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GLOBAL SUSTAINABLE DEVELOPMENT REPORT

The Independent Group of Scientists (2020-2023)

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Ms. Kaltham Al-Ghanim , Professor of sociology at Qatar University and Director of the Social & Economic Survey Research Institute (SESRI)

Mr. John Agard, Professor of Tropical Island Ecology and Director of the University of the West Indies, St. Augustine Centre for Innovation and Entrepreneurship

Ms. Åsa Persson, Research Director and Deputy Director of the Stockholm Environment Institute, Adjunct Professor, Linkoping University

Mr. Sergey N. Bobylev, Head of Environmental Economic Division, Full Professor of Moscow State “Lomonosov” University

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Mr. Ambuj Sagar, Vipula and Mahesh Chaturvedi Professor of Policy Studies and the founding Head of the School of Public Policy at the Indian Institute of Technology Delhi

Mr. Jaime C. Montoya, Professor at the University of the Philippines College of Medicine and President of the National Academy of Science and Technology

Mr. Norichika Kanie, Professor at the Graduate School of Media and Governance, Keio University, Adjunct Professor at United Nations University Institute for the Advanced Study of Sustainability

Ms. Nancy Shackell, Senior research scientist at Bedford Institute of Oceanography in Nova Scotia, working for Fisheries and Oceans Canada (DFO)

GSDR Contents

- Half-way to 2030 – Progress towards the SDGs
- Framing the future
- Pathways to achieve the SDGs
- Accelerating transformations to the SDGs
- Transformations through science – and in science
- Calls to action for transformations

