The mismatch between the in-country determinants of technology transfer, and the scope of technology transfer initiatives under the United Nations Framework Convention on Climate Change

Despite decades of international political emphasis, little is known about the in-country determinants of technology transfer for climate change mitigation. We draw upon the conclusions of a series of standardised, official governmental statements of technology priorities, coupled with questionnaire-based data collection, to shed light on the nature of those determinants. We find that there is a disconnect between what developing country governments perceive as the key enablers of, and barriers to, technology transfer, and what bilateral and multilateral technology transfer programmes can offer, given budgetary constraints and the logic of development aid spending. We show that the well-established notion of making climate change mitigation actions an integral part of sound development plans is especially relevant for technology transfer. We offer pointers as to how this might be done in practice, in the context of the ‘technology action plans’ developed as part of the United Nations-sponsored technology needs assessment process.
Disentangling Distance and Country Effects on the Value of Conservation across National Borders

Highlights:

We study trans-national valuation of conservation outcomes in two neighbouring countries Sweden and Denmark.

The experimental design allow us to separate country and distance effects on values.

Respondents prefer conservation in their own country over neighbouring countries.

Value decreases with distance from respondents' home location.

The results are important for the design of trans-national conservation policies.

General information

State: Published
Organisations: Department of Management Engineering, UNEP DTU Partnership, University of Copenhagen, University of the West Indies
Authors: Bakhtiari, F. (Intern), Jacobsen, J. B. (Ekstern), Thorsen, B. J. (Ekstern), Lundhede, T. H. (Ekstern), Strange, N. (Ekstern), Boman, M. (Ekstern)
Pages: 11-20
Publication date: 2018
Main Research Area: Technical/natural sciences
Incorporating uncertainty in national-level climate change-mitigation policy: possible elements for a research agenda

Decision making for climate change management seldom incorporates uncertainty in the analysis that underpins the policy process. First, uncertainty is seldom characterised fully, and attempts to reduce uncertainty—when this is possible—are rare. Second, scientists are ill-equipped to communicate about uncertainty with policy makers, and policy makers most often favour pretended certainty over nuance and detail. Third, the uncertainty analysis that may have been conducted most often fails to actually influence policy in a significant manner. The case is made for (i) characterising and, to the extent possible, reducing uncertainty, (ii) communicating uncertainty, and (iii) reflecting uncertainty in the design of policy initiatives for climate change management. Possible elements for a research agenda on each of these areas are proposed.

General information
State: Accepted/In press
Organisations: Department of Management Engineering, UNEP DTU Partnership
Authors: Puig, D. (Intern), Bakhtiari, F. (Intern)
Number of pages: 4
Publication date: 2018
Main Research Area: Technical/natural sciences

Publication information
Journal: Journal of Environmental Studies and Sciences
ISSN (Print): 2190-6483
Ratings:
Scopus rating (2017): CiteScore 1.07 SJR 0.404 SNIP 0.553
Scopus rating (2016): CiteScore 0.71 SJR 0.438 SNIP 0.757
Scopus rating (2015): SJR 0.351 SNIP 0.757
Scopus rating (2014): SJR 0.254 SNIP 0.349
Scopus rating (2013): SJR 0.412 SNIP 0.656
Scopus rating (2012): SJR 0.261 SNIP 0.396
Original language: English
DOIs:
10.1007/s13412-018-0514-5
Source: FindIt
Source-ID: 2438240581
Publication: Research - peer-review › Journal article – Annual report year: 2018

Institutional capacities for NDC implementation: a guidance document

Nationally Determined Contributions (NDCs) are commitments by parties to the United Nations Framework Convention on Climate Change (UNFCCC). Each party defines its own NDC, which in all cases includes mitigation-related goals and, in most cases, adaptation-related goals too. For most parties, the time horizon for implementing NDC goals is 2030. By ratifying the 2015 Paris Agreement of the UNFCCC, parties commit to submitting revised NDCs every five years. The revised NDCs must have an implementation period of five years, and must be submitted five years in advance of the start date for implementation. The Paris Agreement further calls on parties to increase progressively the level of ambition of their NDCs.

