



THE
CIRCULARITY
GAP REPORT

2022



ANNIVERSARY

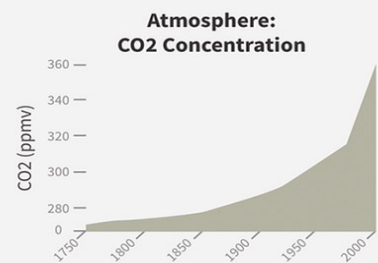
Five years of analysis and insights



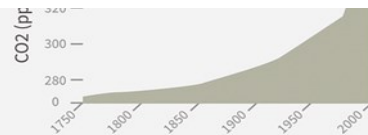
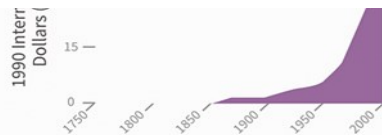
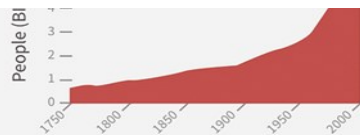
We are an **impact organisation** with an international team of passionate experts, based in Amsterdam, operating globally.

Business leaders, policymakers, civil society organisers—whether local, national or international—are our allies.

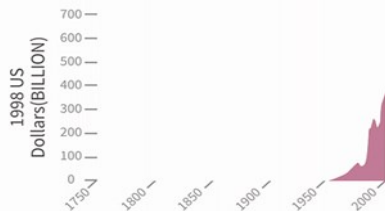




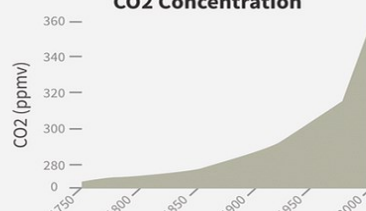
ACCELERATING AT RECORD SPEED INTO THE UNKNOWN



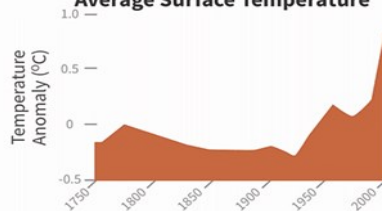
Foreign Direct Investment



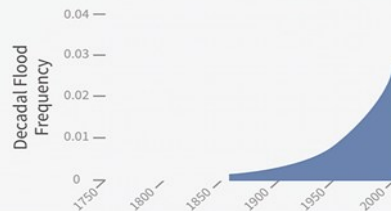
Atmosphere: CO2 Concentration



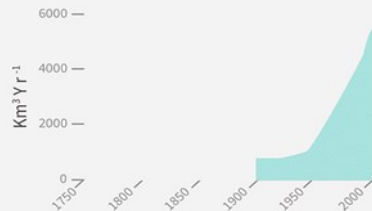
Climate: Northern Hemisphere Average Surface Temperature