GLOBAL SUSTAINABLE DEVELOPMENT REPORT

Frameworks for shaping the future

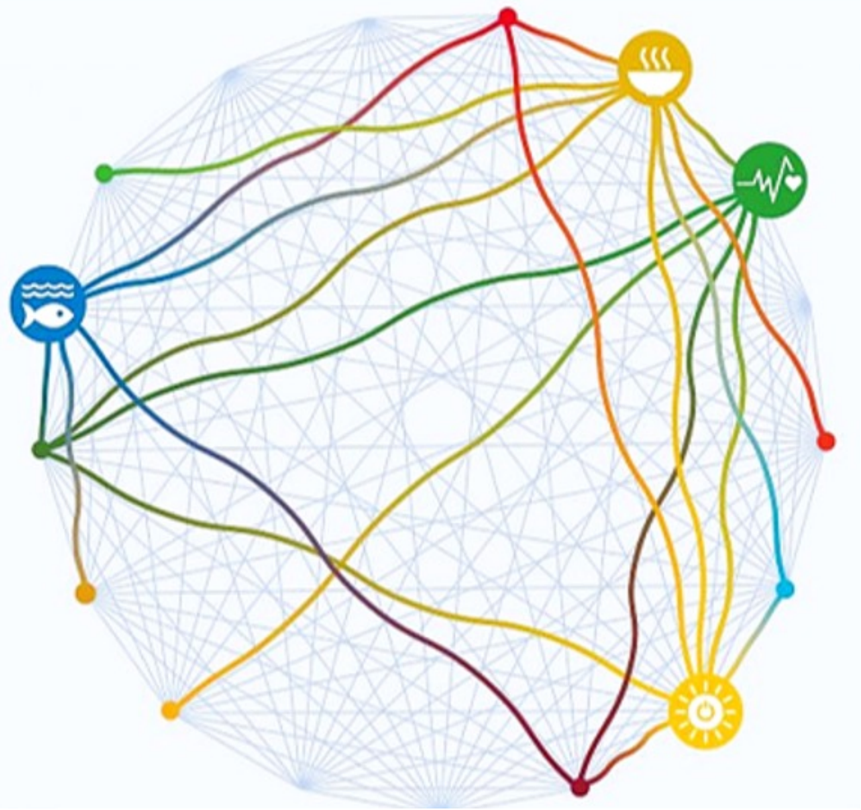
UN Photo/Mark Garten

Accelerating progress: Using SDG interlinkages

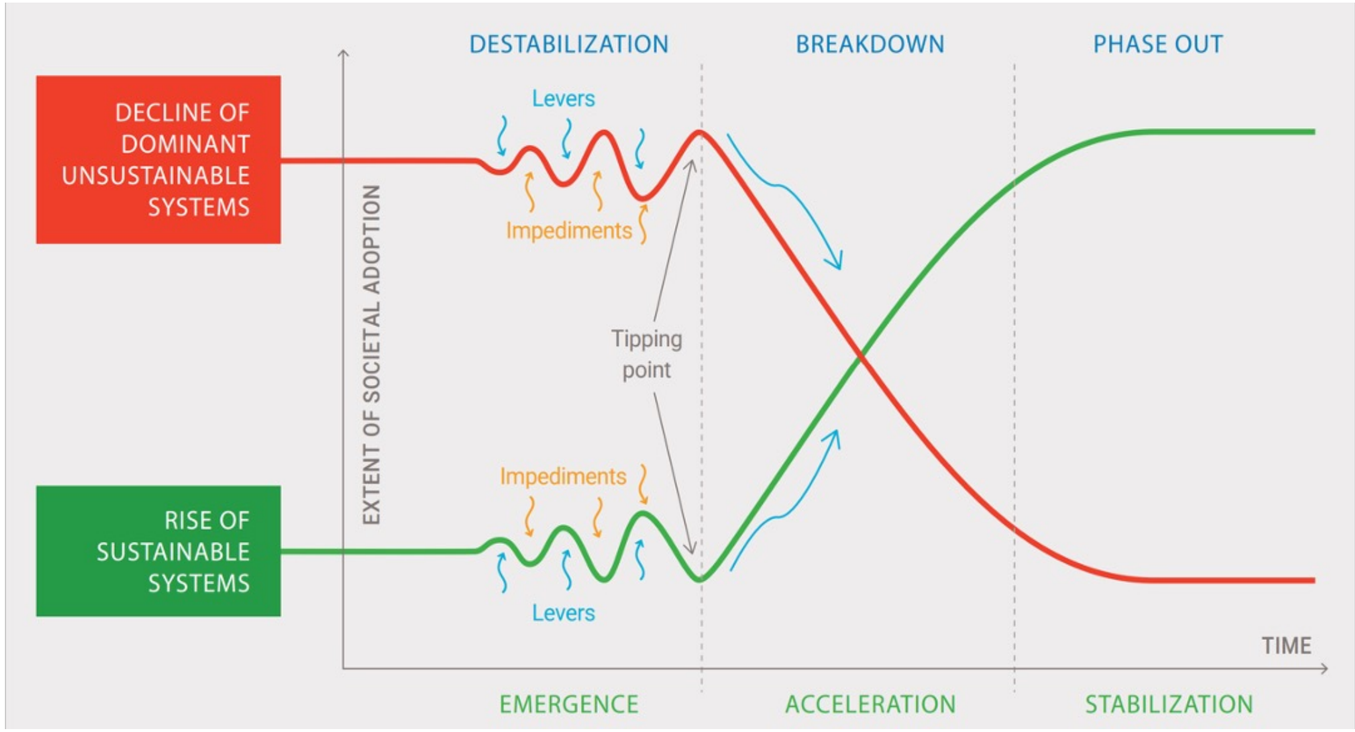
- Policymakers stand to benefit by leveraging synergies and managing tradeoffs between SDGs, including accounting for spillovers across national borders.

- The latest science finds that SDG interlinkages are context and group specific:

  - Distribution of tradeoffs and synergies varies across regions, income, and population groups.
  - Synergies are higher for female, younger, and rural populations for whom trade-offs are more negligible - *i.e., progress on a given SDG indicator for these groups will generally foster progress for the group on other SDG indicators.*



Driving Transformation through its phases on an S-curve

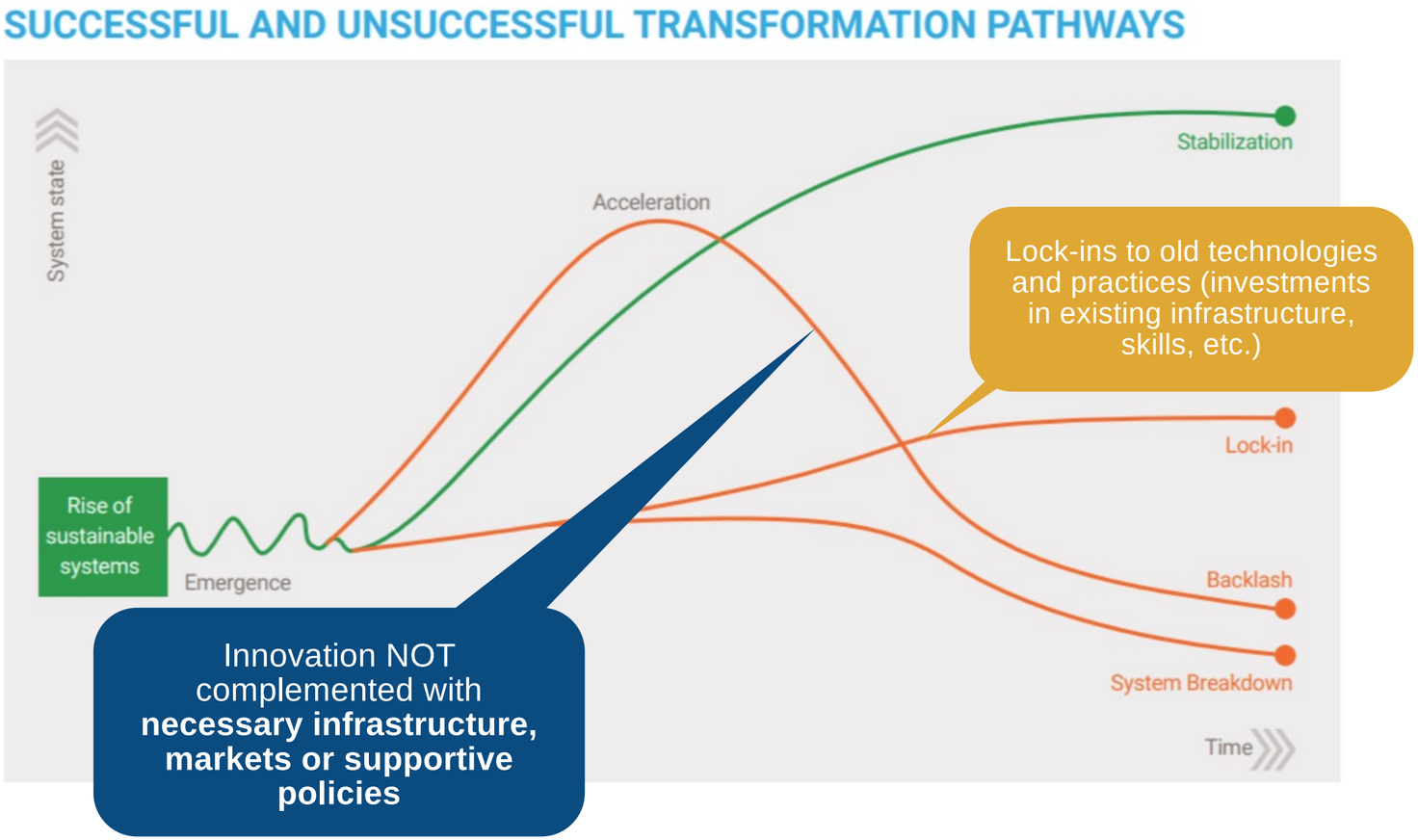


- Strategies for the SDGs must minimize impediments and support promising solutions specific to different phases of transformation:
  - ***Emergence***
  - ***Acceleration***
  - ***Stabilization***