Implementation of the first NDCs is to start in 2021. Delivering on this requirement and within this time horizon requires increased institutional capacities on the part of national governments. These capacities relate to six main sets of issues:

-Ability to launch and coordinate a whole-of-government process, incorporating contributions from all relevant governmental agencies, and non-governmental parties, as relevant.
-Capacity to integrate NDC priorities into sectoral and cross-sectoral programmes and projects, to ensure that the latter do not undermine efforts to achieve the former, or vice versa.
-Resources to train relevant government agency staff (and possibly non-government agency staff too), with a view to increasing the technical and managerial skills of these individuals.
- Capability to engage all relevant stakeholders, through consultations designed to elicit their input, so that it can be taken into consideration, thus increasing buy-in from stakeholders.
- Competence to conduct a regulatory framework revision, to streamline and complement existing laws and regulations, and strengthen related governmental processes and entities.
- Aptitude to monitor progress, and report on it, making best use of existing data collection mechanisms, and strengthening related capabilities wherever needed.

**International cooperative initiatives and the United Nations Framework Convention on Climate Change**

International cooperative initiatives (ICIs) are multi-country, multi-actor non-state actions that have the potential to reduce emissions of greenhouse gases. The article summarizes the literature on estimates of emission reduction potentials attributed to ICIs. This summary highlights three key issues: there is a plethora of uncoordinated initiatives, often lacking specific, time-bound goals; to a greater or lesser extent most initiatives overlap with the activities conducted under the aegis of the United Nations Framework Convention on Climate Change (UNFCCC); and few initiatives have set up transparent performance monitoring and reporting mechanisms. The article concludes with two considerations. Firstly, it advocates for the United Nations Environment Programme as one entity that could bring much-needed coordination among ICIs, and between ICIs and national government-led efforts to mitigate climate change. Secondly, it echoes calls for the initiatives to both adopt transparent monitoring, reporting and verification mechanisms, and ensure that their activities are cost-effective with regard to climate change mitigation. Finally, the article outlines the key issues that will need to be addressed to achieve these goals.

**Key policy insights**

- The emission reductions potential of international cooperative initiatives appears to be limited, which would question some of the rational for promoting them.
- The extent to which international cooperative initiatives overlap with emission reduction efforts under the UNFCCC is uncertain, but believed to be quite large.
- The UNFCCC is arguably ill suited to coordinate and strengthen the accountability of international cooperative initiatives.

**General information**

State: Published  
Organisations: Department of Management Engineering, UNEP DTU Partnership  
Authors: Bakhtiari, F. (Intern)  
Number of pages: 9  
Pages: 655-663  
Publication date: 2018  
Main Research Area: Technical/natural sciences

**Publication information**

Journal: Climate Policy  
Volume: 18  
Issue number: 5  
ISSN (Print): 1469-3062  
Ratings:  
- BFI (2018): BFI-level 1  
- Web of Science (2018): Indexed yes  
- BFI (2017): BFI-level 1  
- Scopus rating (2017): CiteScore 2.84 SJR 1.455 SNIP 1.411  
- Web of Science (2017): Impact factor 3.832
The accountability imperative for quantifying the uncertainty of emission forecasts: evidence from Mexico

Governmental climate change mitigation targets are typically developed with the aid of forecasts of greenhouse-gas (GHG) emissions. The robustness and credibility of such forecasts depends, among other issues, on the extent to which forecasting approaches can reflect prevailing uncertainties.
We apply a transparent and replicable method to quantify the uncertainty associated with projections of gross domestic product growth rates for Mexico, a key driver of GHG emissions in the country. We use those projections to produce probabilistic forecasts of GHG emissions for Mexico. We contrast our probabilistic forecasts with Mexico’s governmental deterministic forecasts. We show that, because they fail to reflect such key uncertainty, deterministic forecasts are ill-suited for use in target-setting processes. We argue that (i) guidelines should be agreed upon, to ensure that governmental forecasts meet certain minimum transparency and quality standards, and (ii) governments should be held accountable for the appropriateness of the forecasting approach applied to prepare governmental forecasts, especially when those forecasts are used to derive climate change mitigation targets. POLICY INSIGHTS No minimum transparency and quality standards exist to guide the development of GHG emission scenario forecasts, not even when these forecasts are used to set national climate change mitigation targets. No accountability mechanisms appear to be in place at the national level to ensure that national governments rely on scientifically sound processes to develop GHG emission scenarios. Using probabilistic forecasts to underpin emission reduction targets represents a scientifically sound option for reflecting in the target the uncertainty to which those forecasts are subject, thus increasing the validity of the target. Setting up minimum transparency and quality standards, and holding governments accountable for their choice of forecasting methods could lead to more robust emission reduction targets nationally and, by extension, internationally.
Sustainability labelling of climate mitigation actions relevant to Article 6 of the Paris Agreement

General information
State: Published
Organisations: Department of Management Engineering, UNEP DTU Partnership
Authors: Olsen, K. H. (Intern), Bakhtiari, F. (Intern)
Number of pages: 1
Publication date: 2017

