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# Assessing future interactions between nature and society using scenarios and models: experiences from IPBES

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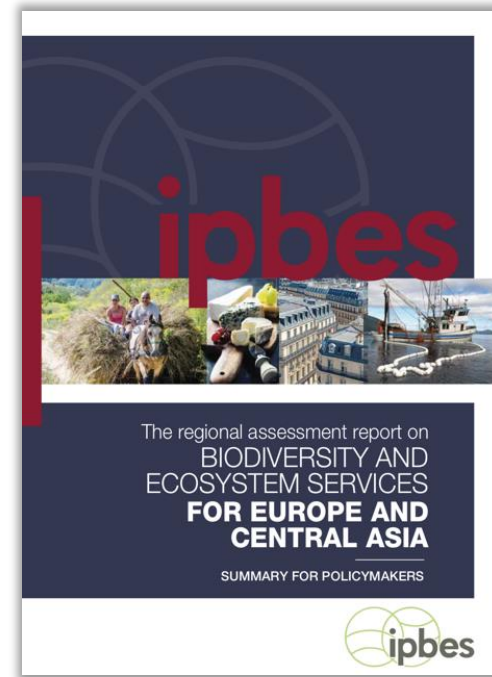
Food and Agriculture  
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# Assessment Report on Biodiversity and Ecosystem Services in Europe and Central Asia

- >120 leading international experts from 36 countries over three years
- More than 4,000 publications (scientific papers, Government reports, indigenous and local knowledge and other sources)
- Refined by over 7,700 comments from external reviewers and Governments

