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# ISRAEL AND INTERNATIONAL CLIMATE FINANCE

## Climate finance options and proposals for government decision making


**Casper Van der Tak**
*ClimaSouth project*
*Mitigation and Finance Expert*



Low carbon development
for climate resilient societies

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the European Union

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*Author & editor:* Casper Van der Tak

*Proofreading:* CoDe Translations

*Graphic design & layout:* Raffaella Gemma

*Series editor:* G.H. Mattravers Messana

*ClimaSouth Team Leader:* Bernardo Sala

*Agriconsulting Consortium project directors:* Ottavio Novelli / Ghizlane Lajjal

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Casper Meeuwis Van der Tak

*Laveno-Mombello, December 2016*

# ABBREVIATIONS AND GLOSSARY

| | |
|---|---|
| **ADB** | Asian Development Bank |
| **AIIB** | Asia Infrastructure Investment Bank |
| **ASHRA** | Israeli Foreign Trade Risks Insurance Corporation |
| **BMUB** | Bundesministerium für Umwelt, Naturschutz, Bau und Reaktorsicherheit [D] (Federal Ministry for the Environment, Nature Conservation, Building and Nuclear Safety) |
| **BMZ** | Bundesministerium für wirtschaftliche Zusammenarbeit und Entwicklung [D] (Federal Ministry for Economic Cooperation and Development) |
| **BSE-ROF** | besluit subsidies exportfinancieringsarrangementen – renteoverbruggings-faciliteit [NL] (decision subsidies export finance arrangements – interest rate bridging facility) |
| **CIRFF** | Concessional Innovation Rollout Financing Facility [this report] |
| **CLEANTECH** | environmentally sound(er) and clean(er) technologies |
| **CLIMATECH** | climate technologies (adaptation technologies and/or mitigation technologies) |
| **$CO_2e$** | carbon dioxide equivalent |
| **COP** | Conference of Parties |
| **D** | Germany |
| **DFI** | development finance institution |
| **DHI** | Subsidieregeling voor demonstratieprojecten, haalbaarheidsstudies en investerings-voorbereidingsstudies [NL] (regulation subsidies for demonstration projects, feasibility studies, and investment preparatory studies) |
| **EBRD** | European Bank for Reconstruction and Development |
| **EU** | European Union |
| **EUR** | Euro |
| **EVD** | Economische Voorlichtingsdienst [NL] (Economic Information Service) |
| **FMO** | Nederlandse Financierings-Maatschappij voor Ontwikkelingslanden N.V. [NL] (Netherlands Development Finance Company) |

| | |
|---|---|
| **FOM** | Faciliteit Opkomende Markten [NL] (Facility Emerging Markets) |
| **GCF** | Green Climate Fund |
| **GDP** | gross domestic product |
| **GOM** | Garantiefaciliteit Opkomende Markten [NL] (Guarantee Facility Emerging Markets) |
| **ICFPPF** | Israel Climate Finance Proposal Preparation Facility [this report] |
| **IEICI** | Israel Export and International Cooperation Institute |
| **IFC** | International Finance Corporation |
| **IFOM** | Investeringsfaciliteit Opkomende Markten [NL] (Investment Facility Emerging Markets) |
| **INDC** | Intended Nationally Determined Contribution |
| **INS** | Israeli new shekel |
| **ITMO** | internationally transferred mitigation outcome |
| **JCM** | Joint Crediting Mechanism |
| **JFJCM** | Japan Fund for the Joint Crediting Mechanism |
| **M&E** | monitoring and evaluation |
| **MASHAV** | Israel Agency for International Development Cooperation |
| **MDB** | multilateral development bank |
| **MILIEV** | Milieu en Economische Verzelfstandiging [NL] (environment and economic autonomization) |
| **MRV** | measurement, reporting and verification |
| **NAMA** | Nationally Appropriate Mitigation Action |
| **NDC** | Nationally Determined Contribution |
| **NL** | Netherlands |
| **OECD** | Organization for Economic Cooperation and Development |
| **ORET** | Ontwikkelings Relevante Export Transactie [NL] (development relevant export transaction) |
| **PA** | Palestinian Authority |
| **PC-TAS** | Personal Computer Trade Analysis System |