- Tipping points examples:
  - Major societal shifts in perspectives (single-use plastics)
  - Innovations suddenly become easier to use or more socially desirable (smart phone)

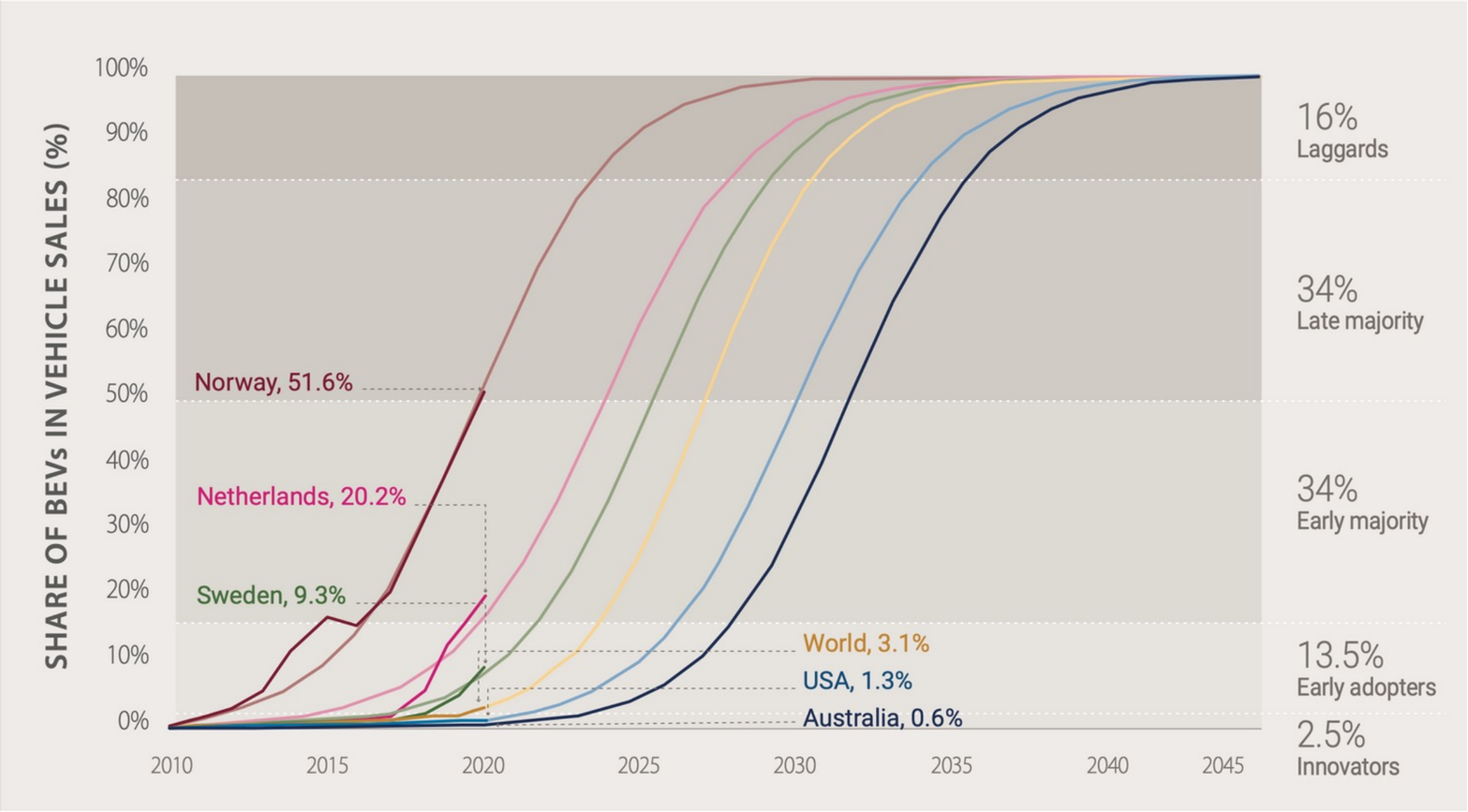
- **Strategic combinations of levers enable SDG solutions to move from emergence, to acceleration, to stabilization**

