EU's 2050 climate neutrality target and to halt biodiversity loss.

Ecodesign for sustainable products regulation (ESPR)

- In March 2022 the European Commission adopted a wide-scope ESPR proposal, including the creation of an EU Digital Product Passport (DPP).
 - Currently with the European Parliament and the Council for adoption in the co-legislative procedure.
 - Finalization of the requirements –2023
 - Application to start in 2024
- Rooted primarily in the European Commission's Circular Economy Action Plan of March 2020
- Will replace the current Ecodesign Directive (2009/125/EC)
- Digital Product Passport (DPP): A decentralized tool to electronically register, process and share product-related information amongst supply chain businesses, authorities and consumers. Data access is enabled through a data carrier and a unique identifier. Manufacturers and EU importers of regulated products will have to ensure before placing a product on the market that a product passport in accordance with the applicable delegated act is available.

Ecodesign for sustainable products regulation (ESPR)



EU-Corporate Sustainability Reporting Directive (CSRD) (2022)

- Aims to provide a more comprehensive picture of companies' sustainability performance
- for the first time— one of the key mandatory topics for companies to disclose will be related to their resource use and circular economy performance
- Its inclusion signals companies and investors that the circular economy agenda is here to stay and that investors are being encouraged to support companies in their transition
- If done right, circular economy information can improve company performance and be useful to EU institutions, investors, companies, and NGOs.

EU- Critical Raw Materials Act (March 2023)

- Ensure secure and sustainable supply chains for EU's green and digital future
- Aims to make the EU more self-reliant in mining, processing and recycling a list of 34 critical metals and minerals, to shield the region from the impact of increasing international competition for these resources.
- It would require the EU to increase domestic production as well as limit the sourcing of critical minerals from third countries by 2030
- Improves EU capacity to monitor and mitigate risks of disruptions and enhances circularity and sustainability.
- Under the legislation, EU member states are expected to develop national programmes for exploring their geological resources

Green Claims Directive

- Common criteria against greenwashing and misleading environmental claims
- Reliable, comparable and verifiable information for consumers
- Regulate environmental labels

Right to repair

- Common rules promoting the repair of goods
- Within Legal guarantee- sellers will be required to offer repair except when it is more expensive than replacement
- Beyond legal guarantee- new set of rights and tools available to consumers to make repair easy and accessible
 - Right for consumers to claim repair to producers
 - Producers obligation to inform consumers
 - Online matchmaking repair platform
 - European repair information form
 - Quality standard for repair services

Policy levers for CE and Decarbonization



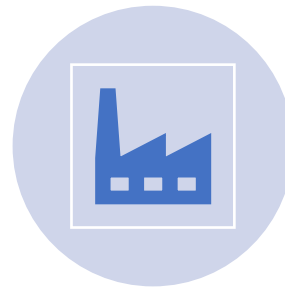
Production Linked
Incentive Schemes for
circular/greener products



End of life management



Sustainable public
procurement



Creating a business case
and market for circular
production/solutions

Policy design

- CE mostly understood and practiced at **Project level**
- CE often not captured in **Policies** and a **Programmatic approach** is rarely seen.
- Challenge is often on visualizing the big picture, developing harmonized strategies involving key stakeholders and achieve coordination in implementation
- **We need a co-creation process-Youth can play a key role!!**

Role of Youth

- Guide policy design through research and learning
- Conduct policy impact assessments
- Engage with stakeholders to identify circular solutions and required policy enablers
- Set an example- sustainable way of living
- Be the face of innovative entrepreneurs aware of the limit of the current economic model
- Rethink production and consumption habits as they enter the professional world.
- Skilling and training to participate
- And many more ways.....



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