

IT'S SPRINGTIME IN THE DESERT

SAFEGUARDING THE SUSTAINABLE
IMPLEMENTATION OF THE DESERTEC CONCEPT

Boris Schinke and Jens Klawitter



Summary

This paper provides an overview of discussions on how to safeguard the sustainable implementation of the DESERTEC concept through the application of a sustainability framework. By doing so, the paper aims to answer the following questions:

Why is a sustainability framework for the DESERTEC concept needed? What could be the structure of a sustainability framework for the DESERTEC concept? How could a sustainability framework for the DESERTEC concept be developed? Who could be the target audience of a sustainability framework for the DESERTEC concept?

Furthermore, this paper identifies potential connections between the suggested sustainability framework and international climate finance under the United Nations Framework Convention on Climate Change (UNFCCC) and introduces possibilities for integrating a sustainability framework into international mitigation projects in developing countries.

Finally, the authors conclude with some recommendations for different stakeholder groups on how to develop and effectively implement a sustainability framework for the DESERTEC concept.

Imprint

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Why is a sustainability framework for the DESERTEC concept needed?

In reach of its financial volume, geographical extent and potential impact, the DESERTEC concept is unprecedented in history. It describes a future energy scenario based on renewable sources as well as the deployment of integrated technology solutions that are to contribute to sustainable development in the world's desert regions. The concept was developed in 2003 as a collaborative effort by members of the Trans-Mediterranean Renewable Energy Cooperation (TREC), an international network consisting of politicians, scientist and economists.

With an especially high volume of sunlight, deserts receive enough energy to supply the entire human demand. Desert countries therefore play an important role within this concept. Despite its global aim, the concept foresees, as a first step towards its realization, a joint energy partnership based on renewable energy sources between the European Union (EU), the Middle East and North Africa (MENA)¹. In this scenario, MENA countries would not only satisfy their own demand with renewable energies but could also export some of their electricity to the EU via High-Voltage Direct Current (HVDC) transmission lines as part of an interconnected, intercontinental electricity grid.²

Through a macro perspective and focus on the EU-MENA region, the DESERTEC concept in fact offers a unique opportunity to overcome multiple environmental, economic and social challenges by its holistic approach that combines several security dimensions within a framework of a South-North cooperation. On a macro scale, it provides a future scenario which would not only contribute to climate protection through the avoidance of greenhouse gas (GHG) emissions but would also help establish energy security and water sovereignty. Furthermore, the concept aims to address socio-economic challenges through the generation of employment opportunities and the build-up and enhancement of renewable energy industries in the EU-MENA region. Therefore, the big picture of realizing the DESERTEC concept in the EU-MENA region as a first step truly envisions a pathway for sustainable development – especially for Southern riparian countries of the Mediterranean Sea. From the micro perspective, however, the situation has proven to be a bit more complicated for the following three reasons:

Reason 1: Renewable energy projects do not contribute “per se” to sustainable outcomes

It is an inherent signature of the DESERTEC concept not to negatively affect the challenges and security dimensions mentioned above, but rather to contribute to their solution by addressing hunger, poverty as well as ensuring environmental stability (TREC, 2003). Notwithstanding the opportunities that investments in energy infrastructures create for economic growth, the concept's large-scale infrastructure elements may also bear the risk

¹ In principle, the DESERTEC concept is also applicable to other regions of the world, such as Southern Africa, India, China, Chile, Mongolia, Australia or the United States.

² Details regarding the amount of electricity that could be exported from MENA-countries to the EU are varying: While the DESERTEC Foundation mentioned 15% of the European electricity demand in 2050 (DF 2009), the Dii states 19% of the European demand as reasonable in a recent publication (Dii 2012).

of creating multiple adverse impacts. This is due to the concept's strong interrelations with social, economic and environmental dimensions at the project level. Export-oriented infrastructure projects, in a comparable international large-scale context (particularly in the energy sector), strategically overestimate benefits and underestimate costs of well-designed technologies and thus quite often result in negative outcomes for local societies and the environment. With this being said, it still is a matter of debate as to whether the implementation of the DESERTEC concept on the project level in the MENA region will actually deliver sustainable development outcomes and especially whether the local population will see its benefits (PWC, 2010).

