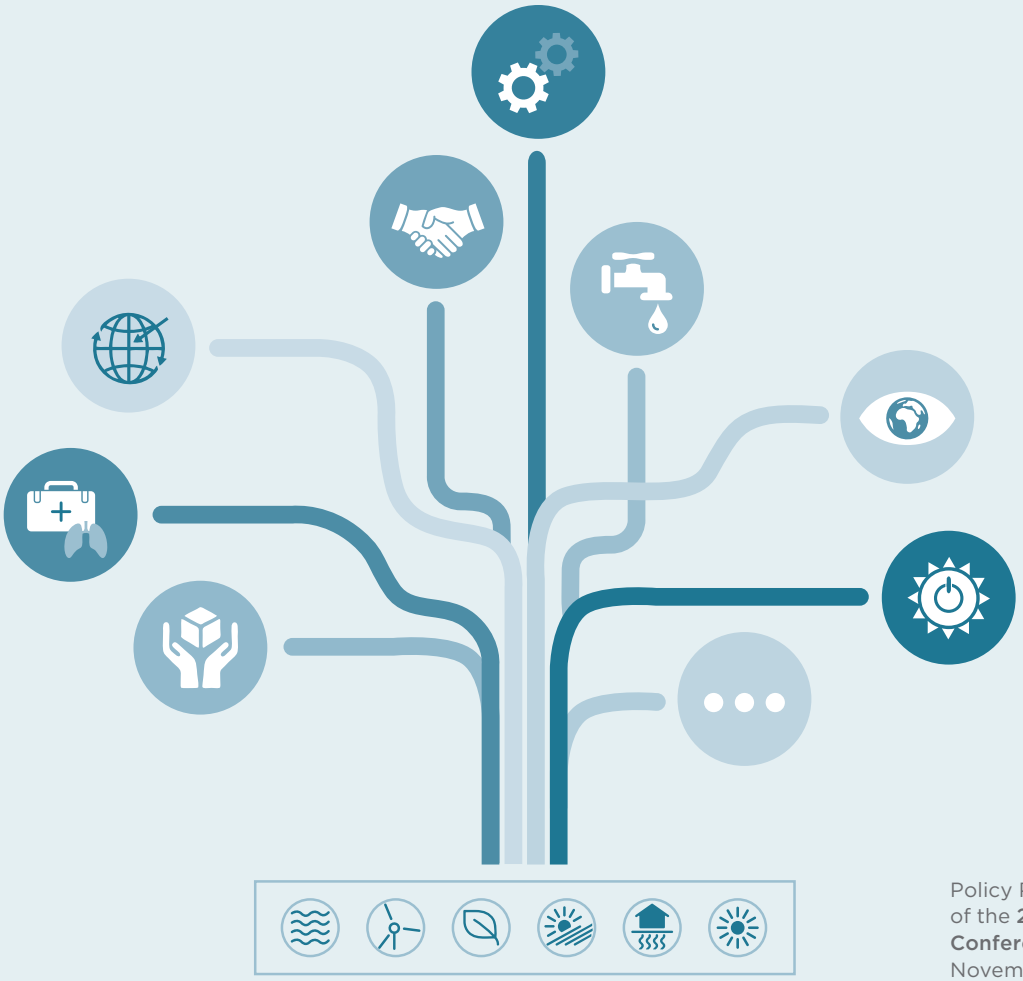
COBENEFITS IMPULSE

Institute for Advanced Sustainability Studies (IASS)
November 2017

Mobilizing the Co-Benefits of Climate Change Mitigation

Building New Alliances – Seizing Opportunities – Raising Climate Ambitions in the new energy world of renewables