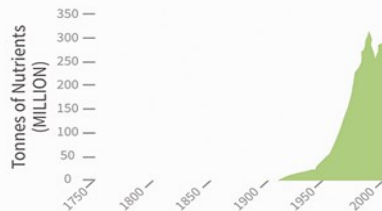
Climate: Great Floods



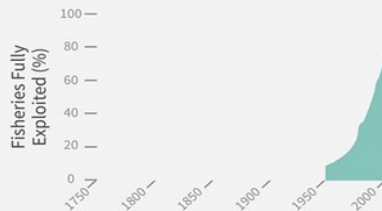
Water Use



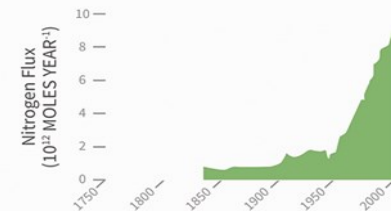
Fertilizer Consumption



Ocean Ecosystems



Coastal Zone: Biogeochemistry



Paper Consumption



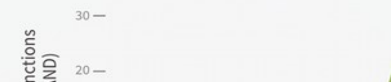
Transport: Motor Vehicles



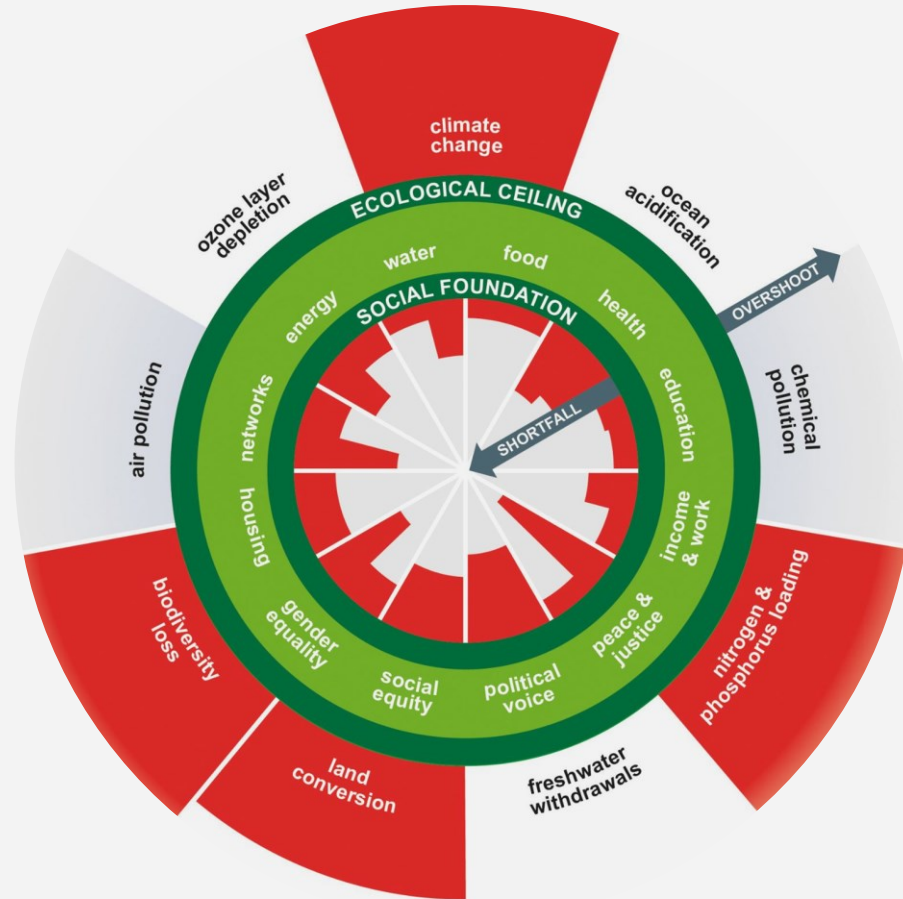
Terrestrial Ecosystems: Loss of Tropical Rain Forest and Woodland