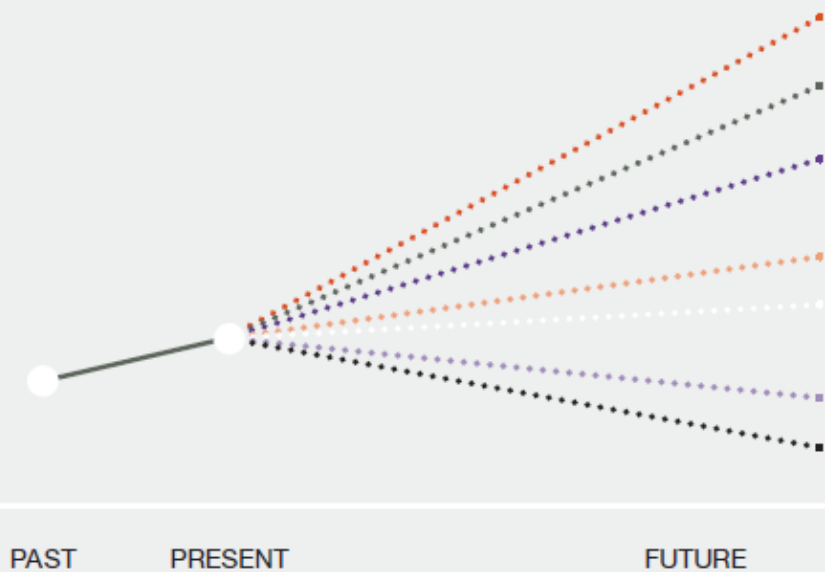


# Future interactions between nature & society

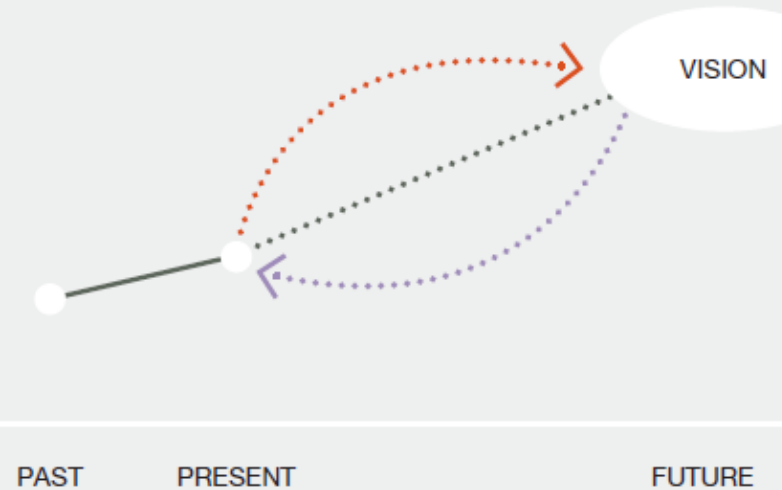
## Scenarios and modelling studies



**A** EXPLORATORY SCENARIOS

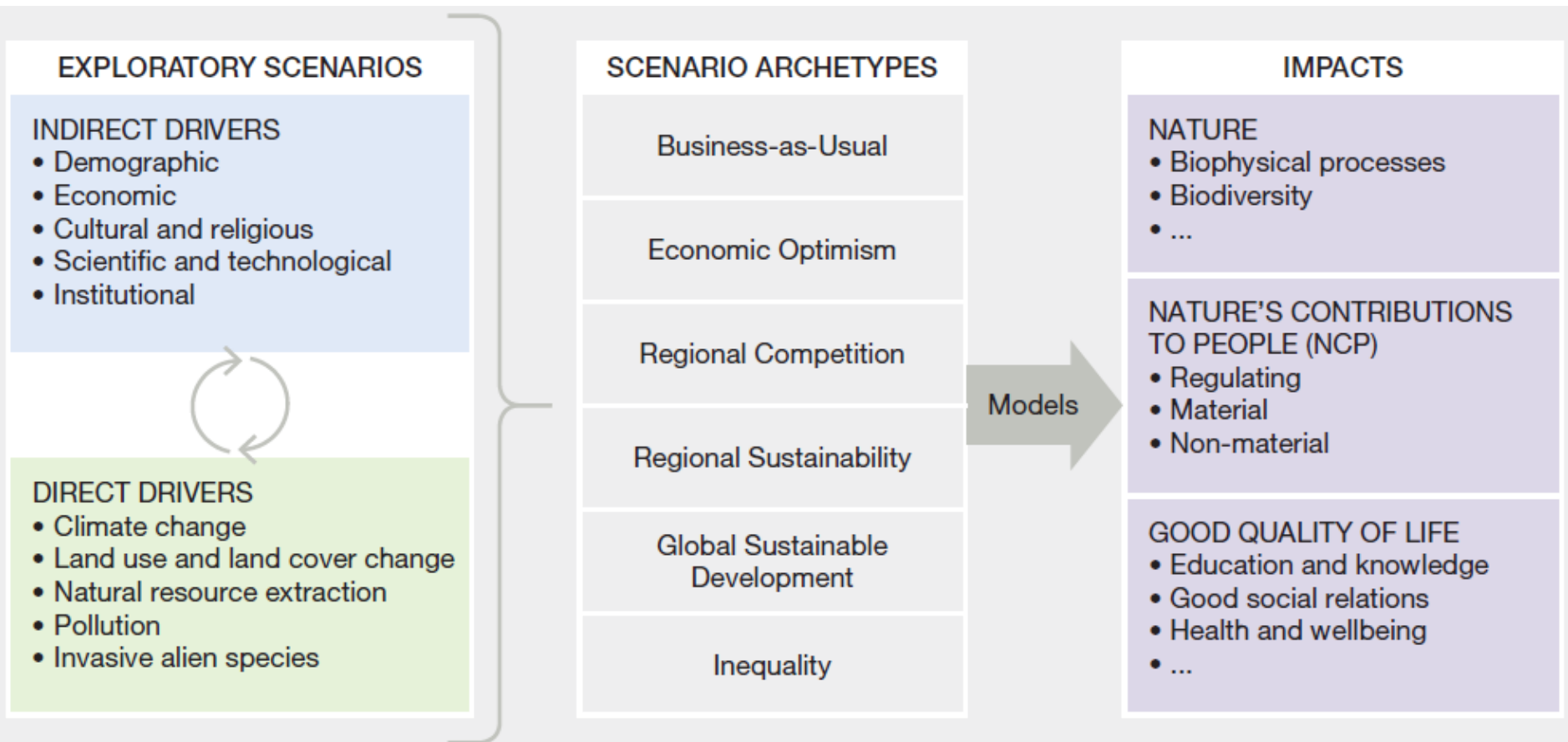


**B** NORMATIVE (TARGET-SEEKING) SCENARIOS





# Futures for Europe and Central Asia: Scenario archetypes



# Projected impacts on nature and nature's contributions to people

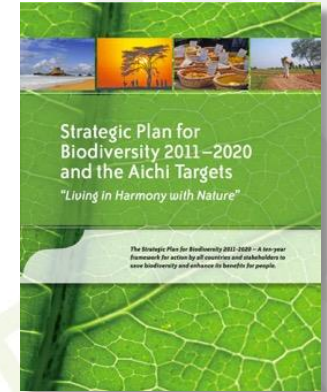
- **Business-as-usual** will further deteriorate biodiversity and nature's contributions to people
- A future based on the **balanced use** of nature's contributions, reflecting diverse societal values, is more likely to be sustainable
- Scenario studies show **trade-offs** between different ecosystem services with implications for biodiversity

