NESTED GLOBAL, REGIONAL AND PROJECT SYSTEM FOR ASSESSING GREENHOUSE GASES

IAIA26
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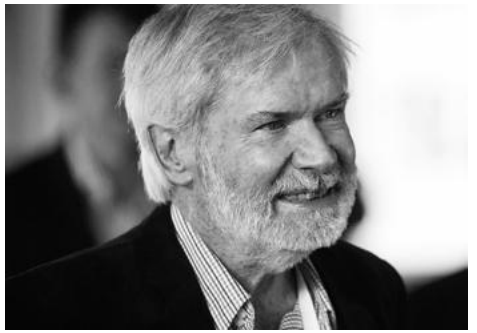


LINKING PROJECT ASSESSMENT TO PLANETARY BOUNDARY LIMITS FOR HUMAN-INDUCED CLIMATE CHANGE

- Problems with incorporating climate change in project level assessment
- Problems with cumulative effects assessment at project level (Canter-Ross lessons)
- IPCC Assessment Reports as cumulative effects assessment at global scale
- Institutional arrangements for preparing IPCC Assessment Reports
- Link of IPCC assessments to UNFCCC policy and Paris Agreement
- Comparison of IPCC Assessments with criteria for effective CEA and Canter-Ross lessons
- Limitations of strategic and regional assessments of filling the gap between global and project assessments
- Concept of regional sustainability transition strategies
- Comparison of IA institutional arrangements with those for regional sustainability transition strategies
- Concept of climate resilient development and EU Taxonomy
- A nested framework for managing greenhouse gases
- Role of traditional impact assessment in nested system

CLIMATE CHANGE AND PROJECT LEVEL ASSESSMENT

- Integration of climate considerations in project-level assessments remains underdeveloped and inconsistently applied

- Problems at project level

- difficult to integrate uncertainty in climate science
- scope of relevant impacts difficult to define
- defining appropriate time windows can be challenging
- climate models can be difficult to downscale
- lack of regulatory guidance
- project contribution difficult to identify before implementation

NZ Resource Management (Energy and Climate Change) Amendment Act 2004 Section 3(b) (ii)
"local authorities…not to consider the effects on climate change of discharges into air of greenhouse gases."

Mayambe et al (2023)
Jenkins (2017)

CANTER-ROSS REVIEW OF CUMULATIVE EFFECTS ASSESSMENT PRACTICE

- Good lessons (good practice)
  - better regional planning and sustainability
  - use of scenarios when future actions uncertain
- Ugly lessons (lack of appropriate attention)
  - minimal attention to cumulative effects assessment
  - funding of mitigation and management efforts
  - lack of involvement of other proponents
  - treatment of uncertainties in assessments
- Bad lessons (need for improvement in practice)
  - inadequate attention to socio-economic impacts
  - need for agreement on methodologies
  - vague terms of reference
  - need to update assessments
  - inadequate guidance for cumulative indicators
  - lack of expertise and inadequate directions

State of practice of cumulative effects assessment and management: the good, the bad and the ugly
Canter and Ross (2010)
IAPA 28(4) p261-8