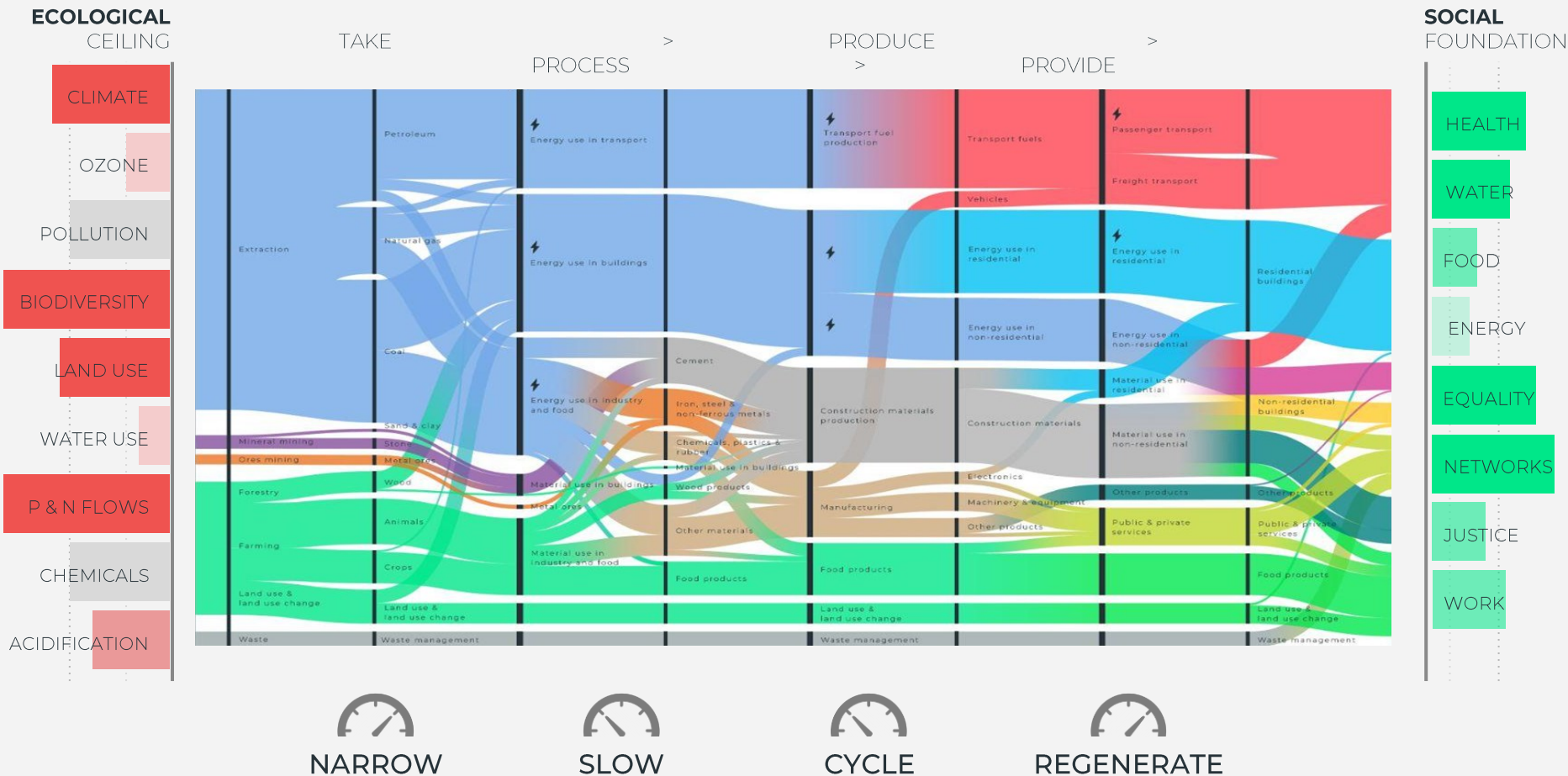
Global Biodiversity



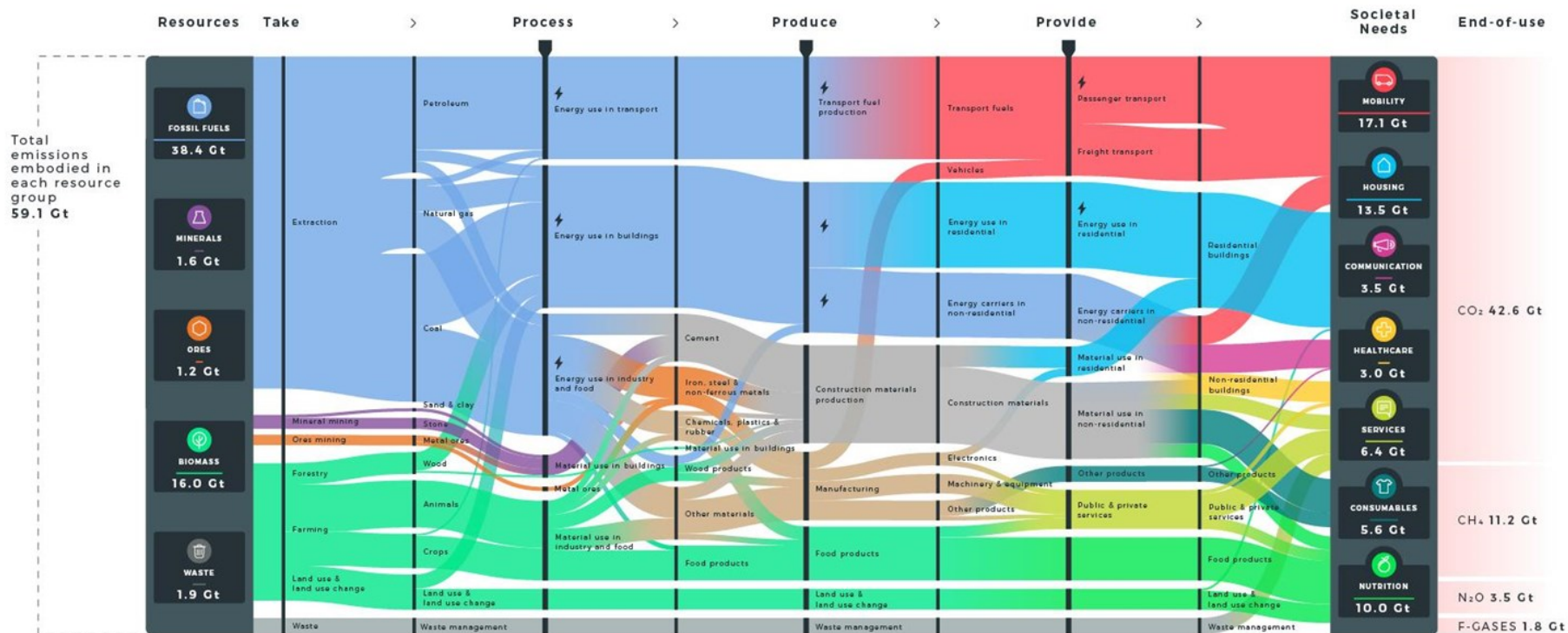
A SAFE OPERATING SPACE FOR HUMANITY



HOW TO STEER TOWARD THE 'SAFE OPERATING SPACE'?



EXPLORING THE RESOURCE-EMISSIONS NEXUS