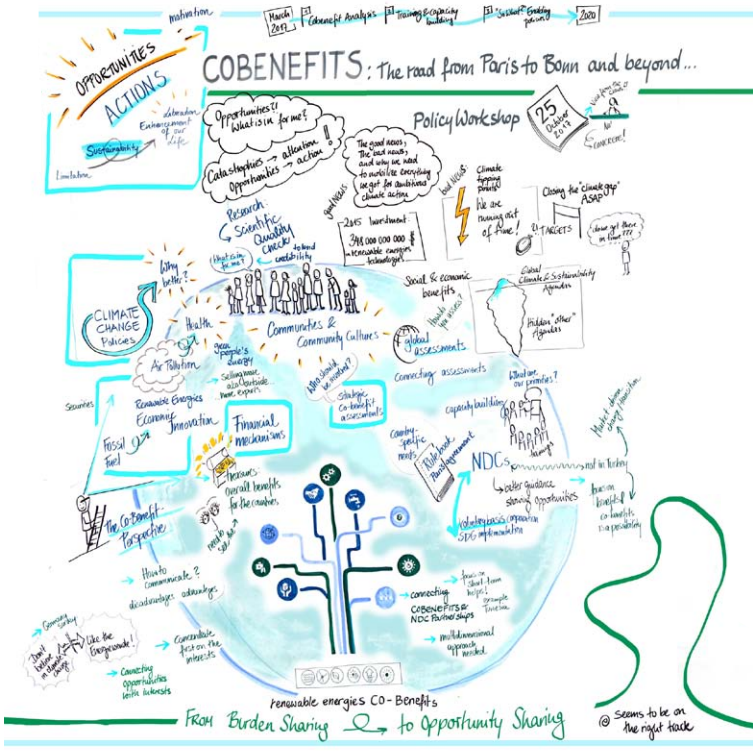


Policy Paper on the occasion of the **2017 UN Climate Change Conference (COP23)**
November 2017 in Bonn

This COBENEFITS Impulse has been prepared by Sebastian Helgenberger, Konrad Gürtler, Sylvia Borbonus, Ayodeji Okunlola and Martin Jänicke.

A draft version of this paper has been presented and discussed on the occasion of the **COBENEFITS Policy Workshop "The road from Paris to Bonn and beyond: Mobilizing the social and economic co-benefits of climate change mitigation" on 25 October 2017 in Potsdam,** with representatives of CSIR South Africa, German Federal Foreign Office, BMWI, BMZ, GIZ, GreenID Vietnam, IASS, IET, IPC Turkey, KfW, New Climate Institute, Climate Alliance Germany, RENAC, TERI India, UfU and others.

The authors acknowledge the inputs by the participants for preparing the published version of this paper.



© Sabine Soeder/ CoCreativeFlow

This paper has been developed in the context of the project **"Mobilizing the Co-Benefits of Climate Change Mitigation through Capacity Building among Public Policy Institutions" (COBENEFITS)**. This project is part of the **International Climate Initiative (IKI)**. The Federal Ministry for the Environment, Nature Conservation, Building and Nuclear Safety (BMUB) supports this initiative on the basis of a decision adopted by the German Bundestag.

The COBENEFITS project is conducted by the Institute for Advanced Sustainability Studies (IASS, Lead) in partnership with:

renac renewables academy

UfU Independent Institute for Environmental Issues

IET International Energy Transition

Spotlight on the social and economic opportunities of climate action

COBENEFITS Impulse Statements

(1) Powering the international alliance on social and economic co-benefits of ambitious and timely climate action

Fostering the opportunity-oriented narrative of climate policy and mobilizing the social and economic opportunities of renewable energies will be essential to building strong political momentum and rallying cross-sectoral support, while keeping the pressure for bold and timely climate action.

(2) Strategic Co-benefit Assessments should address specific interests and opportunities to drive effective climate policy and action

To build coalitions across sectors for ambitious, effective, and timely climate policy and action, co-benefit assessment should address specific interests, associated with particular social and economic co-benefits.

(3) Connecting country-specific and voluntary co-benefit assessments to the rulebook for implementing the Paris Agreement

Country-specific and voluntary Co-benefit assessments can be instrumental for the effective implementation of the nationally determined contributions (NDC) to climate change mitigation as outlined in the Paris Climate Agreement, and to activating the ambition mechanism (facilitative dialogue) to increase ambition over time in subsequent periods of NDC implementation and reformulation.

Figure 1: Mobilizing co-benefits of climate change mitigation: key opportunities

Based on science-policy dialogues on COBENEFITS Partner countries

Source: own figure

Introduction:

Co-benefits of climate change mitigation: Connecting opportunities with interests in the new energy world of renewables

Energy independence, rapid cost reductions, improved health performance for citizens, rural value creation, and poverty reduction – these are just some of the social and economic opportunities of renewable energies. As co-benefits of climate change mitigation measures, they have become key drivers of the global transition to a new renewable energy world.