On the local scale, the water needed for the cooling of concentrated solar power (CSP) plants for example could aggravate the already critical water situation in some parts of the MENA region. Converting large areas of desert into CSP plants could affect local ecosystems, change the local radiation balance and therefore the micro climate, and affect traditional land use practices. Moreover, a non-participative, exclusive, top-down planning process of large-scale infrastructure has already led to protests from local communities in MENA countries³. Together these processes could contribute to existing localized conflicts over water and land use which in parts of the MENA region are already significant (Schilling et al., 2010 and Link et al., 2010). Furthermore, if the electricity supply is vulnerable to political changes in the MENA region, distribution conflicts over investments, income and electricity exports to the EU could arise and undermine the sustainability of any DESERTEC-related project. Regarding the ongoing socio-political tensions in the region such conflicts seem ever more likely.

In other words: simply because renewable energy projects – e.g. CSP plants as the backbone of the DESERTEC concept – substitute fossil fuels does not necessarily ensure that they will contribute “per se” to sustainable development outcomes for communities in the vicinity of the planned intervention or even beyond.

In this regard, despite the fact that the DESERTEC concept raises great expectations both in the EU and the MENA region, there are still a growing number of critical voices (e.g. Friedman, 2011, Schinke and Klawitter, 2011, Schinke et al. 2012).⁴ Up until now, a large amount of public debates and discussions have highlighted the concerns that a mainly economic or technocratic approach as well as existing safeguard policies of funding institutions are likely to bypass the multiple opportunities to contribute to sustainable development within the design of the large-scale deployment of renewable energy technologies in the MENA region. Worries are that DESERTEC could offer – next to the expected positive effects on energy and climate security – only a few trickle-down effects at the local to regional level. Furthermore, international civil society organizations have raised fundamental questions about the risks of possible adverse social impacts that a purposive renewable energy transition and its accompanying large-scale power plants could have on the local level and particularly on the most vulnerable groups of society (e.g. Friedman, 2011 and Erdle, 2010). Concerns have been expressed that the implementation of the DESERTEC concept is still primarily represented and discussed in terms of top-down technical parameters, and that economic cost-benefit analyses are narrowly applied to promote mainly economic interests. From this perspective, the DESERTEC

³ This statement holds true not only for European countries: In Egypt for example, a 750 MW gas-fired combined-cycle power plant that was planned for Nuweiba on the Gulf of Aqaba had eventually to be cancelled in 2010 and relocated because of protests from the local tourism industry and Bedouin population (HEPCA, 2012).

⁴ From the authors' experience attending numerous conferences, workshops and presentations on the topic of scaling-up CSP investments in the MENA-region, there are always critical participants who raise their different concerns during the following discussions.

concept faces the risk of degenerating into another “white elephant project” (Kilian, 2011) with in fact multiple adverse impacts.

Therefore, whether or not the implementation of the DESERTEC concept in the MENA region develops into a success story and truly achieves its sustainability vision on the macro level, significantly depends on the development outcomes it will generate at the micro level. To be sustainable both at the macro and the micro level, efforts must be taken to ensure that positive returns to local communities will be optimized through transparent, accountable and participatory measures that bring social and economic opportunities as well as demonstrate respect for human rights e.g. in the field of water, land, the environment and meaningful stakeholder involvement.

Reason 2: The Arab Spring

In addition to the critical voices accompanying the realization of the DESERTEC concept, the events of the Arab Spring have demonstrated that people in large parts of the MENA region are demanding a political transition to a more inclusive, democratic and sustainable development paradigm. One that focuses on the distributional aspects of sustainable and equitable growth as well as livelihood security.

The renewable energy transition in the MENA region in the light of the Arab Spring is therefore both a technological and a social challenge that will have to take into consideration the new socio-political milieu along with the awakened democratic zeitgeist that had been suppressed for many decades in the MENA region. It will furthermore have to ensure that the design of renewable energy pathways is not used to repackage the socio-economic models of autocratic regimes but rather contributes to the socio-political transition in the MENA region.