| | |
|---|---|
| **PE** | private equity |
| **PESP** | Programma Economische Samenwerking Projecten [NL] (Program Economic Cooperation Projects) |
| **PPP** | purchasing power parity |
| **PR** | public relations |
| **PSB** | Programma Starters Buitenlandse Markten [NL] (Program for Companies Entering Foreign Markets) |
| **PSO** | Programma Samenwerking Oost-Europa. [NL] (Program cooperation Eastern Europe) |
| **PSOM** | Programma Samenwerking Opkomende Markten [NL] (Program Cooperation Emerging Markets) |
| **PUM** | Programma Uitzending Managers [originally, NL] (Netherlands Senior Experts) |
| **PWC** | PricewaterhouseCoopers |
| **RCA** | revealed comparative advantage |
| **REDD-plus** | reducing emissions from deforestation and forest degradation in developing countries |
| **SENO** | Stichting Economische Samenwerking Nederland Oost-Europa [originally, NL] (Foundation for Economic Cooperation Between Netherlands and Eastern Europe, an insurance facility that deals with damage and losses in international export transactions) |
| **SME** | small and medium-sized enterprise |
| **TA** | technical assistance |
| **UNFCCC** | United Nations Framework Convention on Climate Change |
| **US(A)** | United States (of America) |
| **USD** | United States dollar |
| **Valley of death** | Period of time from when a startup makes its first major breakthrough (an initial external capital contribution, proof of concept) to when it begins generating a steady stream of revenues. The implication is that many firms don't make it across the valley and die prematurely. |
| **VC** | venture capital |
| **WRI** | World Resources Institute |
| **WTO** | World Trade Organization |

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# EXECUTIVE SUMMARY

Israel, as an OECD country, will have a moral requirement to provide climate finance. The question is not whether it should provide international climate finance or not, but how Israel can provide international climate finance smartly so that the country can indirectly benefit from it.

Additionally, this paper explores what factors may make it difficult for Israel to access international climate finance in support of exports and international investments, and what the Israeli government can do to enable Israeli climatech[1] companies to benefit from climate finance in supporting their exports to and investment in developing countries.

As for our methodology, we have used a combination of a rather wide Internet and literature review to gain ideas about climate finance options that could be relevant for Israel. This review is only partially reflected in this report and the attached references. Apart from this review, we also used a mission to Israel in June 2016 to conduct a significant number of in-depth discussions with key informers. This enabled us to identify what criteria might be relevant in judging the various options. We combined this with earlier work for the Asian Development Bank's (ADB) climate technology finance center on the promotion of climate technologies, to generate additional ideas of international climate options that might be attractive to Israel. We used all these inputs to develop a number of options, some of which new, which we subsequently evaluated, thus leading to the core of the paper. All this resulted in a draft report finalized at the end of October 2016. The conclusions of this draft report were tested through a mission in November-December 2016. Based on these discussions during the second mission, the report has been updated and finalized, although the main points and arguments remain the same as in the draft report.

Several concepts for Israel's engagement with climate finance have been developed and are discussed in more detail in the main text. Here we provide some of highlights of the ideas and their key characteristics. We would like to emphasize at the outset that the best approach is to select a portfolio of instruments, initially invest limited amounts in each, and scale up the efforts and contribution on the basis of results.

**1. Contributing to the GCF:** Making a contribution to the GCF in line with expectations regarding the contributions of an OECD member country. The main characteristics of this approach are summarized below.

Because similar tables are used for all the options, it may be worthwhile to elaborate on the various elements in the summary tables.

- *Objectives* summarizes the reasons for the instrument and what it hopes to achieve.

[1] Climatech and the unabridged version (climate technologies) are used as shorthand for climate change adaptation and climate change mitigation technologies, analogous to cleantech for technologies that provide clean(er) or environmentally sound(er) solutions.

- The *role of the Israeli government* describes the actions needed from the Israeli government to implement the proposed option. In the case of contributing to the GCF, the role is essentially passive, providing funds for disbursement by the GCF.
- *Preparatory steps* describes the actions that must be taken before the proposed action can be implemented. In some cases no preparation is needed, while in other cases, especially when the role of the Israeli government is more elaborate, additional preparatory steps are required.
- *Application process* describes the actions needed to avail oneself of a specific option. In the case of contribution to the GCF, there is no application process for the State of Israel, but Israeli companies and other project sponsors that want to avail themselves of GCF funding will need to work through an accredited entity.
- Related to this is the *selection process*. In the case of the GCF, this is not relevant to the State of Israel, but for Israeli companies and project sponsors will depend on the GCF board decisions.
- Some options are only open for actions in specific *sectors*. In other cases, the option is relevant for all sectors.
- Similarly, some options are only available for climate change adaptation, while others are only for climate change mitigation and others are open for both. This is what we refer to with *issues addressed*.
- With *countries* we indicate the countries in which the option will be active. In some cases, the number of countries where an option is implemented is more limited. For example, if the Asian Development Bank would issue a climate bond, the use of the revenues would be restricted to its Asian Developing Member Countries.
- Under the heading of *visibility/PR aspects*, we indicate the kinds of reputational impacts that will result from the implementation of the option. In some cases, favorable impacts can be expected, but in other cases the main benefit is to avoid the negative reputational impact from a lack of action.
- *Budget* gives an indication of the amount we propose as an initial contribution by the Israeli government.
- *Evaluation criteria* gives an indication of what the Israeli government could consider at some point in the future so as to determine whether it makes sense to continue the option, to decrease or to increase the resources spent on the option. (table a)

Table a

| | | | |
|---|---|---|---|
| **Objectives** | • Obtain a seat at the table<br>• Contribute climate finance<br>• Avoid negative publicity | **Sector** | • Agnostic |
| | | **Issue(s) addressed** | • Adaptation<br>• Mitigation |
| **Role Israeli government** | • Providing funds | **Countries** | • Developing countries, agnostic |
| **Preparatory steps** | • None | **Visibility/PR aspects** | • Limited and defensive |
| **Application process** | • For Israel: none<br>• For projects and programs: through accredited entities | **Budget (proposed)** | • Initially 10 MUSD* in INS eq.<br>• Future contributions subject to M&E results |
| **Selection process** | • For Israel: none<br>• For projects and programs: GCF board | **Evaluation criteria** | • Mitigation achieved<br>• Adaptation achieved<br>• Israeli business triggered |

* Mexico pledged 10 million USD to the GCF.