Co-benefits have led to a paradigm shift in our understanding of what climate change mitigation means – from 'burden sharing' to an increasing degree of 'opportunity sharing' – a shift that was reflected in the 2015 Paris Climate Agreement. Co-Benefits have moved from the sidelines to the centre of climate- and energy-related debates on, for example, secure and affordable power for all; promoting local businesses and jobs; as well as empowering local communities and citizens (figure 1).

The energy sector, as a key action area for climate change mitigation, is moving rapidly towards renewable and climate-friendly energy sources, with investments in renewable energies continuing to skyrocket on a global scale for many reasons other than climate change. Global annual investment in renewable energies, particularly wind and solar power, grew from USD 62 billion to USD 287 billion between 2004 and 2016, with record investment of almost USD 350 billion in 2015[1].

"Co-benefits" refer to multiple benefits in different fields resulting from one policy, strategy, or action plan. Co-beneficial approaches to climate change mitigation are those that also promote positive outcomes in other areas such as concerns relating to the environment (e.g., air quality management, health, agriculture, forestry, and biodiversity), energy (e.g., renewable energy, alternative fuels, and energy efficiency) and economics (e.g., long-term economic sustainability, industrial competitiveness, income distribution).

Ministry of the Environment, Japan, 2009: Manual for Quantitative Evaluation of the Co-Benefits Approach to Climate Change Projects, with reference to the co-benefits approach elaborated by the U.S. Environmental Protection Agency (EPA)

[1] Bloomberg New Energy Finance (BNEF, 2017). Global trends in clean energy investment.

Despite the fact that the global transformation towards renewable energies is likely to be irreversible in the long run, investments in fossil fuel-based energy systems still present a serious threat to the global climate. A number of countries are experiencing sharply increasing demand for energy and will make important and far-reaching decisions in the energy sector. The expansion of coal-fired power plants currently planned in these countries would create path dependencies that could persist for decades. Given the climatic tipping points already identified and the urgent need to accelerate the global transformation of energy systems, such path dependencies should be avoided by all means.

Against this background, we argue that the co-benefits of climate change mitigation should not only be better understood but will have to be mobilized strategically to accelerate the global transition to renewable energies with increased energy efficiency to help limit the dangerous consequences of global warming. First and foremost this means raising awareness for the social and economic co-benefit to address specific interest and to build strong, possibly new alliances for ambitious climate policies and action.

Importantly, the co-benefit approach in climate policy extends previous norm-driven action by interest-oriented action. Consistently legal requirements are extended by new forms of voluntary participation. We argue that by addressing specific interests, **strategic co-benefit assessments** can be important drivers of effective climate policy.

© Sabine Soeder/ CoCreativeFlow

(1) Powering the international alliance on social and economic co-benefits of ambitious and timely climate action

Boosted by rapid technological innovation and cost reductions, the renewable energy sector – as key strategy to reducing greenhouse gas emissions – , allows to mobilize specific and shorter-term socio-economic interests for climate policies based on renewable energies (cf. figure 1). Further fostering the opportunity-oriented narrative of climate policy – from burden sharing to opportunity sharing – will be essential to building strong political momentum by rallying cross-sectoral support, while keeping the pressure for bold and timely climate action.

Driven by initiatives such as the **NDC Partnership**, an international alliance is currently emerging seeking to understand and explore how these co-benefits[2] of climate change mitigation can be mobilized further for ambitious and timely climate action.

In view of the opportunities, presented by renewable energies, this emerging alliance can be activated further by **connecting (1) political momentum, (2) social-economic opportunity and (3) scientific soundness** and fact-based assessment, with the mission to

- affirming joint commitment among research/think tanks, civil society and the private sector to promote and seize the social and economic opportunities of renewable energy, along with the necessary efforts to combat global warming
- building on the instruments and initiatives connected to Implementing the Paris Agreement and the United Nations Framework Convention on Climate Change (UNFCCC) as well as the United Nations 2030 Agenda for Sustainable Development
- fostering the opportunity-oriented narrative (mindset) of climate policy and action and seeking new alliances for ambitious climate policy and action
- establishing a multi-stakeholder task force (working group) with representatives of governments, research/think tanks, civil society and the private sector to
- reporting annually on the social and economic progress, induced by climate change mitigation efforts along with unseized opportunities (**"NDC Co-Benefits Report"**), building on the growing base of knowledge and assessment tools (such as the NDC Toolbox Navigator), as well as to
- working towards voluntary reporting schemes on social and economic co-benefits of climate change mitigation and renewable energies, with particular focus on mutual opportunities and eliminating tradeoffs among the individual United Nations Sustainable Development Goals (SDG), and to
- seeking strategic alliances on these objectives to join forces with the G20, the International Renewable Energy Agency (IRENA) and the United Nations Sustainable Energy for All Initiative (UN SE4ALL).