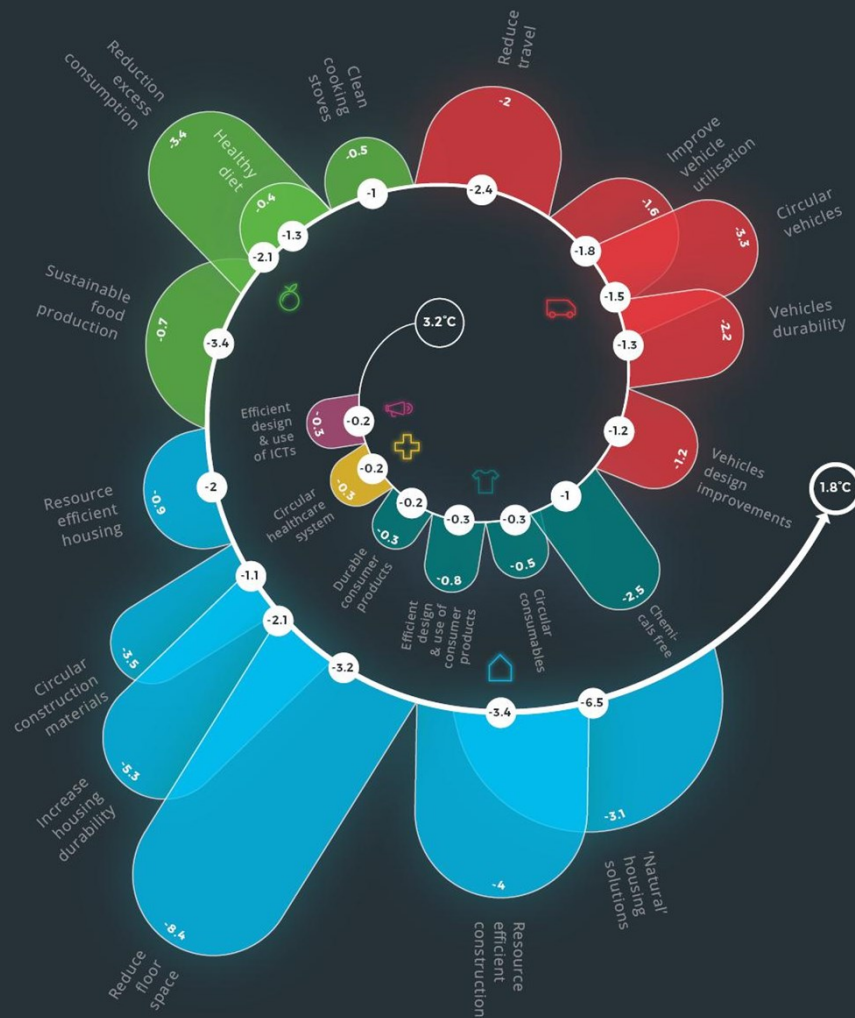


RESOURCES & EMISSIONS >

THE GLOBAL ECONOMY

> SOCIETAL NEEDS





The Circular Economy Pathway to Paris

21 SOLUTIONS

spread across six societal needs and wants. Within each solution are strategies: 'how to get there'.