Against this backdrop, a reflection on the human development needs of the MENA region rather than on European energy security objectives is a major imperative for the transition towards a sustainable energy regime. This reflection is necessary in order to ensure that the required social acceptance for its success is reached so as to avoid the continued construction of fossil-fired capacity or a nuclear lock-in in many MENA countries. Therefore, a participative planning process for DESERTEC-related projects that involves effectively raised voices of local stakeholders, equally shared potential benefits and adequately compensated disadvantages is needed.

Reason 3: A possible “race to the bottom”

At the moment, a large number of CSP plants, wind parks and photovoltaic projects are in the planning or implementation phase in the MENA region. Hence, in a foreseeable time-frame it is possible that institutional organizations such as Multilateral Development Banks (MDBs) would no longer be required for funding purposes once the scale-up process has taken off. As then, entities from the private sector would provide the needed finances to design, construct and operate renewable energy projects in the MENA region, with hardly any involvement from international banks.

As host countries set their own sustainable development requirements and as the responsibilities for social and environmental impact assessments rest with national or private

implementation partners, concerns must be raised about a “race to the bottom” once no more or only little funding by MDBs would be needed. Competition within the MENA countries to attract foreign direct investments could lead to the negligence of essential regulations with standards that are less stringent than those that would prevail under an international funding regime.

While the primary responsibility for the enforcement of international human rights standards lies with national governments, transnational corporations and business enterprises also have the responsibility to respect human rights according to the “UN Guiding Principles on Business and Human Rights”. However, although transnational corporations and business enterprises regularly claim their respect of human rights, only few have systems in place – mandatory or voluntary (i.e. OECD Guidelines for Multinational Enterprises, Equator Principles, UN Global Compact) – which would enable them to demonstrate their claim with any degree of confidence. Consequently, in states with only weak human rights commitments, the enforcement of human right standards is subject of corporate goodwill and, thus, lacks substantial obligations to avoid a “race to the bottom” (Ruggie, 2009).

Also, with weak legal bases at the national level and limited civil society participation – especially in rural areas, where large-scale renewable energy projects are most likely to be built – existing safeguards may not work effectively, e.g. due to corruption and lack of expertise.

Summing up: In the absence of a commonly accepted best-practice guidelines based on international conventions and agreements, like the Universal Declaration of Human Rights or the Millennium Development Goals (MDG), it is questionable whether it will be possible to prevent a “race to the bottom” among the host countries. It is also uncertain whether it will be possible to effectively guide the large-scale realization of the DESERTEC concept in the MENA region in ways that not only guarantee its economic viability and technical feasibility, but also simultaneously accentuate its contribution to sustainable development.

What could be the structure of a sustainability framework for the DESERTEC concept?

Against this background and with the DESERTEC concept currently being in the transition phase from a mere concept to actual implementation (seen in the implementation and planning process of numerous large-scale renewable energy projects in the MENA region), it is therefore of key importance to safeguard the sustainability aspects of the concept throughout its implementation and operation phases in order to ensure that:

- (a) It will be first and foremost the MENA region that benefits from the renewable energy projects;
- (b) Investments in renewable energy infrastructures address the demands of the Arab Spring;
- (c) Measures are in place that prevent a “race to the bottom” with regard to social and environmental safeguards in MENA host countries.

In this context, one possible way to successfully safeguard the DESERTEC concept for sustainability would be to incorporate social, economic and environmental issues during all project development stages within an overarching sustainability framework. In such a hierarchically ordered framework, consisting of Principles, Criteria and measurable Indicators (PC&I), all three “dimensions” or “pillars” of sustainability must be covered (i.e. the environmental, the economic and the social dimension of sustainability). Nonetheless, PC&I could also be accompanied by guidelines on how to achieve specific requirements and, by virtue of these guidelines, address a procedural dimension (e.g. guidelines on how to identify impacted stakeholders or how relevant stakeholder groups should be involved to discuss specific issues).

However, special attention should be paid to investigate and integrate the social dimension of sustainability: There is general agreement that the social dimension has not yet been well defined and is still the least developed dimension whereas the environmental and economic dimensions both have a profound theoretical foundation (see, for example, Patridge, 2005; Margot et al., 2008; Colantonia, 2009; Vallance et al. 2011). Additionally, while environmental and economic indicators can be measured comparatively easy, the social aspects often lack easily measurable numeric indicators and have to rely on rather normative and qualitative indicators. For these reasons, the social pillar of sustainability often falls short within sustainability frameworks, which makes an investigation all the more important.