		Business-as-usual	Economic optimism	Regional competition	Regional sustainability	Global sustainable development	Inequality
NATURE	Biodiversity, biophysical assemblages and processes	↘	↘	↕	↕	↗	↕
REGULATING NATURE'S CONTRIBUTIONS TO PEOPLE	Pollination	↘	↘	↕	↗	↗	
	Regulation of air quality		↗	↕	↗	↗	
	Regulation of climate	↕	↘	↕	↗	↗	
	Regulation of freshwater quantity		→	↗	↗	↗	
	Regulation of freshwater quality	↘	↘	↘	↘	↗	
	Formation of soils	↕	↘	↘	↗	↗	
	Regulation of hazards	↘	↕	↕	↕	↘	↘
	Regulation of organisms detrimental to human		↘	↘	↗	↗	
MATERIAL NATURE'S CONTRIBUTIONS TO PEOPLE	Food and feed	↕	↗	↗	↘	↗	↗
	Materials (forest products)	↘	↕	↘	↗	↕	↘
	Water resources	↘	↗	↘	↗	↕	↘
NON-MATERIAL NATURE'S CONTRIBUTIONS TO PEOPLE	Learning and inspiration		↗	↘	↗	↗	
	Physical and psychological experiences	→	↕	↕	↗	↗	
	Supporting identities		↘	↕	↗	↕	
GOOD QUALITY OF LIFE	Education and knowledge		→	↘	↗	↗	
	Physical, mental and emotional health		→	↘	↗	↗	
	Security and livelihoods	↘	↗	↗	↗	↗	

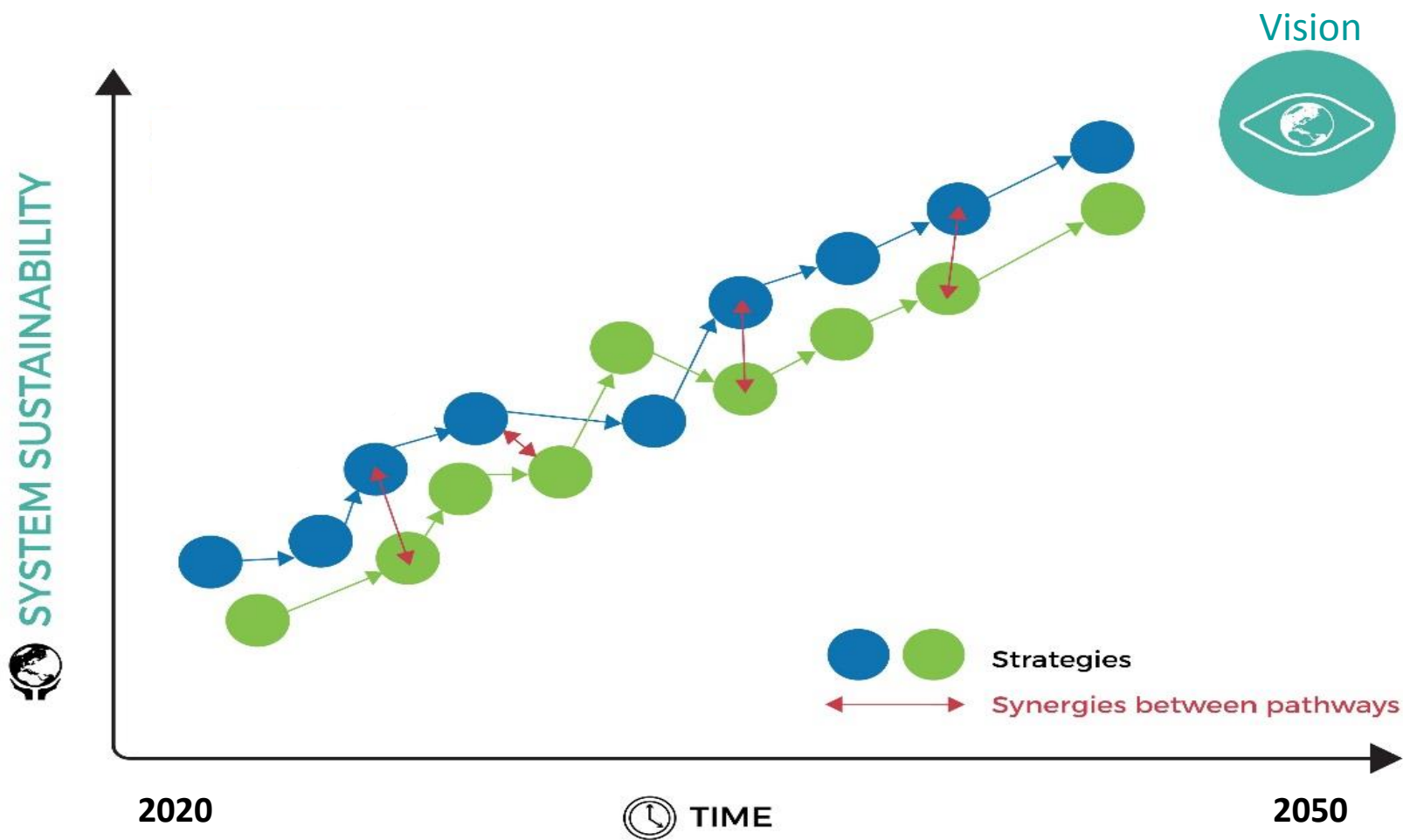
↗ Increase > 50%    
 → Stable > 50%    
  Lack of evidence    
 Confidence level    
 ➔ n>=10  
➔ n<10