Figure Four: Shows the range of adaptable strategies within each solution

2.4°C

The forecasted global temperature rise, if current NDCs are implemented by 2050

EFFICIENT DESIGN OF ICTS

Saving: 0.19 Gt emissions and 0.33 Gt material use
Strategies: Buy smaller and lighter electronic devices, increased digitalisation, cloud computing services

CIRCULAR HEALTHCARE

Saving: 0.21 Gt emissions and 0.27 Gt material use
Strategies: Repair, maintenance and durable design of medical equipment, substitute single use medical items for reusable alternatives, virtual health care (ex. Doctor's appointments over skype etc.), medical equipment cascading, medical waste recycling

DURABLE CONSUMER PRODUCTS

Saving: 0.18 Gt emissions and 0.80 Gt material use
Strategies: Repair, maintenance, sharing, and secondhand use of textiles, appliances, furniture, machinery and equipment

EFFICIENT DESIGN AND USE OF CONSUMER PRODUCTS

Saving: 0.30 Gt emissions and 0.80 Gt material use
Strategies: Less/more efficient paper use, less/more efficient and more natural textile use, less/more efficient plastic use, less/more efficient furniture use, less/more efficient electronic goods use

IMPROVE VEHICLE UTILISATION

Saving: 1.83 Gt emissions and 1.64 Gt material use
Strategies: Fuel efficient driving, car pooling/sharing

CIRCULAR VEHICLES

Saving: 1.50 Gt emissions and 3.33 Gt material use
Strategies: Recycle vehicles at end-of-use, use recycled metal and plastics for vehicles

VEHICLE DURABILITY

Saving: 1.23 Gt emissions and 2.18 Gt material use
Strategies: Reuse of motor vehicle components, durable vehicle design and production, optimal vehicle repair and maintenance

VEHICLE DESIGN IMPROVEMENTS

Saving: 1.22 Gt emissions and 1.24 Gt material use
Strategies: Vehicle lightweighting, autonomous driving (safer driving = less need for crash resistant cars), use smaller cars

CHEMICALS-FREE

Saving: 0.96 Gt emissions and 2.50 Gt material use
Strategies: Use bio-plastic, use less plastic, use less chemicals

CIRCULAR CONSUMABLES

Saving: 0.31 Gt emissions and 0.45 Gt material use
Strategies: Recycle plastics, use recycled toilet paper, use recycled writing paper, increase recycled materials in furniture, start closed loop recycling of synthetic fibres

REDUCE TRAVEL

Saving: -2.41 Gt emissions and -1.96 Gt material use
Strategies: Telecommuting, reduced cargo shipping (for example, due to more local consumption)

SUSTAINABLE FOOD PRODUCTION

Saving: 2.07 Gt emissions and 3.40 Gt material use
Strategies: Organic food, seasonal & fresh food, regional/local food, produce your own food, sustainable biomass certifications

REDUCE EXCESS CONSUMPTIONS

Saving: 2.07 Gt emissions and 3.40 Gt material use
Strategies: Replace animal feed with agricultural or food waste, less packaging on food products, food sufficiency (keep caloric supply per person to 2,700 a day)

HEALTHY DIET

Saving: 1.32 Gt emissions and 0.42 Gt material use
Strategies: Consume mostly plant-based diets, eat less sugary foods and beverages, eat less processed foods

CLEAN COOKING STOVES

Saving: 0.97 Gt emissions and 0.41 Gt material use
Strategies: Replace traditional polluting stoves with clean ones

RESOURCE EFFICIENT HOUSING

Saving: 1.96 Gt emissions and 0.79 material use
Strategies: Hang-drying clothing, hot water saving, smart metering, better thermal insulation, lower room temperature

1.5°C

The forecasted global temperature rise, if current NDCs & circular roadmap are implemented by 2050

RESOURCE EFFICIENT CONSTRUCTION

Saving: 3.45 Gt emissions and 4.05 Gt material use
Strategies: Lightweight/frugal design, local construction materials

NATURAL HOUSING SOLUTIONS

Saving: 6.47 Gt emissions and 3.07 Gt material use
Strategies: Green roofs, passive houses, produce own renewable energy

REDUCING FLOOR SPACE

Saving: 3.16 Gt emissions and 8.38 Gt material use
Strategies: Less living space/co-housing, multifunctional building spaces, limit residential stock expansion