Overcoming impediments for dynamic transformations



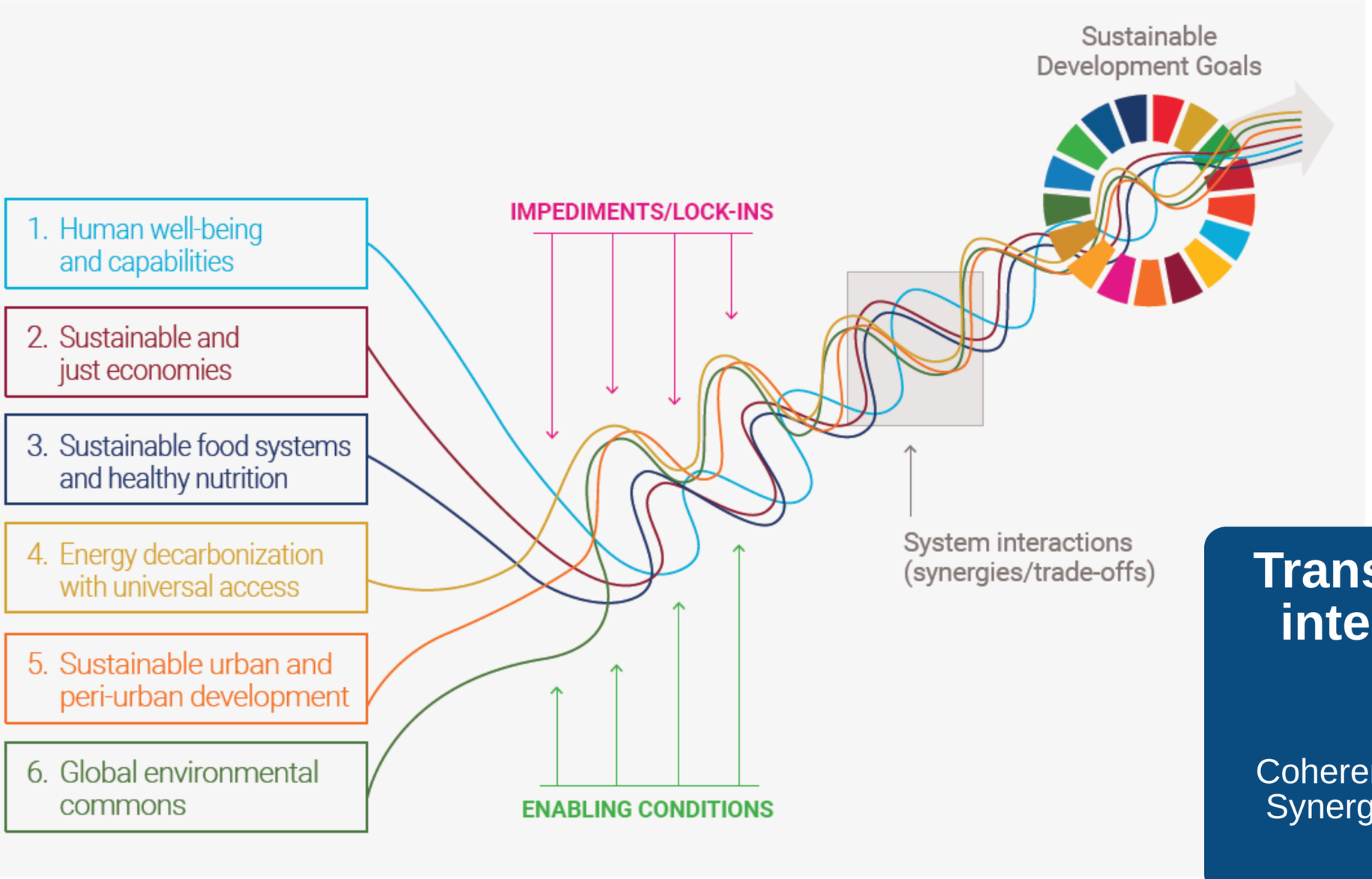
- **Acceleration** is Key
- Nurture **innovation**
- Give **strategic direction**
- Goals Matter
- **Foresight** capacity
  - Use scenarios and models
- Standardization and quality assurance
- Innovation (COVID-19 and virtual meetings)
- Powerful actors support new ways of thinking, doing and acting (electric car)

The S-Curve in Practice: Electric Vehicles



- Several countries advanced rapidly along the S-curve. Key factors for potential adopters are the upfront **costs** and **availability** of an adequate charging network. **Governmental policy and tax incentives** also helps acceleration.
- However, this transition can also cause **damage** and **trade-offs,** and **spillovers** must be accounted for and managed.

TRANSFORMATIONS ARE INTERLINKED ACROSS SYSTEMS – COHERENT ACTIONS CAN GENERATE SYNERGIES/MANAGE TRADE-OFFS



Transformations are interlinked across systems

Coherent Actions can Generate Synergies/ Manage Trade-offs

Translating rising awareness and commitments to the SDGs into action

- The crises that have wiped out years of SDG progress are interrelated, fuelling intensities, but connections could be turned into **opportunities**.

- The SDGs have taken root across sectors and levels of government improving prospects for achievement, but **aspirations and commitments have not yet translated into action and implementation at a scale visible in SDG progress** often due to lack of financial resources.

Goal attainment will depend on all actors integrating the SDGs into core decision-making processes, financing mechanisms prioritizing SDG attainment, and strong mechanisms for accountability.

Calls to Action

- **Establish an SDG Transformation Framework for Accelerated Action**
  - Member states should set national plans prioritizing key SDGs and addressing bottlenecks
  - Business and local government roadmaps
  - Provide finance and integrate SDGs in budgeting
- **Build capacities for transformation**
  - Training, foresight, public engagement, negotiation skills
- **Drive transformation through its phases and manage interlinkages**
  - Identify interventions for six entry points, use science to assess interlinkages and international spill-overs
- **Improve critical, underlying conditions for SDG implementation**
  - Prevent conflict, ensure fiscal space, focus on marginalized groups
- **Work with science**
  - Invest in evaluation research, global South R&D, mechanisms for knowledge sharing

In closing...

- **Transformations are possible, and inevitable**
- A better future does not rest on one source of security, but on **all necessary securities**, including geopolitical, energy, climate, water, food and social security
- Working as a **human collective**, time and resources must be used as judiciously and effectively as possible
- Against the backdrop of shocks and crises, the **2030 Agenda** for Sustainable Development remains a strong and valid agenda for a desirable future

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Thank you!