This first option of contributing to the GCF is one that Israel would probably need to implement, among others because it will give Israel a voice in the decisions regarding the spending of the major source of climate finance, and because it is expected of a developed OECD country. Finally, it provides a foundation for the implementation of a number of the other suggestions in this report.

**2. Liaising with the NDC Partnership:** NDC Partnership is a new initiative jointly launched by Germany and WRI. Currently, limited information is available. Therefore, it is suggested to discuss with the NDC partnership about joining it, provided that the right conditions have been met regarding Israel's influence on processes and procedures as well as Israel's business opportunities. (table b)

Table b

| | | | |
|---|---|---|---|
| **Objectives** | • Assess benefits from joining | **Sector** | • Agnostic |
| | | **Issue(s) addressed** | • Mitigation<br>• Adaptation to a lesser degree |
| **Role Israeli government** | • Discuss and assess | **Countries** | • Developing countries, agnostic |
| **Preparatory steps** | • None | **Visibility/PR aspects** | • Depending on discussion |
| **Application process** | • Not applicable | **Budget (proposed)** | • Initially discussions only<br>• Future contributions subject to discussion |
| **Selection process** | • Not applicable | **Evaluation criteria** | • Expected mitigation achievements<br>• Israeli business triggered<br>• Influence on partnership processes and procedures |

Because little information is currently available, it is proposed to discuss joining the partnership, without making a commitment. One of the issues that must be clarified and assessed is the extent to which joining the partnership will help Israel in its various objectives, such as meeting mitigation targets and promoting Israel's business interests.

**3. Climate bonds:** Investing in climate bonds available on the market with emphasis on climate bonds, of which the proceeds are invested in developing countries. (table c)

Table c

| | | | |
|---|---|---|---|
| **Objectives** | • Obtain financial return<br>• Contribute climate finance<br>• Avoid negative publicity<br>• Gain familiarity | **Sector** | • As in climate bond prospectus |
| | | **Issue(s) addressed** | • Adaptation<br>• Mitigation |
| **Role Israeli government** | • Providing funds | **Countries** | • As in climate bond prospectus |
| **Preparatory steps** | • Identify attractive climate bonds | **Visibility/PR aspects** | • Limited |
| **Application process** | • Market process | **Budget (proposed)** | • No suggestions |
| **Selection process** | • Market process | **Evaluation criteria** | • Mitigation achieved<br>• Adaptation achieved<br>• Return on investment |

The climate bond offers the investor a return. It is a financing instrument that Israel may consider to use itself; for example, in the companion report on cleantech innovation promotion,[2] we suggest that Israel might issue a climate bond to finance programs that help new climate technology inventions become successful climate technology innovations and businesses.

**4. Mitigation bonds / mitigation loans:** Zero- or very-low-interest bonds and loans invested in mitigation projects and programs in developing countries that, instead of yielding interest, provide a share in the mitigation results obtained, transferred as ITMOs [this report].[3]

Mitigation bonds are a novel idea first promoted in this report (and its previous draft).

Initial discussions with an MDB indicated that MDBs might have an interest in issuing a mitigation bond and using its proceeds to offer mitigation loans, as described here. (table d)

If Israel wants to pursue this option, the most logical first step would be to discuss it with a

[2] Van der Tak, C.M. (2016), Israel and domestic climate finance: cleantech commercialization. Final report. Report prepared for the ClimaSouth project.

[3] We are noting new ideas that cannot be found in other publications with [This report] throughout.

Table d

| | | | |
|---|---|---|---|
| **Objectives** | • Contribute climate finance<br>• Meet NDC mitigation targets | **Sector** | • Mostly energy, transport |
| | | **Issue(s) addressed** | • Mitigation |
| **Role Israeli government** | • Initiate idea<br>• Providing funds | **Countries** | • Developing countries, agnostic |
| **Preparatory steps** | • Proposed: discuss with MDBs to assess interest<br>• Alternatively, could be run by Israeli banks with a wide international network | **Visibility/PR aspects** | • Initially limited<br>• Option of increasing publicity and obtain positive PR for Israel on success as initiator |
| **Application process** | • Assuming hosting with MDB, MDB managed | **Budget (proposed)** | • Initially 50 MUSD* in INS eq. (revolving)<br>• Future contributions subject to M&E results |
| **Selection process** | • Assuming hosting with MDB, MDB managed | **Evaluation criteria** | • Mitigation achieved<br>• Economic ROI |

* This is a relatively large amount. However, if an MDB would run such mitigation loans and issue mitigation bonds, it would need to see that the originator of the idea is willing to put a significant amount of funding on the table.

number of MDBs who might be interested in managing a mitigation bonds issue.