INCREASE HOUSING DURABILITY

Saving: 2.15 Gt emissions and 5.28 Gt material use
Strategies: Refurbishment and renovation

CIRCULAR CONSTRUCTION MATERIALS

Saving: 1.14 Gt emissions and 3.55 Gt material use
Strategies: Construction materials with recycled content, diversion of construction and demolition waste

COLOUR

represents a societal need:



COMMUNICATIONS



HEALTHCARE



CONSUMABLES



MOBILITY



NUTRITION



HOUSING

A global agenda packed with circular economy strategies can close the emissions gap and bring us on a “1.5-degree” pathway.

MASS

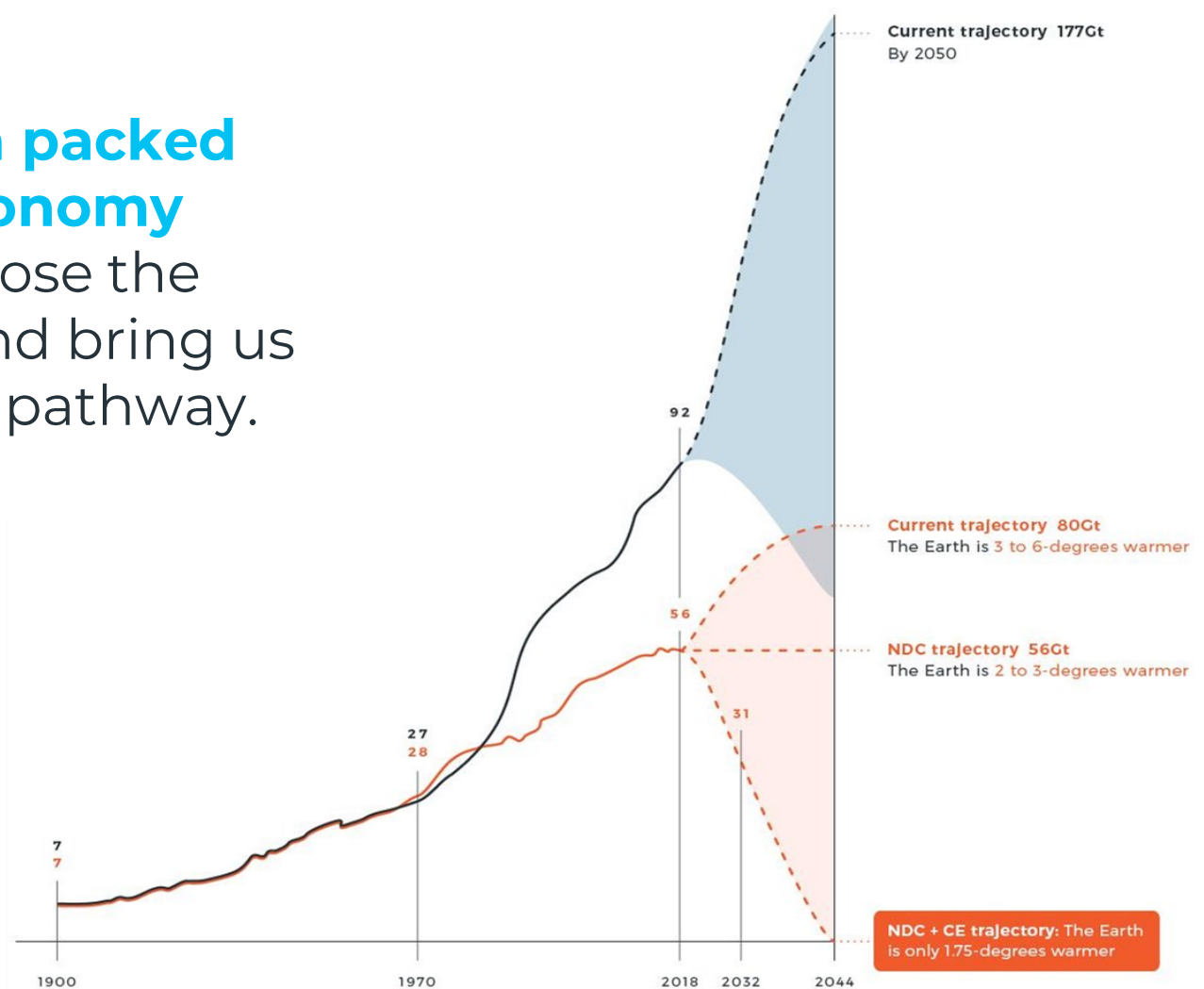
Material extraction
in billion tonnes (Gt)