Find the GSDR 2023 and latest news here:

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https://sdgs.un.org/gsdr/gsdr2023

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ADDITIONAL SLIDES

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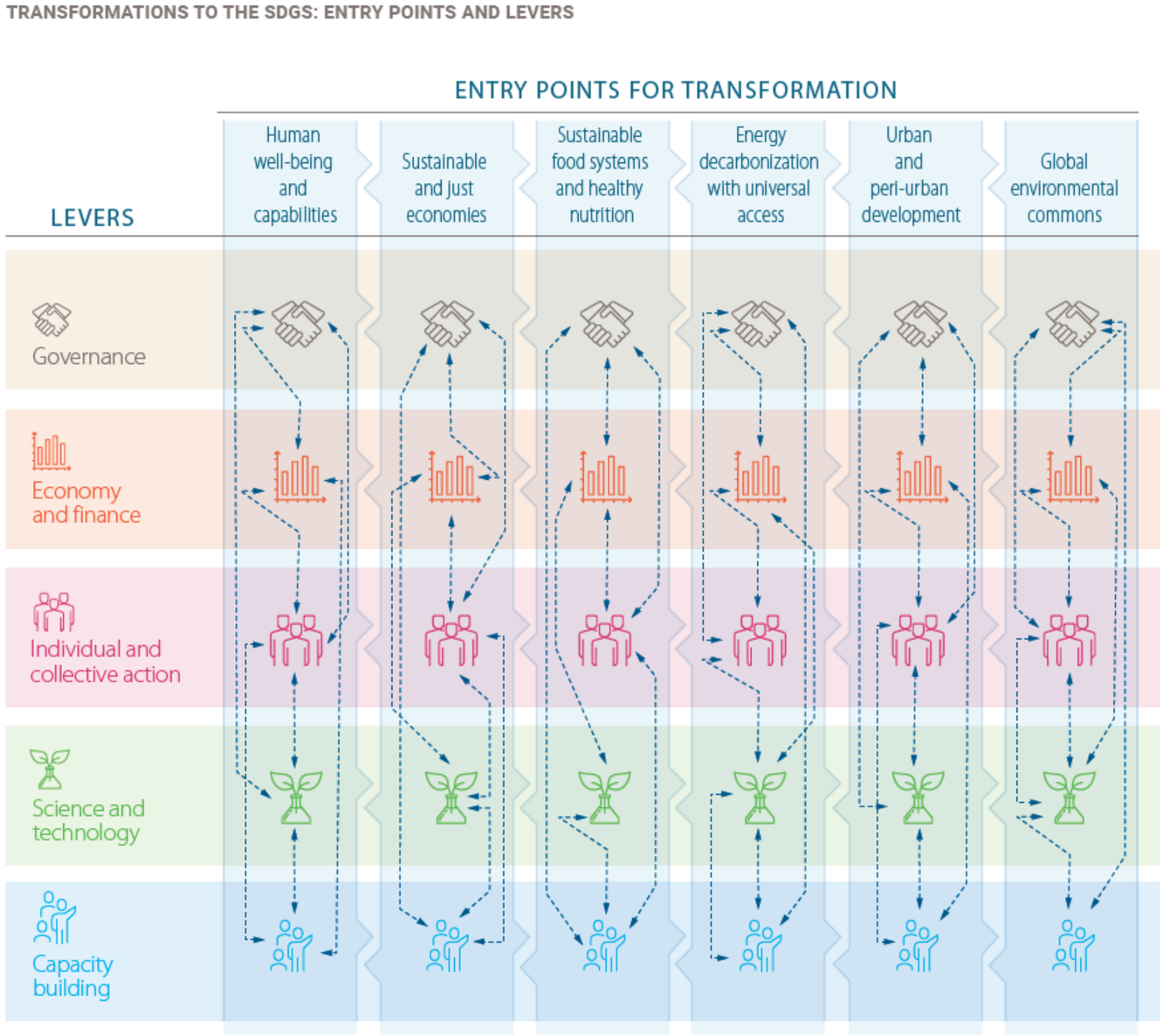
Transformative Shifts in

Entry Points

Working through entry points for transformation

- Business-as-usual strategies will not deliver the SDGs by 2030 or even 2050 but working through **six key entry points** to **leverage interlinkages** could unleash rapid progress.
- Locally relevant, synergistic and integrated implementation processes will be needed that break down the silos of public service and policymaking.
- Levers need to work together in a cohesive manner to overcome impediments
- Capacity building is a lever added in the 2023 GSDR and crucial for enabling transformation



1

ENTRY POINT:
Human Well-being & Capabilities

- Scale up investment in primary **health** care and ensuring access to life-saving interventions
- Accelerate secondary **education** enrolment and completion and ensuring all girls are enrolled
- Increase investment in **water and sanitation** infrastructure to deliver universal piped water access and halving of untreated wastewater.