↘ Decrease > 50%    
 ↕ Variable (no one class > 50%)

# Implications for policy goals and targets



# Beyond 2030: Pathways to sustainable development



## Beyond 2030: Pathways to sustainable development

- **Green economy** pathways - sustainable intensification and diversification of production activities coupled with the protection and restoration of nature.
- **Low carbon transformation** pathways - biofuel production, reforestation and forest management.
  - Land sharing, land sparing, technological innovation.
- **Ecotopian solutions** pathways - multifunctionality, green infrastructure, local food and energy self-sufficiency and the production of multiple ecosystem services.
- **Transition Movements** pathways - resource-sparing lifestyles, continuous education, local empowerment, participatory decision-making processes, community actions, voluntary agreements, different knowledge systems combined with technological innovation.

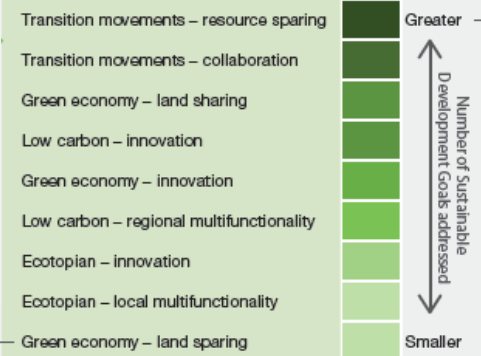


# Extent to which the SDGs are expected to be achieved under different pathways

- Pathways that don't challenge the economic growth paradigm do not fully mitigate trade-offs and may not be able to achieve sustainable futures.
- The most effective pathways stress long-term societal transformation (behavioural change) through education, knowledge sharing and participatory decision-making.
- These pathways emphasize regulating ecosystem services and diverse values.

B Number of goals similar to the Sustainable Development Goals addressed

PATHWAYS



C Examples of pathways

Green economy – land sparing

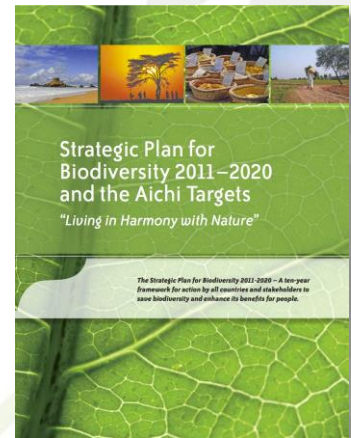


Transition movements – resource sparing



# Promising governance options for Europe & Central Asia

- Policy and governance options:
  - **Mainstreaming** biodiversity into economic and policy sectors (raising awareness, policy objectives, instrument design and policy mixes)
  - **Integration** across policy sectors (e.g., agriculture, fisheries, manufacturing)
  - **Participation** to integrate various values and forms of knowledge including indigenous & local knowledge
- A **future based on the balanced use** of nature's contributions, reflecting diverse societal values, is more likely to be sustainable
- **Decoupling** of economic growth from the degradation of nature
- Measuring **national welfare** beyond current economic indicators
- Conservation efforts such as well-managed **protected areas**
- **Societal transformation**: education, consumption, shared responsibility



# How may evidence from IPBES support the development of the post-2020 global biodiversity framework?

- **Scenarios and models** - assessment of impacts, synergies and trade-offs under common driver assumptions in 6 scenario archetypes
- **Visions** – comparison of European and global visions and their coverage of the SDGs and Aichi targets
- **Pathways** – evidence on combinations of actions/strategies and associated policy instruments that provide stepping stones from 2020 to a predefined vision (or set of vision indicators)
- **Governance** – promising options (e.g. mainstreaming, integration, participation)
- **Societal transformation** – education, consumption, shared responsibility





# Thank you!



Science and Policy  
for People and Nature

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