- mass trajectory
- - - projected mass trajectory
- mass projection range

CARBON

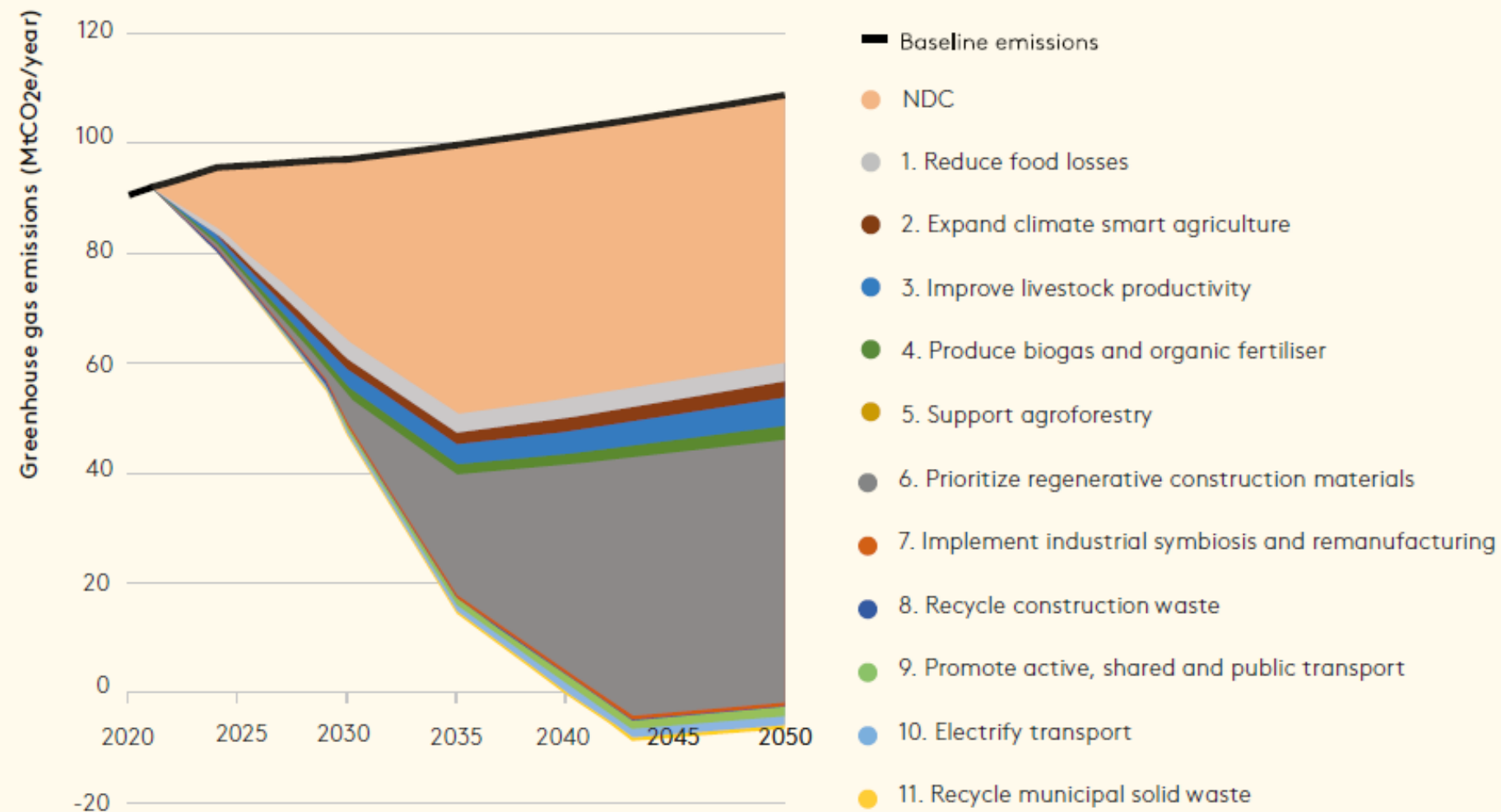
Carbon dioxide equivalent
emissions in billion tonnes
(Gt CO₂eq)