**5. Adaptation bonds / adaptation loans:** Analogous to mitigation bonds and loans, however dealing with adaptation results. A prerequisite for this type of bond or loan is that the adaptation result somehow need to obtain a value, in which the investor can share. For example, in the case of a water-saving program, this could be achieved by agreeing on a price for saved water, doing so on the basis of avoided marginal supply costs [this report]. (table e)

Table e

| | | | |
|---|---|---|---|
| **Objectives** | • Favorable publicity<br>• Contribute climate finance | **Sector** | • Agnostic, likely with Israeli technology strength |
| | | **Issue(s) addressed** | • Adaptation |
| **Role Israeli government** | • Initiate idea<br>• Providing funds | **Countries** | • Developing countries, agnostic |
| **Preparatory steps** | • Await mitigation bond / loan results<br>• Discuss with partner countries<br>• Discuss with MDBs | **Visibility/PR aspects** | • Positive and significant<br>• Adaptation issues a key concern and underfunded<br>• Innovative approach to deal with adaptation |
| **Application process** | • Countries: Bilateral discussions to agree on framework for adaptation transfers e.g., related to water<br>• Flexibility on application procedures specific projects | **Budget (proposed)** | • Initially none<br>• Subject to favorable experience mitigation bonds, 20 MUSD in INS equivalent (revolving)<br>• Future contributions subject to M&E results |
| **Selection process** | • Countries on basis of interest and willingness<br>• Specific investments by responsible financial institution(s); to be discussed | **Evaluation criteria** | • Adaptation achieved<br>• Israeli business triggered<br>• Israeli visibility and PR |

Because the complexity exceeds that of a mitigation loan, we propose that the implementation of this option could follow the experience with the implementation of the mitigation bonds / loan option.

**6. Mitigation technology loans and insurance:** Analogous to mitigation loans, except that relatively new mitigation technologies (and new to the country) are funded. Investor shares in the mitigation results of the funded projects and replications [this report]. (table f)

**7. Climate Innovation Funding Program:** Combination of Israeli funding (in a cost-effective manner) commercial demonstration projects in developing countries and an agreed 'concessional innovation rollout financing facility' (CIRFF) made available by international sources of climate finance that will fund the replication of successful commercial demonstrations [this report]. (table g)

This option is broader than the previous one in that it looks at both mitigation and adaptation. Note that it would be very difficult to implement this option in case Israel does not make a contribution to the GCF.

Table f

| | | | |
|---|---|---|---|
| **Objectives** | • Contribute climate finance<br>• Achieve mitigation targets<br>• Possibly positive impacts on Israeli companies | **Sector** | • Agnostic |
| | | **Issue(s) addressed** | • Mitigation |
| **Role Israeli government** | • Initiate idea<br>• Providing funds | **Countries** | • Developing countries, agnostic |
| **Preparatory steps** | • Discuss concept with MDBs*<br>• Could alternatively be managed in house but difficult | **Visibility/PR aspects** | • Positive because of technology transfer, a relatively neglected issue |
| **Application process** | • Proposed managed by MDBs | **Budget (proposed)** | • Initially 20 MUSD** in INS eq. (revolving)<br>• Future contributions subject to M&E results |
| **Selection process** | • Proposed managed by MDBs | **Evaluation criteria** | • Mitigation achieved<br>• Adaptation achieved<br>• ROI<br>• Israeli business triggered |

* Attractive targets MDBs of which Israel is member that have a climate technology finance center. EBRD might be the best option available.
** This amount would be sufficient to draw the interest of MDBs regarding this issue.

This option seeks to expand markets for Israeli mitigation technologies, while at the same time contributing to Israel's mitigation and technology transfer obligations under the UNFCCC.

**8. Israel Climate Finance Proposal Preparation Facility (ICFPPF):** Facility provided by the Israeli government that will share in the costs and risks of preparing a climate finance proposal for concessional funding by international sources of climate finance in support of