The recognition that sustainable outcomes of the DESERTEC concept will only be achieved through a holistic approach could allow this framework to function as a guidance tool to ensure its compliance with social, economic and environmental standards. In doing so, the design of DESERTEC-related projects could then be aligned with a wide range of sustainability issues in order to help address the numerous global challenges and macro-level security dimensions. These include carbon emission reduction, water generation, energy supply, electricity export as well as technology transfer which could jointly build a macro platform of a cross-Mediterranean security partnership between Europe and Africa and at the same time match the projects to the livelihood realities at the local level regarding key aspects:

- Economic and employment opportunities, especially for the poor
- Basic livelihood needs and services
- Environmental improvement
- Poverty alleviation
- Fairness, non-discrimination and equity
- Vulnerable groups and social cohesion
- Capacity building and development of skills
- Social inclusion, participation and empowerment
- Preservation and enhancement of social resources
- Transparency and accountability

In the end, the sustainability safeguards of such a framework have to be balanced with feasibility criteria. If the implementation of a DESERTEC-related project is hindered, e.g. due to high “hurdles” and lack of socio-economic or environmental viability, the overall vision of a renewable energy future would be jeopardized. On the other hand, the social acceptance of DESERTEC and hence also its viability could be endangered, for instance if the benefits for the local population are neglected to a wide extent,

How could the sustainability framework for a DESERTEC concept be developed?

For the development of a sustainability framework for the DESERTEC concept, a combination of different methods and approaches would be the most promising. On a more theoretical level, one can draw on the PC&I from previously developed frameworks from other sectors. Although these frameworks do not address DESERTEC-specific issues, they do provide both a broad basis in terms of what issues could be implemented and act as a guide in facilitating the development process of a DESERTEC-specific sustainability framework.

Sectors that could be “screened” in this process include the following:

- The forestry sector which is known to have the longest history for sustainability frameworks and accompanied PC&I (e.g. The Forest Stewardship Council (FSC), Center for International Forestry Research (CIFOR) and others).
- The Clean Development Mechanism (CDM) and related sustainability frameworks (e.g. criteria developed by Sutter, 2003 and the Gold Standard). The CDM is of particular interest as it has a double aim: to achieve sustainable development in developing countries and to find the most cost-effective way of reducing GHG emissions in developed countries (Olsen and Fenhann, 2008). A comprehensive assessment of the contribution of the CDM to sustainable development was carried out by several scientists (e.g. Hugé et al, 2009; Alexeew et al., 2010) as well as non-governmental organizations (e.g. the WWF). Host countries tend to ease minimum requirements for sustainable development, because they preferred to attract foreign investments instead, which led to a “race to the bottom” (Sutter, 2003). Therefore, the different criteria catalogues and mechanisms to ensure sustainable development outcomes of CDM projects could be a valuable source of information.
- Numerous other sustainability frameworks from other sectors such as the process industry and the Australian Green Infrastructure Council. There are a large number of different initiatives that try to ensure sustainable development outcomes for various issues. However, priority should be given to those initiatives that are related to (energy) infrastructure.

While the screening process of other sustainability frameworks and their accompanying PC&I will eventually result in a comprehensive “pool of potential PC&I” for DESERTEC-related projects, a more in-depth practical investigation of “real world” CSP projects is necessary. The selection of criteria should be based on “real world impacts” (i.e. the empirical assessment of projects currently being in the planning, implementation or operation phase). The outcome of the empirical assessment should facilitate a better understanding of impacts from DESERTEC-related projects on local communities by integrating field realities. Due to the integration of field experiences, the process to develop the sustainability framework could then benefit from bottom-up knowledge as it would include local perspectives.