2

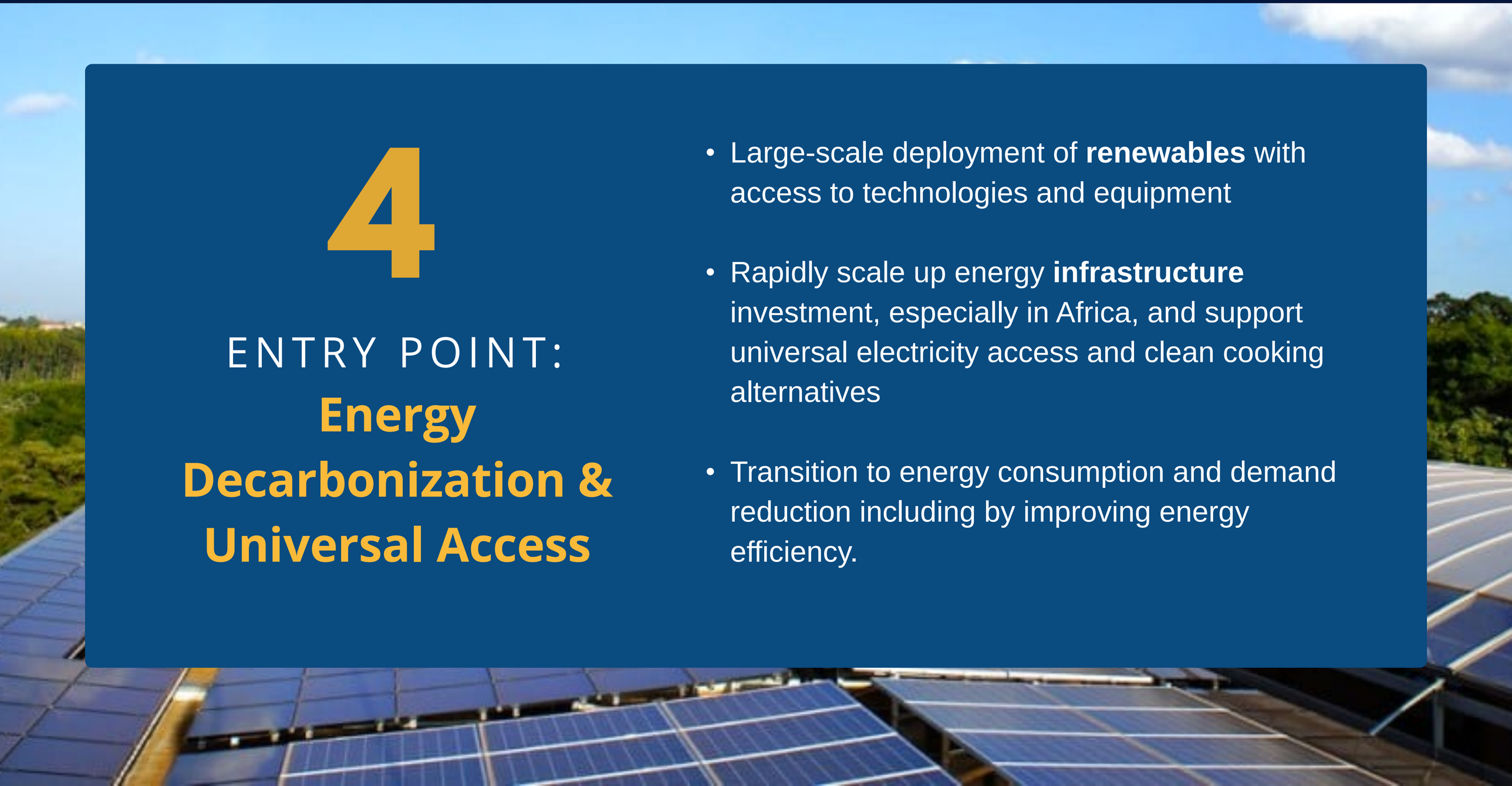
ENTRY POINT: Sustainable and Just Economies

- Accelerate a **just economy** with **inclusive, pro-poor growth** including redistribution measures, doubling welfare transfers in low-income countries
- Rollout **good practice** climate policies and global carbon pricing
- Encourage **lifestyles** that promote ‘sufficiency’ levels
- Invest in **green innovation**, and **circular and sharing economy models.**

3

ENTRY POINT: Food Systems & Nutrition Patterns

- Shift to **regenerative ecological** and **multifunctional agricultural systems**.
- Improve **irrigation and fertilizer efficiency**.
- **Reduce food waste** by 50 per cent and **scale up proven nutrition interventions**.
- **Halve consumption of meat** in high-consumption regions and adapt **plant-based diets.**



4

ENTRY POINT: Energy Decarbonization & Universal Access

- Large-scale deployment of **renewables** with access to technologies and equipment
- Rapidly scale up energy **infrastructure** investment, especially in Africa, and support universal electricity access and clean cooking alternatives
- Transition to energy consumption and demand reduction including by improving energy efficiency.

5

ENTRY POINT:
Urban & Peri-urban Development

- Double the recycled and composted share of municipal waste by 2030 and increase circularity of waste cycle
- Greater use of electrical vehicles
- Better public transport with cities' and infrastructure oriented to people and pedestrians
- Good-practice policies for transport, buildings and waste

6

ENTRY POINT: Global Environmental Commons

- Expand **protected** areas, abandon intensive agricultural practices in protected areas, reforestation of all degraded forest areas, shift societal preferences towards conservation land use
- Reduce **water** consumption and ensure environmental flow requirements
- Adopt a **1.5°C land-sector road map** that combines ambitious protection, conservation, restoration and lifestyle changes

Key Shifts

ENTRY POINT:
Human wellbeing and capabilities

- Scale-up investment in core primary **health** care interventions, ensure that every pregnant woman and neonate has access to lifesaving interventions, optimize existing health systems and expand community-based health initiatives.
- Accelerate secondary **education** enrolment and completion rates, ensure all girls are enrolled in secondary education by 2030, expand tertiary education and education on sustainability issues.
- Increased investment in **water and sanitation** infrastructure, particularly; transition to universal piped water access and halve untreated wastewater that by 2030 (and halve again by 2050).