Host publication information
Title of host publication: Book of Abstracts, Sustain 2017
Publisher: Technical University of Denmark (DTU)
Article number: X-5
Main Research Area: Technical/natural sciences
Conference: Sustain 2017, Kgs. Lyngby, Denmark, 06/12/2017 - 06/12/2017
Electronic versions:
SustainAbstracts2017c.compressed_181.pdf
Publication: Research - peer-review › Conference abstract in proceedings – Annual report year: 2017

The accountability imperative for quantifying the uncertainty of emission forecasts: evidence from Mexico

General information
State: Published
Organisations: Department of Management Engineering, UNEP DTU Partnership
Authors: Puig, D. (Intern), Morales-Nápoles, O. (Ekstern), Bakhtiari, F. (Intern), Landa, G. (Ekstern)
Number of pages: 1
Publication date: 2017

Host publication information
Title of host publication: Book of Abstracts, Sustain 2017
Bridging the gap – the role of non-state action

General information
State: Published
Organisations: Department of Management Engineering, UNEP DTU Partnership, NewClimate Institute, German Development Institute, Ecofys B.V., University of Oxford, Yale University, United Nations Environmental Programme, Netherlands Environmental Assessment Agency
Authors: Höhne, N. (Ekstern), Drost, P. (Ekstern), Bakhtiari, F. (Intern), Chan, S. (Ekstern), Gardiner, A. (Ekstern), Hale, T. (Ekstern), Hsu, A. (Ekstern), Kuramoch, T. (Ekstern), Puig, D. (Intern), Roelfsema, M. (Ekstern), Sterl, S. (Ekstern)
Pages: 23-30
Publication date: 2016

Host publication information
Title of host publication: The Emission Gap Report 2016 : A UNEP Synthesis Report
Publisher: UNEP
Chapter: 4
Main Research Area: Technical/natural sciences
Electronic versions:
EGR_2016_1_.pdf
Links:
http://at http://uneplive.unep.org/theme/index/13#egr
Publication: Research - peer-review › Report chapter – Annual report year: 2016

Joint Adaptation and Mitigation in Agriculture and Forestry

General information
State: Published
Organisations: Department of Management Engineering, UNEP DTU Partnership
Authors: Bakkegaard, R. K. (Intern), Møller, L. R. (Intern), Bakhtiari, F. (Intern)
Number of pages: 36
Publication date: 2016

Publication information
Publisher: UNEP DTU Partnership
Original language: English
Main Research Area: Technical/natural sciences
Electronic versions:
Joint_adaptation_and_mitigation_updated_09_08_16_1_.pdf

Bibliographical note
Source: PublicationPreSubmission
Source-ID: 126652608
Publication: Research - peer-review › Report – Annual report year: 2016

Valuation of climate change mitigation co-benefits.
This document describes tools for valuating in monetary terms the co-benefits associated with climate change mitigation actions. The term co-benefits refers to outcomes of those actions other than their primary outcome (reducing greenhouse-gas emissions). Such non-primary outcomes can fall under a broad range of economic or, more likely, environmental and social issues. Examples of positive environmental impacts that may not be the primary outcome of a climate change mitigation policy include reduced local air pollution or restored ecosystem health. Examples of positive social impacts include improved human health or increased access to clean energy.
Reforming the CDM SD Tool. Recommendations for Improvement

In 2015 three high-level processes to achieve a paradigm shift towards a sustainable and low-carbon development are running in parallel. The general idea behind these processes is to specify global and national objectives in terms of environmental protection, development and climate protection. We face a debate on firstly Sustainable Development Goals (SDGs) of the UN Post-2015 Development Agenda originating from the Rio+20 process and secondly on Millennium Development Goals (MDGs) that may be merged with the SDGs. Thirdly parties are negotiating a new Climate Convention under the UNFCCC. These processes are intended to provide inspiration for action and deliver objectives for implementation at the national level supported by international institutions. A globally defined but flexible approach for assessing sustainable development can provide invaluable support towards a globally harmonised assessment of sustainable development, comparable through mitigation mechanisms and embedded into development planning at the national level. This can then be used to integrate sustainability assessment standards into Performance Measurement Systems such as national Monitoring, Reporting and Verification Systems. On the other hand, compliance with standards ensures that countries also meet the requirements of international financial institutions such as the Green Climate Fund. Sustainable development benefits of climate protection instruments are highly relevant for development paths beyond aspects of climate change. Mitigation measures may include additional health, social, environmental and macro-economic as well as equity benefits. With the prospect of a new climate protection agreement at the end of 2015, some developing countries have already started to prepare and develop their climate policies. Benefits of sustainable development in the Clean Development Mechanism (CDM) and new market mechanisms indeed may have the potential to meet the needs of developing countries both in terms of sustainable development and mitigation measures. For this purpose, the CDM Sustainable Development Tool offers initial steps towards a globally applicable standard under an international UN institution. The Wuppertal Institute, together with UNEP DTU Partnership, has developed recommendations for its revision, improvement and enhancement that are outlined in this study.