Top-down approaches often use international agreements as a starting point for the development of social impact categories, which often are characterized by “obligatory” impact

categories or minimum expectations (Benoit and Vickery-Niedermann, 2010). In contrast, bottom-up approaches emphasize contextual needs (e.g. the perspectives of key stakeholders or specific, “tailored down” social impacts). However, a combination of top-down and bottom-up approaches has often been used and was also suggested by various authors to achieve the best results (see for example Hartmuth et al., 2008).

The envisioned process represents only the first science-based steps towards a sustainability framework for DESERTEC, which could generate some ideas and basic suggestions on what to integrate into a sustainability framework such as this. At this point of time, different organizations and institutions, such as the DESERTEC Foundation and Germanwatch, are working on a joint PC&I catalogue for DESERTEC. These catalogues must be regarded only as a starting point for discussion, as they are insufficient in terms of both the degree of detail and the scope of issues that are covered.

In the future, however, the task of developing a sustainability framework for DESERTEC will need a stronger and serious commitment from a relatively large number of experts from different fields as well as relevant stakeholders, so that the development process of the framework does not remain merely a declaration of intent, but rather becomes applicable in practice. In order to develop not only a shared vision, but also practical solutions for the sustainable implementation of the DESERTEC concept, a wide range of stakeholders (such as policy makers, scientists, project developers, representatives from business and industry, civil society actors and funding institutions) from Europe and especially from the MENA region must be brought together to discuss and elaborate upon the sustainability framework for DESERTEC within a multi-stakeholder dialogue.⁵

⁵ As the DESERTEC Foundation is aware of these challenges and already tried to initialize such a multi-stakeholder dialogue, it could probably facilitate such a process.

Who could be the target audience of a sustainability framework for the DESERTEC concept?

There are two different target audiences for the envisioned sustainability framework. First, those who have to comply with the requirements of the framework (e.g. minimum requirements to avoid certain negative impacts) and second, those who would insist that requirements have to be fulfilled (e.g. investors or governments).

The first part of the target group are project developers and associated companies (or a consortium of companies⁶), who are responsible for the planning and actual on-the-ground implementation of a DESERTEC-related project, such as a CSP power plant or a wind park. For this group the sustainability framework could be regarded as a best-practice guideline on:

- How to plan and implement a large-scale renewable energy project with regards to specific sustainability issues (e.g. addressing the procedural dimension);
- What kind of outcomes the project would actually deliver (e.g. a number of jobs directly for those communities that are affected or delivering a certain amount of electricity or desalinated water per year to those communities);
- What kind of negative impacts should be avoided (e.g. ignorance of land-use rights or a worsened water situation in the local communities).

The advantages of a sustainability framework for project developers can be found in the clear-cut guidelines and criteria, and would therefore provide for more planning security. Hence, a sustainability framework aims at safeguarding the planning and implementation of large-scale renewable energy projects as well as the deliverance of benefits and avoidance of adverse impacts.

However, one important question is whether or not project developers would have to comply with the framework or whether the compliance would be voluntary. This issue must be addressed by the second target group: funding institutions and governments. In a mandatory regime, the framework would gain a lot more momentum and thus be much more effective. Two assumptions are important in this context:

- (a) especially in the take-off phase of the renewable energy transition in the MENA region high investments from both the private and public sectors are needed, and
- (b) institutional sponsors often require sustainable development outcomes (as it has been shown on the example of the Climate Investment Funds CIFs and the CDM).

Under these conditions a sustainability framework for DESERTEC-related projects could more likely become a mandatory guideline, though its implementation and the extent of achieved targets at the project level would still depend on the political will of the relevant stakeholders. In this case, projects that comply with the sustainability framework would

⁶ As the financing volume of these large-scale projects is very high, project developers and investors often share the ownership, which minimizes the financial risks for each party in the project consortium. Therefore, so-called Special Purpose Vehicles (SPV) will be founded where the project consortium companies hold different shares in the SPV.

have an added value, comparable to the CDM projects that comply with the Gold Standard.⁷ Accordingly, these projects may have an advantage when it comes to funding institutions or governmental agreements that require sustainable development outcomes for their supported projects (e.g. MDBs and their funds).

Other scenarios for a mandatory regime could also be realized if electricity would actually be exported from MENA countries to EU countries in accordance to Article 9 of the EU Energy Charta. In this scenario, the EU – as the main stakeholder – could insist not only on “green electricity” but also on “sustainable electricity” that was generated in accordance with the minimum requirements of the sustainability framework.