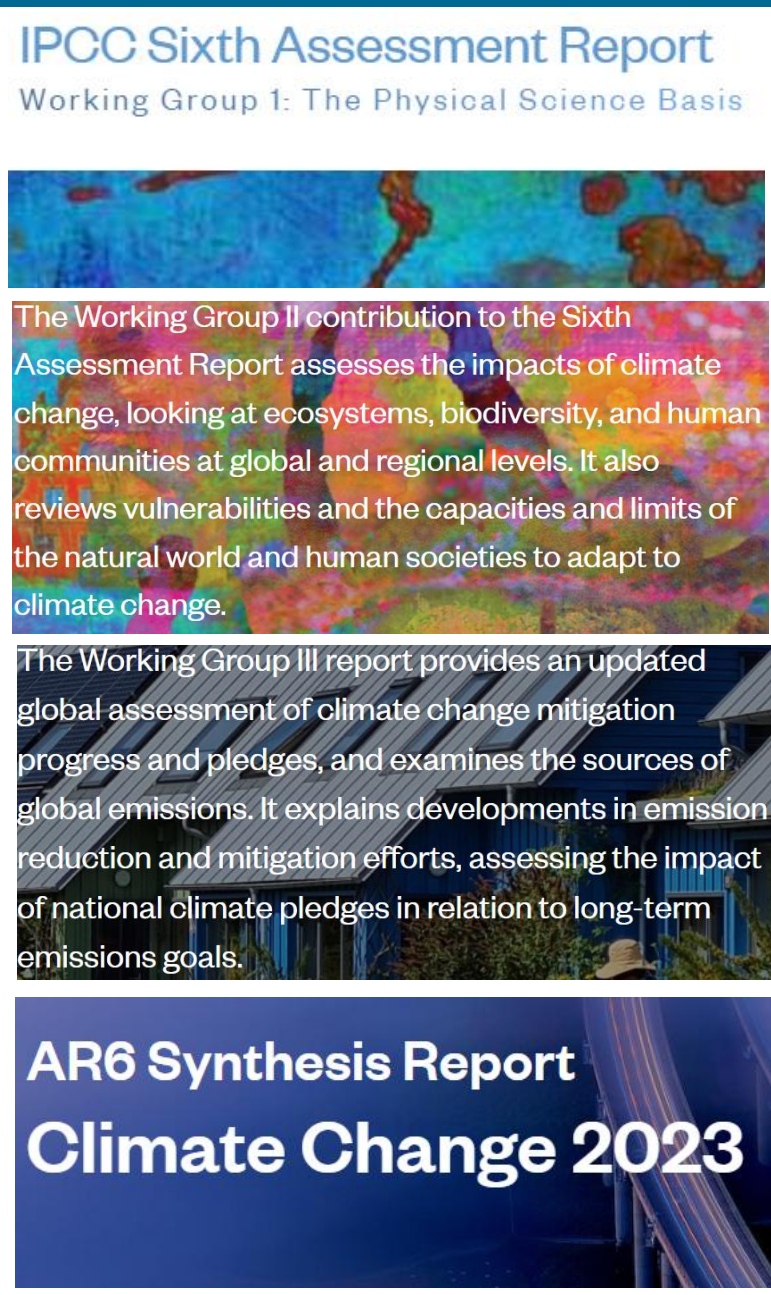
IPCC ASSESSMENT REPORTS AS CUMULATIVE EFFECTS ASSESSMENTS

Working Group 1
- addresses “scoping of assessment” and “describing the affected environment”

Working Group 2
- focuses on “determining environmental consequences”

Working Group 3
- covers “appropriate actions and mitigation measures to address impacts”

Synthesis Report
- integration of reports



INSTITUTIONAL ARRANGEMENTS FOR IPCC

- Intergovernmental Organisation
  - decision making by Panel of 195 member countries in plenary session
  - Panel decides budget and work programmes
  - Panel decides scope and approves and adopts IPCC reports
  - Panel elects Chair and Bureau that guide technical work

- Boundary Organisation between scientists and policy makers
  - IPCC doesn't conduct research but draws on scientific research of others
  - IPCC is neutral with respect to policy: "policy relevant without being policy prescriptive"
  - IPCC provides independent advice to UNFCCC that develops policy

- Comprehensive Procedures for Scoping, Preparing and Reviewing Reports
  - prescoping questionnaire to governments and observer organisations
  - experts invited from member countries to prepare assessment reports
  - expert review of first drafts, second draft and summary reviewed by experts and governments, reviews of summaries and synthesis by governments

UNFCCC AND PARIS AGREEMENT

- **United Nations Framework Convention on Climate Change**
  - UN process established in 1992 for negotiating an agreement to **limit climate change**
  - objective is the **stabilisation of greenhouse gas emissions** in the atmosphere to prevent human-caused interference with climate system
  - UNFCCC has 198 parties with decision making body the **Conference of Parties** (COP) that meets annually
  - policy decisions informed by **IPCC assessments**

- **Paris Agreement** (signed in 2016)
  - goal to keep the rise in **global surface temperature to well below 2° C** above pre-industrial levels
  - countries pledge **Nationally Determined Contributions** to reduce greenhouse gas emissions
  - countries assess programmes every five years towards meeting the goal after a global stocktake and increase efforts accordingly **(review and ratchet**)
  - countries prepare **Biennial Transparency Report** every two years to track progress

CRITERIA FOR EFFECTIVE CEA	IPCC ASSESSMENT REPORTS
Geographical area large enough	Global coverage
Inclusion of past, current and future actions	Past and current emissions and future emission scenarios
Assessment of additive effects	Carbon dioxide equivalents of all greenhouse gases
Comparison with effects threshold	Limit global average temperature to 2°C above preindustrial levels
Use of quantitative techniques	Global climate modelling and modelling of effects
Identification of mitigation, monitoring and effects management	Coverage of adaptation and mitigation to address climate change
Significance of residual effects	Identification of significant regional effects