[2] Also referred to as Sustainable Development (SD) Benefits or non- greenhouse gas (GHG) benefits

(2) Strategic co-benefit assessments should address specific interests and opportunities to drive effective climate policy and action

With Co-benefit assessments we refer to systematic analyses on social and economic impacts of specific climate policies and actions. Co-Benefit assessments are based on scientifically sound and reproducible methods, which take into account benefits as well as negative repercussions. This lends validity and credibility credibility to performed assessments performed assessments.

Co-benefit assessments can offer key reference points for avoiding negative social, economic, or environmental impacts of global warming. For an interest-based anchoring of climate policy, however, the possible positive impacts are likely to have a greater motivating effect, both for making and advertising related decisions. Such motivating effects can be particularly expected in terms of economic co-benefits that address specific interest groups. This applies to such key areas as technology innovation, new business areas, and gains in productivity, or employment

To build coalitions across sectors for ambitious, effective, and timely climate policy and action, **Strategic Co-benefit Assessment**s should address specific interests, associated with particular social and economic co-benefits. Hence they need to focus on specific, near-term (net) benefits that unfold within a timeframe relevant to the specific interest groups or countries.

"We conclude that interest-oriented co-benefit assessments are essential to the effective implementation and ambitious reformulation of the nationally determined contributions (NDC)."

IASS/Helgenberger, Jänicke (2017): Mobilizing the co-benefits of climate change mitigation: Connecting opportunities with interests in the new energy world of renewables. IASS Working Paper, Potsdam.

"Many renewable energy impact assessments are resource and data intensive. However, in many developing countries and emerging economies, detailed data and resources for in-depth studies are not available, and simpler research designs and methodologies are needed."

IASS/Borbonus (2017): Generating socio-economic values from renewable energies – An overview of questions and assessment methods. IASS Working Paper, Potsdam.

Importantly, the negative impacts and co-risks should not be excluded from strategic co-benefit assessments, but should be incorporated in the net benefit estimation. This lends plausibility and scientific rigor to the approach, which is particularly important given the central role that legitimacy and persuasiveness play here. Accordingly, the assessment of energy savings would take into account the loss of jobs in traditional forms of energy supply, while the assessment of the growth of renewables would take into account potential accompanying declines in the fossil energy sector. Such detailed calculations of potential negative effects remain relevant even in cases where the overall net effect is positive.

According to this strategic assessment approach we specifically define the co-benefits of climate change mitigation in view of the political mobilization of designated interests:

Interest-oriented Co-Benefits of climate change mitigation represent positive net effects of policies and actions beyond those directly related to climate change and global warming processes (such as greenhouse gas emission reduction) that pertain to the following five key attributes:

- Interest-oriented: Benefit can be defined in view of specific interests/interest groups
- Identifiable: Benefit can be distinctly described, delimited from other factors, measured, and evaluated
- Timely: Benefit unfolds in a timeframe crucial for the addressed interest group (usually <10 years)
- Attributable: Benefit can be connected to a specific intervention and allocated to a specific interest group and reconstructed by members of this group
- Opportunity-oriented: Benefit can be defined through a resulting opportunity or profit, and not merely through avoided burdens, risks, or losses

Box 1: Illustrative examples of interest-oriented co-benefit studies[3]

Net job benefits through clean energy policy in China

Combined policies in the Chinese 11th five-year planning period 2006–2010 to (1) substitute small, inefficient coal-power plants with larger, more efficient plants, and (2) to actively promote renewable energy resulted in 472000 net job gains in China – a large number of direct job losses in small coal-power plants was overcompensated by a large increase of indirect jobs in the renewable energy sector, particularly solar PV (Cai et al., 2011).