Another option for a mandatory regime is that European companies (such as RWE), which aim to implement a product based on electricity generated in the MENA region (“RWE Desert Power”⁸), would also insist on “sustainable electricity” and by doing so would evaluate and monitor their projects by applying the sustainability framework.

⁷ Eventually, the sustainability framework could evolve into a certification scheme for DESERTEC projects based on the sustainability outcomes they achieve at all different stages from the planning, construction all the way to the operation phase and with regard to their social, economic and environmental impacts.

⁸ This information was gained during the DESERTEC roundtable discussion held on 22. November 2012.

How could a sustainability framework for DESERTEC be linked to climate finance?

Besides bilateral channels, international climate finance is channeled through a number of multilateral funds, such as the Climate Investment Funds (CIFs). The CIFs, established in 2008, consist of the Clean Technology Fund (CTF) and the Strategic Climate Fund (SCF) and are administered by the World Bank and other development banks (Nakhouda et al., 2011). The overarching goal of the CIFs is “to deliver strong development outcomes as well as strong climate outcomes” (CIF, 2012a). More specifically, next to the obvious savings of GHG emissions, the CTF also aims to promote the “realization of environmental and social co-benefits thus demonstrating the potential for low-carbon technologies to contribute to sustainable development and the achievement of the Millennium Development Goals” (CTF, 2008).

Hence, sustainable development is explicitly mentioned as one objective of the CTF. Furthermore, project proposals that support the achievement of so-called co-benefits will have an advantage during the review process of the trust fund committee. The same holds true for the Scaling Up Renewable Energy in Low Income Countries Program (SREP) – one of the three, targeted programmes within the SCF. The SREP “is aimed at demonstrating the social, economic, and environmental viability of low carbon development pathways in the energy sector. It seeks to create new economic opportunities and increase energy access through the production and use of renewable energy” (CIF, 2012b). Different renewable energy projects have already been approved by the CTF in the MENA region and elsewhere⁹.

Additionally, the newly established Green Climate Fund (GCF) states, that it “will strive to maximize the impact of its funding for adaptation and mitigation, and seek a balance between the two, while promoting environmental, social, economic and development co-benefits and taking a gender-sensitive approach” (GCF, 2011). Also, the GCF seeks to develop and then apply environmental and social safeguards using the resources of the fund.

Against this background, a sustainability framework for DESERTEC could help standardize criteria for the climate projects funded by multilateral funds with respect to sustainable development outcomes. Furthermore, a sustainability framework with PC&I would make the measurement and comparison of projects possible. Projects with high development outcomes could gain an advantage in the project selection process of institutional financing sources. Additionally, certain minimum requirements (“do no harm”) as well as advocated requirements (“do good”) could be established.

As the results of other climate finance mechanisms (e.g. the CDM) have demonstrated, host countries tend to minimize the hurdles for sustainable development criteria and, as mentioned before, the “race to the bottom” could be the consequence. Also, the World Bank – a major player in the CDM market – tends to disengage projects with substantial development outcomes, as only one single World Bank project gained the Gold Standard label. This circumstance led the authors of a recently published report to the conclusion: “If World Bank projects are indeed substantially more development oriented than other

⁹ In the case of CSP, these projects are: Kom Ombo CSP project in Egypt, Ouarzazate I CSP project in Morocco and a CSP project in Chile.

projects, one would expect that they should pass this external assessment far more often“ (Michaelowa and Michaelowa, 2011). In other words, the mitigation objectives of CDM projects have in reality so far clearly succeeded the sustainable development objective (Wang-Helmreich et al., 2011). For this reason, there might also be the need to put more emphasis on measurable sustainable development outcomes of "climate-financed" projects, where DESERTEC-related projects could be first flagship projects.

Is there any advantage of integrating a sustainability framework into NAMAs?