Framework for measuring sustainable development in NAMAs

The research project ‘Measuring sustainable development (SD) in Nationally Appropriate Mitigation Actions (NAMAs)’ was initiated by the NAMA Partnership Working Group on Sustainable Development (WG-SD). The aim of the research project is to improve quantitative and qualitative measurement of the SD outcomes of NAMAs, thereby enhancing understanding of how NAMAs can contribute to meeting national development goals. The UNEP DTU Partnership (UDP), in collaboration with the International Institute for Sustainable Development (IISD), and supported by the United Nations Framework...
Convention on Climate Change (UNFCCC) Secretariat and the United Nations Development Programme (UNDP), have jointly carried out the research. The link between NAMAs and SD is crucial for developing countries, and although work is underway on this topic, it is still in its early stages. The Bali Action Plan agreed under the UNFCCC in 2007 agreed that enhanced action on mitigation would include NAMAs by developing country parties in the context of SD. However, the question of how SD impacts are to be integrated into NAMA processes remains open, as do questions regarding which impacts should be assessed and how they should be measured. A substantial body of research and best practices exist regarding how SD considerations have been integrated into the Clean Development Mechanism (CDM), such as the Executive Board CDM SD Tool launched in 2014 and the Gold Standard (GS) certification of SD benefits in mitigation projects, which can inform NAMA SD assessments. The global and flexible approach to the selection of SD criteria and indicators found in these standards are common to all types of mitigation actions, but they may not be directly suited to NAMAs, since globally defined standards may not be in the interests of the implementing host countries. NAMAs are much broader than the project-based CDM, potentially involving policy and sectoral actions, and may require additional or different SD assessment tools. In this context, the objective of the report is to develop a framework with criteria and indicators for the assessment of the SD impacts of NAMAs, based on a review of the literature on sustainability assessment tools and approaches, and a study of the different stakeholder perspectives among developing country governments, support agencies, the private sector and civil-society organisations.

General information
State: Published
Organisations: Department of Management Engineering, UNEP DTU Partnership
Authors: Olsen, K. H. (Intern), Bizikova, L. (Ekstern), Harris, M. (Ekstern), Boodoo, Z. (Intern), Gagnon-Lebrun, F. (Ekstern), Bakhtiari, F. (Intern)
Number of pages: 52
Publication date: 2015

Publication information
Publisher: NAMA Partnership
Original language: English
Main Research Area: Technical/natural sciences
Electronic versions:
Framework_for_SD_in_NAMAs_UNEP_DTU_web.pdf
Links:
http://www.namapartnership.org/
Source: PublicationPreSubmission
Source-ID: 119766455
Publication: Research - peer-review › Book – Annual report year: 2015

Projects:

The emissions gap report by the United Nations Environment Programme is an annual scientific assessment of the shortfall between national emission reduction pledges under the United Nations Framework Convention on Climate Change and the levels required to keep global average temperature increases below 2°C, compared to pre-industrial levels.

Department of Management Engineering
UNEP DTU Partnership
Period: 04/04/2016 → 09/12/2016
Number of participants: 2
Project participant:
Puig, Daniel (Intern)
Bakhtiari, Fatemeh (Intern)
Documents:
Project

MRV of transformational change through NAMAs
To improve the understanding of transformational change (TC) and how to Monitor, Report and Verify (MRV) Nationally Appropriate Mitigation Actions (NAMAs) that may facilitate TC for low emission and sustainable development to achieve the 2°C target.

Department of Management Engineering
UNEP Rise Centre
Period: 25/08/2014 → 30/11/2014
Number of participants: 5
Project ID: 82249
Project participant:
Olsen, Karen Holm (Intern)
Fenhann, Jørgen Villy (Intern)
Bakhtiari, Fatemeh (Intern)
Boodoo, Zyaad (Intern)
Hinostroza, Miriam L. (Intern)

Relations
Publications:
Transformational Change for Low Carbon and Sustainable Development

Documents:
21248 UNEP DTU NAMA_HR_WEB

Project