

Constructing pathways to achieve the CBD 2050 vision

Piero Visconti with input from Carolyn Lundquist, Machteld Schoolenberg, Henrique Pereira, Marcel Kok

visconti@iiasa.ac.at



IIASA, International Institute for Applied Systems Analysis

insight science for global

Bending the curve of biodiversity loss towards positive nature futures



Mace et al. 2018 Nature Sustainability

A theory of change to achieve the 2050 vision

IMPACT (vision/goal)	From the CBD vision: "By 2050, biodiversity is valued, conserved, restored and wisely used, maintaining ecosystem services, sustaining a healthy planet and delivering benefits essential for all people"
OUTCOMES (consequences)	 Species extinction rates return to background rates The abundance and composition of species in ecological communities sustain ecosystem functions Genetic diversity is maintained Ecosystems contribute to human well-being for all people
OUTPUTS (achievements)	 Protected areas are designated in the right places and effectively managed Illegal wildlife trade is halted Unsustainable exploitation of wild populations is halted Land and marine scapes are managed to support biodiversity conservation and a balanced and equitable supply of ecosystem services
INPUTS (actions)	 Legal and regulatory instruments established, e.g. protected areas, environmental standards, wildlife trade bans, access rights and responsibilities Economic and financial instruments established, e.g. tax negative environmental impacts, phase out harmful subsidies, conservation financing, reward activities delivering public goods Social and information-based instruments established, e.g. awareness raising, eco-labelling, certification, voluntary agreements, sustainable lifestyles and practices Rights-based approaches and customary norms established, e.g. strengthen the use of Social License to Operate or similar approaches, strengthen the consideration of cultural properties and heritage in protecting sites and landscapes, public participation

Multiple possible pathways to 2050

Production systems

- Reduced-impact logging
- Sustainable agricultural intensification
- Energy-efficient production

Land regulation

- Protected areas
- Habitat restoration
- Greener infrastructure •
 development

Consumer choices

- Diet shifts
- Waste reduction
 - Sustainable mobility





Lundquist, C., H. M. Pereira., et al. 2017. Visions for nature and nature's contributions to people for the 21st century. NIWA Science and Technology Series



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Examples: Nature for Nature

- Nature Parks revising to better protect biodiversity, reduce extinction risk
- Half-Earth
- Rewilding
- Urban reforestation

Examples: Nature as Culture

- Biosphere reserves communities living in harmony with land
- Reintroducing diversity of indigenous crop varieties, diversifying what crops and fish we eat
- Reconnecting urban communities with nature Urban nature reserves, utilization of open space for nature, reintroduce wildlife to cities
- Capturing multi-functional values in urban planning

Examples: Nature for Society

- Revising economic frameworks in indexes to include externalities
- Technology to solve food demand
- Blue-green infrastructure, cleaner production, use alternative pest management
- Reduce overconsumption, change lifestyle choices, consumer awareness, waste less, ethical travel
- Maintain functioning ecosystem and benefits they support (clean water, air)

Example storyline

"Consumption Change Pathway": to achieve a set of sustainable development goals on human well-being, climate change and biodiversity simultaneously.

Consumption Change does so by limiting meat intake per capita, reducing waste in the agricultural production chain and adopting a less energyintensive lifestyle.

The rapid adoption of these societal changes make this scenario ambitious, but possible.