The concept of Nationally Appropriate Mitigation Actions of developing countries (NAMAs) first emerged in the Bali Action Plan in 2007. While the concept is still evolving and there has been no clear definition of the term until now (UNEP, 2012), in principle NAMAs aim to achieve mitigation actions in developing countries that are tailored to the countries' national circumstances. Furthermore, these actions have "to take place in the context of sustainable development, meaning they are to be embedded in the countries' broader sustainable development strategies" (Wang-Helmreich et al., 2011).

At this point in time, it is difficult to judge whether or not NAMAs will achieve a better balance between mitigation and sustainable development objectives compared to the CDM because negotiations about procedures are still going on. A sustainability framework for DESERTEC-related projects could be an opportunity and source of inspiration for eligible criteria for those NAMAs which aim to implement large-scale renewable energy projects. The PC&I, within such a framework, could make sustainable development outcomes measurable, reportable and verifiable. Moreover, if multilateral funds, which are a possible source of funding for NAMAs (e.g. the Green Climate Fund), acknowledge the sustainability criteria that were created for a sustainability framework for DESERTEC, those projects would clearly have a greater opportunity to contribute to sustainable development.

Recommendations

Whether or not the realization of the DESERTEC concept in the MENA region develops into a success story and will actually serve as a vehicle to support the intercultural goal of the Union for the Mediterranean (UfM) to develop a “zone of shared peace, stability and prosperity” throughout the Mediterranean region, significantly depends on the development outcomes it will generate at the local level. To ensure the sustainable development outcomes of DESERTEC-related projects on both the macro and micro scale, it is necessary to develop and effectively implement a sustainability framework consisting of PC&I and its accompanying guidelines. These guidelines should not only aim to reduce GHG emissions, but should also provide real sustainable outcomes for the communities in the projects vicinity. To achieve this goal, the authors give the following recommendations regarding the sustainability framework for the DESERTEC concept:

Civil Society:

- Observe the realization of the DESERTEC concept from a critical and neutral point of view;
- Set up a dialogue with civil society actors from EU and MENA countries to raise awareness and mutually discuss the potential benefits and adverse impacts of the DESERTEC concept;
- Exchange and develop ideas on elements for a sustainability framework for the DESERTEC concept among the civil society in the EU and the MENA region as well as raise their capacity to advocate for sustainable outcomes when implementing large-scale renewable energy projects in MENA countries;

Science:

- Provide profound, empirical research on the impacts (positive and negative) that could potentially be generated by DESERTEC-related projects on the local, national and transnational level in MENA countries covering the economic, environmental and social as well as a procedural dimension;¹⁰
- Identify ways to optimize socio-economic and environmental development perspectives for MENA countries through the deployment of large-scale renewable energy projects;
- Translate the knowledge gained through empirical research studies and in-depth analyses of existing sustainability frameworks, along with their accompanied sustainability principles, criteria and indicators into PC&I and accompanying guidelines for the DESERTEC concept;

¹⁰ This is very much in line with the recently published UNDP “Arab Development Challenges Report 2011” that states “there is need for a quick assessment of the social and economic benefits of potentially large infrastructural projects and embarking on an open and transparent debate to decide on the most beneficial and viable projects” (UNDP, 2011).

Industry:

- Ensure that the renewable energy projects – in which transnational corporations and business enterprises are investing in or which they are planning, building and/or operating – fulfill sustainable development requirements – especially in host countries with weak legal obligations;

Governments and international funding institutions:

- Agree on institutional safeguards for international climate finance (e.g. for NAMA projects) – either nationally or on the international level – that are technology-specific and ensure measurable, reportable and verifiable sustainable development outcomes of large-scale renewable energy projects in the MENA region;

All:

- Engage in a comprehensive, South-North multi-stakeholder dialogue to develop, discuss, improve and enhance the sustainability framework with an emphasis on stakeholders from MENA countries.

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Germanwatch

Following the motto "Observing, Analysing, Acting", Germanwatch has been actively promoting global equity and the preservation of livelihoods since 1991. In doing so, we focus on the politics and economics of the North with their worldwide consequences. The situation of marginalised people in the South is the starting point of our work. Together with our members and supporters as well as with other actors in civil society, we intend to represent a strong lobby for sustainable development. We endeavour to approach our aims by advocating food security, responsible financial markets, compliance with human rights and the prevention of dangerous climate change.

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