Increased personal income through New York's Energy $mart Program

The Energy $mart Program (E$P) was funded by the State of New York with around USD1 billion for advancing energy efficiency, renewable energies, and energy services to low-income residents during the funding period 1999–2008. It resulted in increases of USD293 million in personal income and USD644 million in gross state product within that period. Without additional incentives, the figures are estimated to increase to USD5.74 billion and USD13.37 billion respectively by the year 2020 (EPA, 2011).

Net savings in fossil fuel imports through Tunisia's renewable energy programme

The roll-out of the planned renewable energy programme in Tunisia, with a feed-in tariff scheme for small- and medium-sized generation facilities at its centre, is estimated to lead to net savings of about EUR 4.6 billion between 2015 and 2030 (Quitzow et al., 2016; Meister Consultants Group, 2013).

Private surplus through healthcare and energy cost savings in US 100% renewable energy roadmap

A 2015 Stanford study on a 100% renewable energy roadmap calculated for the United States concluded that it would leave the average consumer with a surplus of USD1760 in their pockets, resulting from reductions in annual healthcare costs of USD1500 and annual reductions in energy costs of USD260 (Jacobsen et al., 2015).

[3] Taken from: IASS/Helgenberger, S, Jänicke M (2017). Mobilizing the co-benefits of climate change mitigation: Connecting opportunities with interests in the new energy world of renewables. IASS Working Paper, Potsdam.

(3) Connecting country-specific and voluntary co-benefit assessments to the rulebook for implementing the Paris Agreement

Country-specific and voluntary Co-benefit assessments can be instrumental for the effective implementation of the nationally determined contributions (NDC) to climate change mitigation as outlined in the Paris Climate Agreement, and to activating the ambition mechanism (facilitative dialogue) to increase ambition over time in subsequent periods of NDC implementation and reformulation.

Co-benefit assessments can be important drivers of ambitious and effective climate policy. We are observing increasing efforts to building up an international knowledge base on assessment methods and tools, through initiatives such as the NDC Partnership. We argue that emphasizing tangible, near-term benefits for specific interest groups and countries contributes to building strong alliances for ambitious and progressive climate and renewable energy policy and action; and helps to overcome long-lasting political deadlocks – particularly between environmental, economic, and industrial policies.

With its ambitious climate action agenda, the Paris Agreement marks a truly global effort to tackle climate change. The new pledge and review system and its focus on voluntary action as well as the shift from a top-down to a bottom-up approach to climate policy enabled broad participation in Paris.

The focus on individual country commitments, however, implies that the successful implementation of the Paris Agreement depends on how motivated the countries are to engage in ambitious climate policies and action. As current pledges are far from sufficient to limit temperature increase to "well below 2°C or even 1.5°C"[4], the ambition level must increase over time. In this respect the acknowledgements of the social and economic co-benefits by the parties to the UNFCCC are likely to be key for the effective and timely implementation of NDCs and to activating the Paris Agreement Ambition Mechanism. In this respect the **Facilitative Dialogue** (2018) and a **Global Stocktake** (from 2023 onwards), together with new transparency provisions to ensure a progression over time, will play a pivotal role.

Consistently, co-benefits are acknowledged repeatedly in the documents to the Paris Agreement, which we interpret as call for options to activating the co-benefits perspective by addressing social and economic opportunities of climate change mitigation.

The recognition of "the social, economic and environmental value of voluntary mitigation actions and their co-benefits" in the non-binding COP Decision[5] (1/CP.21) that accompanies the Agreement is complemented by the request to the UNFCCC secretariat to develop an annual technical paper on mitigation benefits and co-benefits. Co-benefits are also highlighted in relation to specific mechanisms such as voluntary cooperation, transparency, or finance. The development of the rulebook of the Paris Agreement offers a window of opportunity to strengthen the visibility of co-benefits in implementing the Paris Agreement.

Proposals already have been made towards strengthening the connection to the SDGs in Future Market Mechanisms under the UNFCCC[6] as well as

[4] UNFCCC (2015a). Article 2, Paris Agreement, FCCC/CP/2015/10/Add.1. 21st Conference of the Parties of the UNFCCC, Paris, France.

[5] UNFCCC (2015b). Decision 1/CP.21. Adoption of the Paris Agreement. FCCC/CP/2015/10/Add.1. 21st Conference of the Parties of the UNFCCC, Paris, France.