Interventions by lever

GOVERNANCE	Health: policy and population-wide interventions (e.g. regulatory interventions, taxes, restrictions and bans); periodic outreach and schedulable services (e.g. vaccines, family planning, nutrition, supplements); first-level and above clinical services (e.g. disease treatment, counselling, mammography, asthma, pulmona). Optimising health systems to address staff shortages, retrain workers, reinforce infrastructure and supplies, strengthen networks and expand services Education: eliminating school fees, improving local access to schools, increasing the number of years of compulsory schooling, and providing food, stipends, and other resources for children at school
BUSINESS &FINANCE	Health: additional USD200 billion per year from 2020 to 2030 for core PHC in LMICs Water & Sanitation (W&S): reallocate financing away from conventional freshwater supply systems combined with massive ramp-up in investment in efficiency and clean supply projects. Incremental investment in piped water access and water treatment reaches USD260 billion per year by 2030.
SCIENCE &TECHNOLOGY	W&S: rapid expansion of desalination and wastewater recycling in water stressed regions
INDIVIDUAL& COLLECTIVE ACTION	W&S: additional 10% end-use efficiency improvement beyond baseline due to behaviour change
CAPACITY BUILDING	Build capacities to implement each lever and to overcome impediments including building an adequate workforce that is well-resourced, available where needed, and with accessible infrastructure and functioning equipment, addressing financing gaps for investment in health, education and water and sanitation, strengthening governance and institutions, and resolving conflicts.

ENTRY POINT:
Sustainable and just economies

Key Shifts

- Encouraging inclusive, pro-poor growth including progressive redistribution measures, doubling welfare transfers in low-income countries
- Rollout of good practice **climate policies** and **global carbon pricing**
- Encouraging **lifestyles** that promote sufficiency levels
- Investment in **green innovation**, and **circular and sharing economy models.**

Interventions by lever

GOVERNANCE

- **Just Economy:** policies for redistribution, income transfers, and redirecting public investments to focus on productive capacity and raising the incomes of the poor, including universal cash transfers, universal insurance coverage, or instituting a basic income. Social transfer schemes can include equal per capita payments or progressive redistribution inversely proportional to income.
- **Sustainable Economy:** good practice climate policies including economy-wide measures such as differentiated carbon pricing through taxes or cap- and-trade. Environmental policies and taxation to accelerate behaviour change, for example when applied to transport or energy. Governments can also create markets for new innovations through regulations, tax exemptions, deployment subsidies and labelling.

BUSINESS & FINANCE

- **Just Economy:** recycling revenue raised from carbon taxes in all countries to households to alleviate poverty, with shortfalls in LICS to be met by a portion of revenues raised in HICS and committed to a global fund. Greater concessional finance and debt relief for developing countries to ensure scope for social spending.
- **Sustainable Economy:** global carbon tax revenue potential of USD436-1360 billion by 2030 under different mitigation pathways. Rollout of good practice climate policies would cost 0.02% in annual GDP growth to 2050.

SCIENCE & TECHNOLOGY

- **Sustainable Economy:** industry technology measures include carbon capture and storage (HICS 1.5% of total CO, emissions by 2030), improving final energy efficiency (HICS 11% and LMICS 6% by 2030); and reducing N,O emissions. Support from state investment banks, public-private financing facilities, and government science funding mechanisms for green innovations. Divestment in current business-as-usual practices and technologies and increasing investment in R&D.

CAPACITY BUILDING

- Build capacities to implement each lever and overcome impediments including building institutional capacities for navigating revenue collection and redistribution, overcoming political resistance, managing environmental and economic trade-offs, designing and delivering carbon taxes to address financing gaps, developing markets for sustainable innovations, and shifting ingrained unsustainable behaviors and attitudes.

ENTRY POINT:

Food systems and nutrition patterns

Key Shifts

- Shift to **regenerative ecological** and **multifunctional agricultural** systems.
- Improve **irrigation and fertilizer efficiency**.
- **Reduce food waste** by 50 per cent and **scale up proven nutrition interventions**.
- **Halve consumption of meat** in high-consumption regions and adapt **plant-based diets**.

Interventions by lever

GOVERNANCE

- **Sustainable Food Systems:** policy reform and investment in enabling conditions including improved value chains, finance, extension, gender-responsive policies and investments, social protection, water management, implementation of carbon payments and smart subsidies, and agroecological and landscape approaches. Investing in education and social security can address lock-in effects of unskilled workers in agriculture.
- **Healthy nutrition/diets**: investment in public health information and educational materials and guided food choices through incentives or disincentives, including regulations.

BUSINESS & FINANCE

- **Sustainable Food Systems:** agricultural R&D investments of USD4 billion per year have the potential to nearly end hunger by 2030 while a further USD6.5 billion per year in technical climate-smart options can achieve GHG emissions reductions consistent with the 1.5°C pathway. Increased trade liberalisation; abolishment of import tariffs and export subsidies on agricultural products.
- **Healthy nutrition/diets:** investments to address stunting cost USD19.75 billion between 2019 and 2030. Investments to address wasting cost USD275.97 billion between 2019 and 2030. Interventions to address anaemia cost USD16.98 billion between 2019 and 2030.

SCIENCE & TECHNOLOGY

- **Sustainable Food Systems**: a rapid uptake of improved technologies, especially in Africa, Asia and Latin America; investments in R&D, yieldaugmenting technologies, management improvements and irrigation technologies to reduce losses in conveyance and application; adoption of new crop varieties; precision agriculture and automation, redesigning agricultural practices including intercropping and agroforestry.
- **Healthy nutrition/diets:** increasing R&D investments of USD4 billion per year above the baseline could reduce hunger incidence to 5% globally by 2030.

INDIVIDUAL& COLLECTIVE ACTION

- **Healthy nutrition/diets**: influencing social norms around diet for younger population (ages 15-44).

CAPACITY BUILDING

- Build capacities to implement each lever and overcome impediments including building institutional capacities for navigating revenue collection and redistribution, overcoming political resistance, managing environmental and economic trade-offs, designing and delivering carbon taxes to address financing gaps, developing markets for sustainable innovations, and shifting ingrained unsustainable behaviors and attitudes.