Hegemann et al 1999

Jenkins 2026

CANTER-ROSS LESSONS	IPCC ASSESSMENTS
Regional planning and sustainability	Regional consequences of climate change
Use of scenarios	Scenarios of greenhouse gas concentrations
Minimal attention to cumulative effects	Highly focussed on cumulative effects
Funding of management not addressed	Funding beyond scope
Lack of involvement of other proponents	All countries involved
Inadequate treatment of uncertainties	Comprehensive assessment of uncertainties
Lack of coverage of socio-economic issues	Socio-economic issues identified
Need for agreed methodologies	Task force on methodologies
Vague terms of reference	Requirements of IPCC governing body
Need to update assessments	Assessments updated every 5-7 years
Inadequate guidance on cumulative indicators	Clear goal from UNFCCC
Lack of expertise	Involves international body of experts

GAP BETWEEN GLOBAL CUMULATIVE EFFECTS AND PROJECT ASSESSMENT

- Strategic Assessments
  - address the effects of policy plan or programme
  - need for development of policy plan or program to undertake assessment

- Regional Assessments
  - determine regional environmental implications of multi-sector developments within a defined geographic area over a certain time
  - current use of RAs is to inform subsequent project-level assessments to improve efficiency of project assessment
  - could be used to inform regional planning

REGIONAL SUSTAINABILITY TRANSITION STRATEGIES

- Based on bioregions or socio-economic regions
- Shift from unsustainable industries to sustainable alternatives
  - e.g. shift from coal-fired to renewable energy
- Assessing both new developments and closure of existing industries
- Consideration of social and economic consequences
  - loss of jobs and economic activity from closures
  - new skill requirements and changes in job locations
- Timing of transition strategies
  - well in advance of closures and new developments
  - continuity of service provision (e.g. power supply)

IMPACT ASSESSMENT INSTITUTIONAL ARRANGEMENTS	REGIONAL SUSTAINABILITY TRANSITION STRATEGIES
New development or plan to meet proponent's interests	Strategy to achieve contribution to regional sustainability
Proponent-led impact assessments	Government-led collaboration involving new industries, existing industries, workforce, community interests, environmental interests, First Nations people
Expertise from proponent and government	Independent scientific advisors
Community engagement through the impact assessment process	Community engagement in decision making process
Timing related to development process	Timing in advance of new developments and closures to facilitate continuity of services and employment