Table g

| | | | |
|---|---|---|---|
| **Objectives** | • Contribute climate finance<br>• Promote Israeli climate technologies | **Sector** | • Agnostic, but promising sectors should be selected for efficiency |
| | | **Issue(s) addressed** | • Adaptation<br>• Mitigation |
| **Role Israeli government** | • Initiate concept<br>• Promote CIRFF<br>• Providing funds for demos<br>• Stimulate rollout | **Countries** | • Interested developing countries,<br>• Possibly other interested OECD countries |
| **Preparatory steps** | • Discuss with countries interested in climatech/cleantech adoption<br>• Potentially: Discuss with countries providing climate/cleantech<br>• Discuss CIRFF concept with climate funding sources | **Visibility/PR aspects** | • Positive and likely substantial<br>• Systematic technology transfer, which is an area where OECD countries have been weak<br>• At least equal inclusion of adaptation, another relatively neglected area |
| **Application process** | • Restricted call for proposals for demos on basis joint interest | **Budget (proposed)** | • Initially 50 MUSD* in INS eq. (revolving)<br>• Future contributions subject to M&E results |
| **Selection process** | • Proposal selection on basis of cost effectiveness, adaptation/mitigation benefits, replicability and/or scalability, and ROI | **Evaluation criteria** | • Number of successful demonstrations<br>• Mitigation achieved<br>• Adaptation achieved<br>• Israeli follow-up business triggered<br>• ROI |

* This is a relatively large amount, but such an amount is helpful to attract the interest of other countries. Note that this needn't be grant money but could be in the form of soft loans or other instruments to promote demonstration projects.

Israeli exports and investments to/in developing countries [this report]. (table h)

This is one of the options that may earn itself back several times over, through increases in tax revenues from Israeli business triggered through the use of the facility. Focus would be on a limited number of countries that have agreed to the approach and that are of strategic interest to Israel.

**9. Capacity building and enabling framework (coordination with MASHAV):** Creating an enabling framework in partner countries that will stimulate replication of successful earlier investments by reducing the importance of market barriers. (table i)

This option would be an excellent soft complement to some of the hard options outlined above. In particular, there seems to

Table h

| | | | |
|---|---|---|---|
| **Objectives** | • Promote Israeli business<br>• Contribute climate finance | **Sector** | • Agnostic, but promising sectors should be selected for efficiency |
| | | **Issue(s) addressed** | • Adaptation<br>• Mitigation |
| **Role Israeli government** | • Providing funds to prepare climate finance proposals<br>• Formulate and run ICFPPF | **Countries** | • Identified developing partner countries, agnostic |
| **Preparatory steps** | • Discuss and identify partner countries*<br>• Design program and prepare documentation<br>• Advertise program<br>• Evaluate proposals<br>• Review / own** climate finance proposals | **Visibility/PR aspects** | • Limited initially<br>• May increase in visibility if large-scale programs are defined and funded |
| **Application process** | • By Israeli company with business interest (planned foreign investment and/or export) | **Budget (proposed)** | • Initially per year 1.25 MEUR in INS eq. (recurring budget item)<br>• Future contributions subject to M&E results |
| **Selection process** | • Proposed: continuous selection based on published criteria<br>• Criteria: company capacity / track record, likelihood of success, expected follow on actions, climate change impacts | **Evaluation criteria** | • Israeli company interest<br>• Quality finance proposals<br>• Funding obtained<br>• Mitigation achieved<br>• Adaptation achieved<br>• Israeli business triggered in relation to funding<br>• Success rate of climate finance applications supported<br>• Leverage factor of the program |

* Partner countries would (at least ideally) need to agree on reimbursement of the funding if the climate finance is successfully obtained, but not used for Israeli exports. This is also the purpose of ownership discussed in the next footnote. An alternative could be for Israel itself to have an accredited entity with the GCF and other main sources of climate finance.
** Ownership is relevant if the original applicant does not succeed in getting the transaction. If paid for funding offered, or if alternative Israeli business originates from the funding, ownership will transfer to the host country.

be a clear fit with the Israel Climate Finance Proposal Preparation Facility and the Climate Innovation Funding Program.

While these nine options outlined above may cost money and other resources, an attempt has been made to develop options that would offer Israel significant returns in one form or the other. Additionally, an attempt has been made to ensure that the options are revolving, in other words, that once funded they will remain intact and can be used in repeated climate finance cycles. To assess the fiscal implications, the impact on revenues (from profit taxes) would also have to be assessed.

Table i

| | | | |
|---|---|---|---|
| **Objectives** | • Create conditions for climate finance | **Sector** | • Agnostic |
| | • Contribute climate finance | **Issue(s) addressed** | • Adaptation |
| | | | • Mitigation |
| **Role Israeli government** | • Coordinating actions between long-term development cooperation and new climate finance | **Countries** | • Developing countries with an international development cooperation tie to Israel |
| **Preparatory steps** | • Internal government discussion on operational procedures | **Visibility/ PR aspects** | • Positive<br>• Possibly significant<br>• Position Israel as fast, effective and efficient climate change partner: "walk the talk" |
| **Application process** | • Not applicable | **Budget (proposed)** | • To be discussed inside Israeli government, probably depending on additional work done by MASHAV<br>• Future contributions subject to M&E results |
| **Selection process** | • Not applicable | **Evaluation criteria** | • Enabling environment created<br>• Mitigation achieved<br>• Adaptation achieved<br>• Effectiveness of climate finance |

The key recommendations following from this research are:

1. Discuss the various climate finance options outlined, and develop more specific proposals for government decision making on a portfolio of climate finance options that Israel will implement.
2. For the selected climate finance options that involve joining an existing initiative, take direct action once domestic agreement and approval has been given.
3. If one or more of the mitigation bonds / mitigation loans and climate mitigation technology funding and insurance options are selected, start discussions with MDBs.
4. Initiate adaptation bonds / adaptation loans only after initial positive results with the mitigation bond / mitigation loan concept.
5. If one or more of the other options are selected, start discussions with prospective partner countries.
6. Use among others the revealed comparative advantage methodology to selected targeted sectors and partner countries.
7. Conduct regular M&E and modify the portfolio of climate finance options on that basis.
8. Conduct MRV on climate finance offered by Israel, in line with the international agreements.
9. Although outside the direct scope of this document, we also recommend that Israel benchmarks its trade promotion instruments against successful trading countries.

# 1. INTRODUCTION

News articles tell us there are billions of dollars, perhaps even hundreds of billions, in climate finance that can be tapped. Where are these billions of dollars? How can they be used? How can they be used by Israel? If Israel is required to provide climate finance, as a relatively new developed country member of the OECD, is there are a smart way to provide such funding that would provide some benefits to Israel as well? These are the questions to be explored in this paper.

While for most countries it is clear how they can benefit from climate finance – apply for climate finance for projects that are located within the country – but for Israel the approach is much less clear. Developing countries can benefit from concessional forms of climate finance that are made available by governments of developed countries (possibly in cooperation with the private sector). However, this approach is not directly open to Israel, which is considered to be a developed country.

Israel, however, is rich in companies that provide climate-relevant solutions, such as water-saving technologies, water-treatment technologies, energy efficiency, renewable energy technologies, and so on. These technologies can be used to address climate change adaptation, and climate change mitigation. These technologies are attractive to developing countries that want to cope with climate change, and therefore, Israeli companies that provide such technologies might benefits from climate finance as a source of (co-)financing for projects in developed countries employing these climate relevant technologies. In other words, Israeli companies may benefit from climate finance in promoting their exports to developing countries.

This paper explore what factor may make it difficult to use international climate finance in this way, and what the Israeli government can do to maximize the benefits that Israeli climatech[4] companies can derive from climate finance in supporting their exports. Additionally, this paper discusses how Israel, in a pragmatic way, could provide climate finance in a manner that is also in its own interest.

As methodology, we have used a combination of a rather wide Internet and literature review to gain ideas about climate finance options that could be relevant for Israel. This review is only partially reflected in this report and the attached references. Apart from this review, we also used a mission to Israel in June 2016 to conduct a significant number of in-depth discussions with key informers. This enabled us to identify what criteria might be relevant in judging the various options. We combined this with earlier work for the Asian Development Bank's (ADB) climate technology finance center on the promotion of climate technologies, to generate addi-

[4] I will use climatech and the unabridged version, climate technologies, as shorthand for climate change adaptation and climate change mitigation technologies, analogous to cleantech for technologies that provide clean(er) or environmentally sound(er) solutions.

tional ideas of international climate options that might be attractive to Israel. We used all these inputs to develop a number of options, some of which new, which we subsequently evaluated, leading to the core of the paper. All this resulted in a draft report finalized at the end of October 2016. The conclusions of this draft report were tested in a mission in November-December 2016. Based on these discussions during the second mission, the report has been updated and finalized, although the main points and arguments remain the same as in the draft report.

This paper is set up as follows: Section 2 provides a brief overview of climate finance and related climate change obligations that would apply to Israel. Section 3, in preparation of what follows, discusses how market segments and countries might be targeted by Israel using the revealed comparative advantage index (among other instruments). Section 4 describes Israel's trade promotion system, and then compares this against international trade promotion experience in Section 5. Section 6 is the core of the paper, identifying several climate finance options for Israel and evaluating them on a number of key criteria. Some of these options have not been discussed before, so in this way the paper might contribute to the more general literature on climate finance. Section 7 provides the conclusions, and Section 8 offers recommendations to the Israeli government.

# 2. CLIMATE FINANCE

## 2.1 Background

Climate finance has a long history within the climate change negotiations. Indeed, climate finance is prominently mentioned in the text of the United Nations Framework Convention on Climate Change (UNFCCC) as agreed in 1992:

> *"The developed country Parties and other developed Parties included in Annex II shall provide new and additional financial resources to meet the agreed full costs incurred by developing country Parties in complying with their obligations under Article 12, paragraph 1. They shall also provide such financial resources, including for the transfer of technology, needed by the developing country Parties to meet the agreed full incremental costs of implementing measures that are covered by paragraph 1 of this Article and that are agreed between a developing country Party and the international entity or entities referred to in Article 11, in accordance with that Article. The implementation of these commitments shall take into account the need for adequacy and predictability in the flow of funds and the importance of appropriate burden sharing among the developed country Parties." (UNFCCC, p.9, Article 4.3).*

Climate finance has since remained an important focus of the international climate change debate and is a recurrent theme in the climate change negotiations.