Key Shifts

ENTRY POINT:
Energy Decarbonisation & Universal Access

- Large-scale deployment of **renewables** and best available technologies, appliances and equipment
- Rapidly scaling up **infrastructure** investment and support for universal electricity access and clean cooking alternatives
- Phasing down of **fossil fuels** by 2030 in a domestically and globally just manner
- Major changes in global **consumer behaviour** to reduce energy consumption and end-use electrification.

Interventions by lever

GOVERNANCE

- **Access**: subsidies to stimulate the adoption of cleaner cooking fuels/technologies or regulations to near-complete phase out biomass cookstoves by 2030.
- **Decarbonisation**: carbon pricing of emissions and subsidies for renewables. Energy system policies for faster phase out of coal and near-complete phase out of traditional biomass by 2040, restrictions on nuclear capacity additions and bioenergy potential, and faster phase out of fossil energy subsidies by 2030. Mandatory targets to increase share of renewables in electricity generation and ban new installations of coal power plants by 2025 (HICS) or 2030 (LMICs).
- **Demand**: introduction of a progressive carbon tax affecting energy demand, regulations to improve energy efficiency, incentives to improve dwelling energy performance and change behaviour to reduce energy consumption; designing and enforcing national standards and labelling for household appliances and efficient equipment; subsidies, appliance rebates and access to credit for lower income households to benefit from modern energy technologies.

BUSINESS & FINANCE

- **Access**: increase public and private investment in electricity infrastructure in Africa from 1% to 3% GDP per annum to 2030.
- **Decarbonisation**: divestment from fossil fuel activities reaching more than 170 Billion USD per year by 2030 and used to partially fund USD910 billion per year on efficiency and low-carbon resources. Recycling of carbon revenues whereby developed countries devote part of their revenues to an international fund that supports clean energy and R&D in developing countries (USD50 billion per annum).

SCIENCE & TECHNOLOGY

- **Decarbonisation**: public and private investment in innovation in renewable energy technologies; spatially optimised bioenergy with carbon capture/storage.
- **Demand**: promote digital technologies for energy use, transmission and monitoring and innovation in high quality housing with highly efficient facilities for cooking, storing food and washing, low-energy lighting.

INDIVIDUAL & COLLECTIVE ACTION

- **Demand**: incentivize behaviour change to reduce energy consumption.

CAPACITY BUILDING

- Build capacities to implement each lever and overcome impediments including for designing and implementing market conditions, incentives and regulatory settings for investment in sustainable energy infrastructure and improving revenue collection, navigating political resistance from sunk investments in capital stocks, managing trade-offs and competition between socioeconomic and environmental goals, building coalitions and public support in favour of decarbonisation, and shifting towards sustainable consumption behaviours.

ENTRY POINT:

Sustainable urban and peri-urban development

Key Shifts

- Shift towards **sustainable urban development** by doubling of the recycled and composted share of municipal waste by 2030 and increased circularity in the waste cycle; implementing mandates for electric vehicle market penetration; increasing demand and provision of public transport; rollout of good practice climate policies for transport, buildings and waste; investing in innovation to reduce plastic and solid waste; transition to smart cities using modern digital technologies. water access and halve untreated wastewater that by 2030 (and halve again by 2050).

Interventions by lever

GOVERNANCE	Expanding municipal waste collection systems, incentives and educational initiatives for composting and recycling;32 investment in public transport networks, multi-modal transport and incentives or mandates for electric vehicle uptake (e.g. 50% new sales by 2030), regulations or standards to improve fuel efficiency of passenger cars and aviation,7,12,16 building standards to improve final energy intensity of new residential and commercial buildings and no new installations of boiler capacity;12 retrofitting of existing building stock to improve energy efficiency (6-11% by 2030);12 reducing waste emissions by 28-55% by 2030.
SCIENCE& TECHNOLOGY	Investing in innovation to reduce plastic and solid waste14 and modern digital technologies to transition to smart cities.
INDIVIDUAL &COLLECTIVE ACTION	Incentives and educational initiatives for behaviour change around composting and recycling and public transport.

ENTRY POINT:
Global Environmental Commons

Key Shifts

- Protect and restore life on land by expanding protected areas to all priority conservation areas and biodiversity hotspots reaching 40-50% of terrestrial areas by 2050; preserving 85% of tropical/ boreal forest and 50% of temperate forest on each continent; abandoning agricultural land in protected areas or areas with >5% threatened species; ambitious reforestation of all degraded forest areas; and implementing a 1.5°C land-sector roadmap for 2050 combining avoided deforestation and land conversion, restoring forests and wetlands, improving forest management, lifestyle changes (diets, waste) and reduced reliance on BECCS. Protect other global environmental commons including ensuring environmental flow requirements; greater conservation of water by households, farms and industry, and improved air quality control.

Interventions by lever

GOVERNANCE

- Conservation policies, establishment of protected areas, land use regulation and law enforcement, integrated land use planning, sustainable forest management (optimising rotation and stocks, low-impact logging, certification, fire management), improved land tenure, sustainable commodity production, improved supply chain transparency, procurement policies, commodity certification, cleaner cookstoves, investments in ecosystem restoration and nature-based solutions, integration of agroforestry into agricultural and grazing lands, limit water extraction to local environmental flow requirements in low, intermediate and high flow periods.

BUSINESS & FINANCE

- Payment for Ecosystem Services schemes, including Reducing Emissions from Deforestation and Forest Degradation (REDD+).

INDIVIDUAL & COLLECTIVE ACTION

- Shift societal preferences from production to conservation land use and enable lifestyle changes around diets and waste.

CAPACITY-BUILDING

- Build capacities to implement each lever and overcome impediments including for managing trade-offs between food production and biodiversity protection, designing and implementing effective financial conservation schemes, establishing sustainable land management regulations, institutions and governance systems.