[6] Umweltbundesamt (2017). SD-Benefits in Future Market Mechanisms under the UNFCCC. Climate Change 04/2017.

towards reforming the existing qualitative ex-ante assessment tool for Sustainable Development (SD) Co-Benefits[7]. While progress is being made on strengthening the strategic connection between the Paris Agreement and the 2030 Agenda on Sustainable Development, the enormous potential to mobilize shorter-term-oriented and specific social and economic interests remains largely untapped (see also next section). In this respect, the Ad Hoc Working Group on the Paris Agreement (APA) has the mandate to prepare draft decisions for consideration and adoption at the Conference of the Parties to the Paris Agreement (CMA).

Due to the early coming into force of the Paris Agreement in 2016, working on the rulebook is expected to continue at COP23 and COP24. In this timeframe, negotiators and stakeholders should push for stronger co-benefit integration by (1) encouraging co-benefit integration in goal-setting (NDCs) and Transparency Framework; (2) applying the Financial Mechanism to mobilize co-benefits and showcase success and (3) strengthening co-benefit assessments in voluntary cooperation (see Box 2).

The proposed policy options offer cornerstones to activating the emerging international alliance on mobilizing the social and economic opportunities of climate change mitigation, presented by renewable energies (see section 1).

Box 2: Proposed policy options for mobilizing co-benefits in the implementation of the Paris Climate Agreement

Policy Option #1: Addressing Co-Benefits in Goal-Setting (NDCs) and Transparency Framework (Art. 13)

- Encourage parties to specify co-benefits of climate action in a voluntary amendment to their NDCs
- Voluntary best practice sharing on UNFCCC platform to increase visibility of the social and economic opportunities of climate action
- Enhance available guidance on co-benefit reporting and methods in Transparency Framework
- Encourage co-benefit reporting in Biennial Reports under Transparency Framework based on checklists of co-benefits (national selection or binding set of key co-benefits)
- Provide capacity-building and training on assessment frameworks as well as financial support to cover for additional costs of "MRV plus" including domestic co-benefit assessments, feeding into the UNFCCC platform

Policy Option #2: Applying the Financial Mechanism to mobilize co-benefits and showcase social and economic opportunities of climate action (Art. 9)

- Funding flagship projects to showcase non-climate Co-Benefits (Lighthouse Effect)
- Accelerating clean investments in less favorable financial environments, sparked by social/economic co-benefits, facilitating timely implementation of the Paris Agreement
- Supporting people and communities in transition (capacity building/retraining, investment support)
- Strengthening consideration of co-benefits in project selection criteria of climate funds

Policy Option #3: Strengthen Co-Benefit Assessments in Voluntary Cooperation (Art. 6)

- Advancing a co-benefit assessment toolkit, building on existing platforms and instruments such as the NDC Toolbox Navigator, allowing to mobilize country-specific interests and acknowledging the evaluation of the CDM Sustainable Development Co-Benefits tool
- Pushing for and clear guidance on co-benefit assessment and verification in SBSTA (Subsidiary Body for Scientific and Technological Advice to the UNFCCC) recommendation for internationally transferred mitigation outcomes (ITMOs)
- Encouraging the uptake of co-benefits assessment results by national reporting on SDG implementation (reporting synergies)

[7] Umweltbundesamt/DEHSt (2015). Reforming the CDM SD Tool - Recommendations for improvement. Berlin, August 2015.

Looking forward:

NDC Co-Benefits to activate the 2030 Agenda for Sustainable Development

The Paris Climate Agreement has been formulated in a broader mission to global sustainability, reflected in the very first sentence of the agreement text which puts all climate action "in the context of sustainable development". Building on the strengthened strategic relation between sustainable development and climate action, co-benefit assessments related to climate and energy can make an important contribution to further activating the United Nations **Sustainable Development Goals** (SDG).

Given their cross-sectoral character and inherent rationale for policy integration, assessments of social and economic co-benefits of climate change mitigation and renewable energies with efficiency measures serve to identify mutual opportunities and to eliminate trade-offs between the various SDG. In this regard, co-benefit assessments, connected to the implementation of the Paris Climate Agreement, can offer important inputs to national and international SDG reporting, thereby informing and further activating strategies to implement the 2030 Agenda for Sustainable Development.