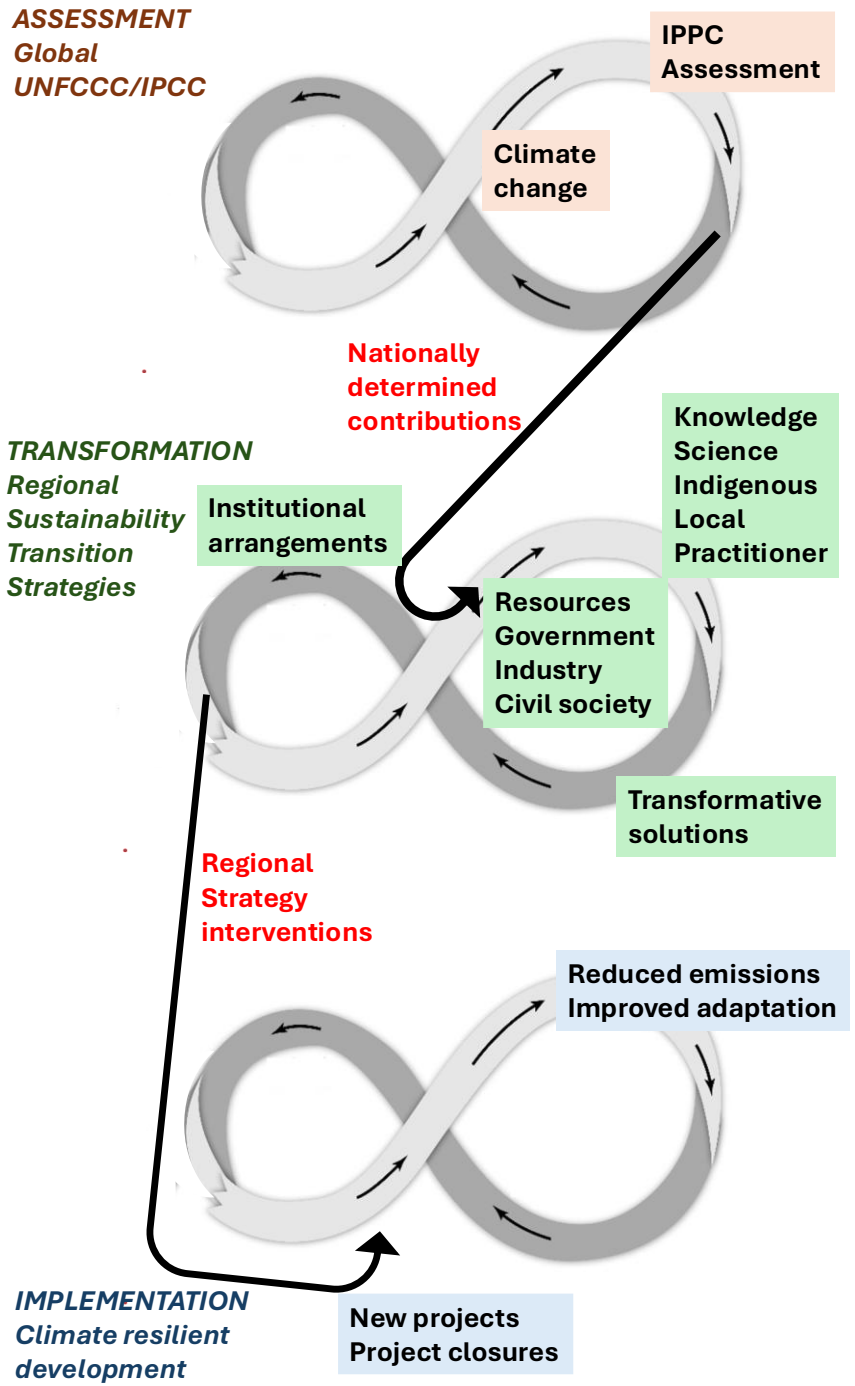
CLIMATE RESILIENT DEVELOPMENT

- IPCC Concept of Climate Resilient Development
  - contributing to reducing greenhouse gas emissions
  - enabling adaptation that enhances social, economic and ecological resilience to climate change

- EU Taxonomy for Sustainable Investments
  - climate change mitigation and adaptation
  - sustainable use and protection of water and marine resources
  - transition to circular economy
  - pollution prevention and control
  - protection and restoration of biodiversity and ecosystems

- Project Alignment with EU Taxonomy
  - makes a substantial contribution to at least one environmental objective
  - does no significant harm to any other environmental objective
  - complies with minimum social safeguards
  - complies with technical screening criteria for ‘significant contribution’ and ‘do no significant harm

IPCC 2022, European Commission 2021, Jenkins 2026



NESTED ASSESSMENTS

- Global scale
  - IPCC assessment of scenarios
  - UNFCCC countries nationally determined contributions
- Bioregion or Socio-economic region
  - regional sustainability transition strategies
  - transformation from unsustainable industries to sustainable alternatives
- Project scale
  - climate resilient development to implement transition strategy
  - new projects and project closures

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CONTRIBUTION OF IMPACT ASSESSMENT

- IPCC Climate Change Reports
  - equivalent to cumulative impact assessment of future scenarios
- Reginal Sustainability Transition Strategies
  - strategic assessment of proposed interventions
- Climate Resilient Development
  - analysis of ‘do no significant harm’
  - impact assessment of new development
  - impact assessment of project closures

CONCLUDING COMMENTS FOR NESTED SYSTEM OF ASSESSMENTS

- Processes
  - need for scientific cumulative assessment at the global level
  - associated policy interface that leads to national contributions from member countries
  - need for bioregional or socio-economic region sustainability transition strategies to achieve national contributions
  - leading to regional strategy interventions
  - need for climate resilient development to implement strategy including new developments and project closures

- Institutional Arrangements
  - multinational scientific groups that draw upon trusted research (like IPCC)
  - representation of all counties in policy development at global scale (like UNFCCC)
  - government-led regional strategy development involving government, industry and community interests in decision making
  - process for aligning investments with climate change and sustainability criteria (like EU Taxonomy)

Let’s continue the conversation!

Message me your questions or comments in the IAIA26 app.

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