- carbon trajectory
- - - projected carbon trajectory
- carbon projection range

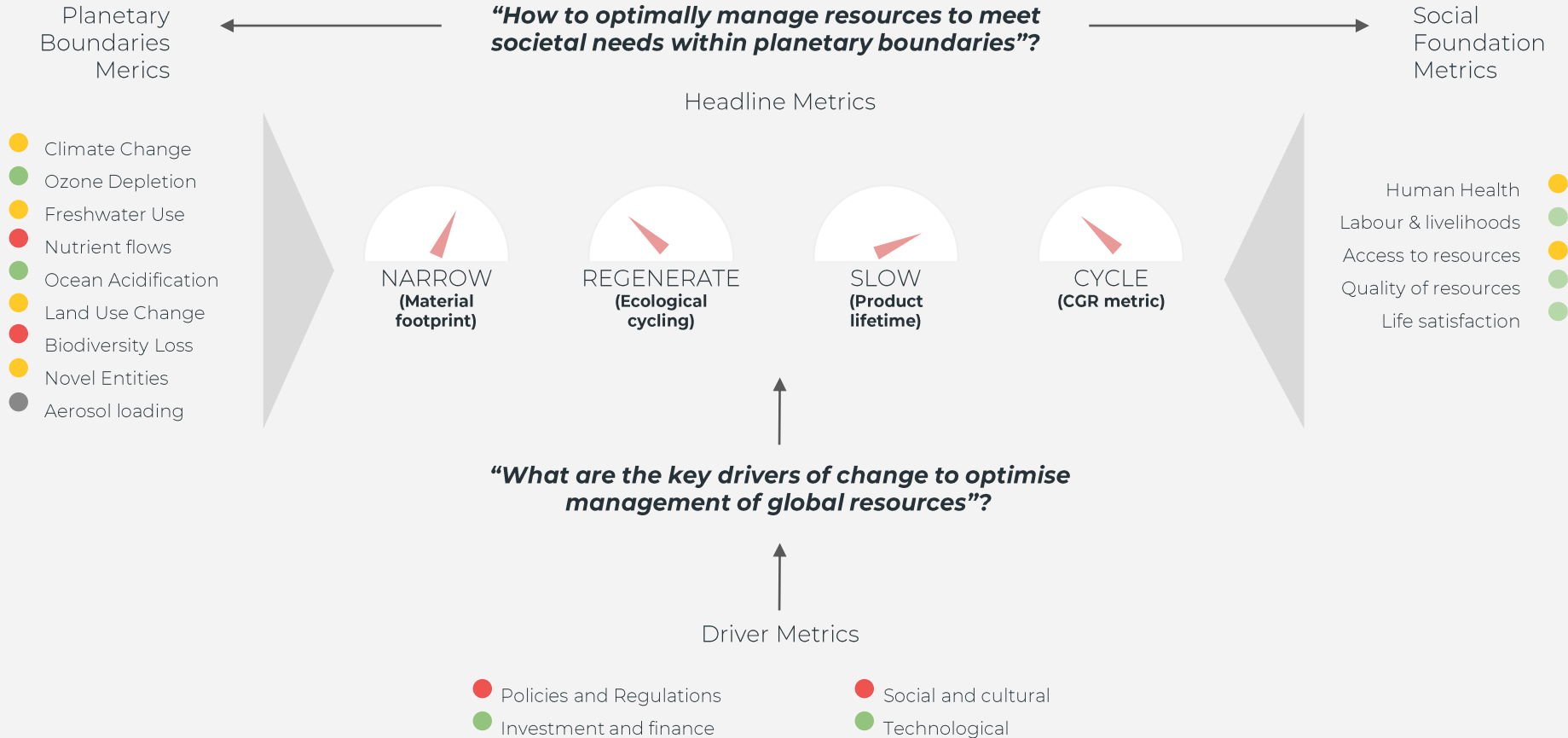


The background is a composite image of Earth and the Moon in space. The Earth's horizon is visible on the left, showing a blue sky and dark, cratered land. The Moon is visible on the right as a small, dark sphere. A large, semi-transparent grey circle is centered over the text.

THE FUTURE OF THE CGRi



A BROADER METRICS LANDSCAPE FOR CIRCULARITY





GANBATTE
Nations

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CIRCLE
ECONOMY