Renewable energies and the renewable electricity sector in particular, are globally on the rise – based on rapid technological innovation and cost reductions they offer quantifiable near-term benefits for specific interest groups or countries (what we referred to earlier as interest-oriented co-benefits). This sets renewable energies apart from other strategies to mitigate climate change whose social and economic benefits are collective or can be expected within a longer time horizon. Different from other mitigation strategies they allow mobilizing specific and shorter-term interests for climate policies based on renewable energies.

This is not to say that longer-term orientation and public interest in climate-related politics are dispensable – quite the contrary: The 2030 Agenda of Sustainable Development is essential to call for taking global responsibility in our policy and action, for current and future generations, thereby contributing to a long-term change of societal value and organizational agendas towards sustainability. It is also indispensable for setting a vision to empower green frontrunners of climate policy and action.

However, in face of accelerated global warming, lagging progress in effective climate action and climatic tipping points around the corner, the group of green frontrunners of individuals, organizations and countries will not be sufficiently strong to induce the change to confront these urgent challenges. Strategic, interest-oriented co-benefit assessments of climate policy and action can connect to stakeholders who, based on their personal values or organizational mission, do not feel compelled to follow a global sustainability agenda. Incorporating these individuals, organizations and countries into a long-term sustainability strategy, spelled out with the SDGs, will be essential – particularly in view of climate change.

The new energy world of renewables, with its innovative, efficient, and low priced energy technologies and its multiple social and economic opportunities, is driving the paradigm shift in climate policy from "burden sharing" to "opportunity sharing". Rallying cross-sectoral support and sparking strong and unseen alliances, based on the co-benefits of climate change mitigation, might be the remaining chance for bold and timely climate action.

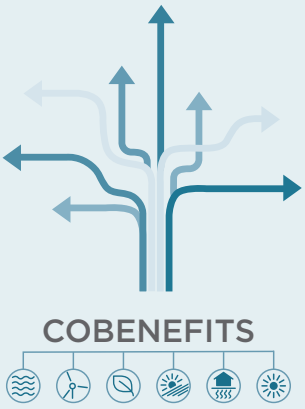
COBENEFITS
Mobilizing the Co-benefits of Climate Change Mitigation through Capacity Building among Public Policy Institutions

In collaboration with national knowledge partners in India, South Africa, Vietnam and Turkey, the project elaborates country specific co-benefits of climate policies, with emphasis on the opportunities presented by renewable power generation. With its political partners in government departments and agencies COBENEFITS connects the social and economic opportunities of renewable energies to climate change mitigation strategies.

The COBENEFITS project contributes to building strong alliances and lowering political barriers to revisit and effectively implement Nationally Determined Contributions (NDC) to the 2015 Paris Agreement on Climate Change.

COBENEFITS enables international mutual learning and capacity building among policy makers, knowledge partners and multipliers on seizing the social and economic co-benefits of climate change mitigation, through

- Country-specific assessment reports of social and economic co-benefits of renewable power generation
- Training materials, online courses and face-to-face trainings on seizing co-benefits of renewable power generation
- Policy dialogue sessions on enabling political environments and overcoming barriers to seize the co-benefits
- Strategies to connecting co-benefits of climate change mitigation with climate action plans, the Paris Ambition Mechanism and MRV schemes to support national NDC implementation



COBENEFITS Impulse
November 2017

Institute for Advanced Sustainability Studies e.V. (IASS)
Berliner Strasse 130
14467 Potsdam
Tel: +49 (0) 331-28822-382
E-Mail: media@iass-potsdam.de
www.iass-potsdam.de
www.cobenefits.info

@IKI_COBENEFITS

To contact the authors:
sebastian.helgenberger@iass-potsdam.de

ViSdP: Prof. Dr Mark G. Lawrence,
Managing Scientific Director

DOI: 10.2312/iass.2017.021

Supported by:

Federal Ministry for the Environment, Nature Conservation, Building and Nuclear Safety

INTERNATIONAL CLIMATE INITIATIVE (IKI)

based on a decision of the German Bundestag

SPONSORED BY THE
Federal Ministry of Education and Research

FONA
Research for Sustainable Development
BMBF

LAND BRANDENBURG
Ministerium für Wissenschaft, Forschung und Kultur