In Copenhagen, during the 15th Conference of Parties (COP15) (7-19 December 2009) a target of USD 100 billion climate finance per year by 2020 was agreed. Additionally, developed countries promised to provide US$30 billion for the period 2010-2012.

> *"Scaled up, new and additional, predictable and adequate funding as well as improved access shall be provided to developing countries, in accordance with the relevant provisions of the Convention, to enable and support enhanced action on mitigation, including substantial finance to reduce emissions from deforestation and forest degradation (REDD-plus), adaptation, technology development and transfer and capacity-building, for enhanced implementation of the Convention. The collective commitment by developed countries is to provide new and additional resources, including forestry and investments through international institutions, approaching USD 30 billion for the period 2010–2012 with balanced allocation between adaptation and mitigation. Funding for adaptation will be prioritized for the most vulnerable developing countries, such as the least developed countries, small island developing States and Africa. In the context of meaningful mitigation actions and transparency on implementation, developed countries commit to a goal of mobilizing jointly USD 100 billion dollars*

*a year by 2020 to address the needs of developing countries. This funding will come from a wide variety of sources, public and private, bilateral and multilateral, including alternative sources of finance. New multilateral funding for adaptation will be delivered through effective and efficient fund arrangements, with a governance structure providing for equal representation of developed and developing countries. A significant portion of such funding should flow through the Copenhagen Green Climate Fund."*[5]

Note that the Decision taken in COP15 with regard to the Copenhagen Accord was not the strongest possible decision by any means: Decision 2 of COP15 reads "*The Conference of the Parties, Takes note of the Copenhagen Accord of 18 December 2009."*[6] (Italics in the original are underlined.) This less than ringing endorsement could cast doubt about the commitment of the developed countries to provide climate finance. However, in subsequent COPs, the need to provide climate finance was reiterated.

For example, COP16 in Cancun contained key decisions on climate finance (i) to establish a Green Climate Fund; (ii) that a significant share of new multilateral funding for adaptation should flow through this fund; and (iii) to establish a Standing Committee under the COP to assist it in exercising its functions with respect to the UNFCCC financial mechanism. The Cancun Agreement contains the following:

*"Takes note of the collective commitment by developed countries to provide new and additional resources, including forestry and investments through international, approaching USD 30 billion for the 2010-2012, with a balanced allocation between adaptation and mitigation; funding for adaptation will be prioritized for the most vulnerable developing, such as the least developing countries, small island developing States and Africa";*

*"Decides that, in accordance with the relevant provisions of the Convention, scaled-up, new and additional, predictable and adequate funding shall be provided to developing countries Parties, taking into account the urgent and immediate needs of developing that are particularly vulnerable to the adverse effects of climate change"; and*

*"Recognizes that developed country parties commit, in the context of meaningful action and transparency on implementation, to a goal of mobilizing jointly USD 100 billion per year by 2020 to address the needs of developing parties"*

During COP17 in Durban the work program on long-term finance was initiated, providing its final report at COP19 in Warsaw. The decisions of COP19 included activities on long-term climate finance for the period 2014-2020, including biennial submissions by developed country Parties on their strategies and approaches for scaling up climate finance from 2014 to 2020, in-session workshops to facilitate deliberations on long-term climate finance and biennial high level ministerial dialogues on climate finance starting in 2014.

Note that all these instances of references to climate finance mention the key words *new,*

[5] See Copenhagen Accord, http://unfccc.int/resource/docs/2009/cop15/eng/11a01.pdf, FCCC/CP/2009/11/Add.1, Clause 8, p.6-7.

[6] See Decision 2/CP.15 Copenhagen Accord, http://unfccc.int/resource/docs/2009/cop15/eng/11a01.pdf, FCCC/CP/2009/11/Add.1, p.3.

*additional, adequacy* and *predictability*. The importance of this is especially clear with relation to the commitment for the scaled-up financial resources promised from the Copenhagen Accord onward, as these mention as sources of funds both private and public sources of finance. As private sources of finance are substantial, and private sector funds had already been flowing into climate-relevant subsectors such as renewable energy, it is important to emphasize that the commitment is indeed for additional climate finance, in other words, climate finance in excess of already flowing funds. The matter of how this should be implemented is not fully clear. A case could be made that government programs that reduce risks and/or increase expected returns for climate-relevant investments in developing countries would trigger or induce additional private sector finance, and that hence both the government program and the induced private sector investments should count as additional climate finance.

## 2.2 Green Climate Fund

The above cited Clause 8 of the Copenhagen Accord also mentions the Copenhagen Green Climate Fund. Indeed, the Green Climate Fund (GCF) was also initiated in the Copenhagen Accord as the most significant mechanism under the UNFCCC to make additional climate finance available to developing countries. Per Article 10:

> *"We decide that the Copenhagen Green Climate Fund shall be established as an operating entity of the financial mechanism of the Convention to support projects, programmes, policies and other activities in developing countries related to mitigation including REDD-plus, adaptation, capacity-building, technology development and transfer."*[7]

The Green Climate Fund has now been formally established in Songdo, Republic of Korea, and has started operations. Till date, 27 financing proposals have been approved and 36 intermediate entities have been accredited by GCF.[8] See respectively annexes 1 and 2.

## 2.3 Paris Agreement

The recently agreed Paris Agreement (COP21, Paris, November 30 - December 13, 2015) again pays considerable attention to climate finance. The following are the key provisions concerning climate finance that have been included in the Paris Agreement:

> *"1. Developed country Parties shall provide financial resources to assist developing country Parties with respect to both mitigation and adaptation in continuation of their existing obligations under the Convention.*
>
> *(...)*
>
> *3. As part of a global effort, developed country Parties should continue to take the lead in mobilizing climate finance from a wide variety of sources, instruments and channels, noting the significant role of public funds, through a variety of actions, including sup-*

[7] See Copenhagen Accord, http://unfccc.int/resource/docs/2009/cop15/eng/11a01.pdf, FCCC/CP/2009/11/Add.1, Clause 10, p.7.

[8] Status as of October 25, 2016.

*porting country-driven strategies, and taking into account the needs and priorities of developing country Parties. Such mobilization of climate finance should represent a progression beyond previous efforts.*

*4. The provision of scaled-up financial resources should aim to achieve a balance between adaptation and mitigation, taking into account country-driven strategies, and the priorities and needs of developing country Parties, especially those that are particularly vulnerable to the adverse effects of climate change and have significant capacity constraints, such as the least developed countries and small island developing States, considering the need for public and grant-based resources for adaptation.*

*(...)*

*7. Developed country Parties shall provide transparent and consistent information on support for developing country Parties provided and mobilized through public interventions biennially in accordance with the modalities, procedures and guidelines to be adopted by the Conference of the Parties serving as the meeting of the Parties to this Agreement, at its first session, as stipulated in Article 13, paragraph 13. Other Parties are encouraged to do so."*[9]

Article 9 reiterates the importance of making long term climate finance available to developing countries, primarily by developed countries but also opening up the provision of climate finance by other parties to the UNFCCC. The funds made available shall come from a variety of source and show a progression beyond previous efforts.

[9] See https://unfccc.int/resource/docs/2015/cop21/eng/l09r01.pdf, FCCC/CP/2015/L.9, Article 9, p.26-27.

*"1. Parties share a long-term vision on the importance of fully realizing technology development and transfer in order to improve resilience to climate change and to reduce greenhouse gas emissions.*

*(...)*

*5. Accelerating, encouraging and enabling innovation is critical for an effective, long-term global response to climate change and promoting economic growth and sustainable development. Such effort shall be, as appropriate, supported, including by the Technology Mechanism and, through financial means, by the Financial Mechanism of the Convention, for collaborative approaches to research and development, and facilitating access to technology, in particular for early stages of the technology cycle, to developing country Parties.*

*6. Support, including financial support, shall be provided to developing country Parties for the implementation of this Article, including for strengthening cooperative action on technology development and transfer at different stages of the technology cycle, with a view to achieving a balance between support for mitigation and adaptation. The global stocktake referred to in Article 14 shall take into account available information on efforts related to support on technology development and transfer for developing country Parties."*[10]

Article 10 generally concerns the process of making technologies available to developing countries. However, it provides a link to financial support. Specifically mentioned are

[10] See https://unfccc.int/resource/docs/2015/cop21/eng/l09r01.pdf, FCCC/CP/2015/L.9, Article 10, p.27.

collaborative approaches to research and development and facilitating early stage access to new technologies for developing countries.

> *"1. Capacity-building under this Agreement should enhance the capacity and ability of developing country Parties, in particular countries with the least capacity, such as the least developed countries, and those that are particularly vulnerable to the adverse effects of climate change, such as small island developing States, to take effective climate change action, including, inter alia, to implement adaptation and mitigation actions, and should facilitate technology development, dissemination and deployment, access to climate finance, relevant aspects of education, training and public awareness, and the transparent, timely and accurate communication of information.*
>
> *(...)*
>
> *3. All Parties should cooperate to enhance the capacity of developing country Parties to implement this Agreement. Developed country Parties should enhance support for capacity-building actions in developing country Parties.*
>
> *4. All Parties enhancing the capacity of developing country Parties to implement this Agreement, including through regional, bilateral and multilateral approaches, shall regularly communicate on these actions or measures on capacity-building. Developing country Parties should regularly communicate progress made on implementing capacity-building plans, policies, actions or measures to implement this Agreement.*
>
> *5. Capacity-building activities shall be enhanced through appropriate institutional arrangements to support the implementation of this Agreement, including the appropriate institutional arrangements established under the Convention that serve this Agreement. The Conference of the Parties serving as the meeting of the Parties to the Paris Agreement shall, at its first session, consider and adopt a decision on the initial institutional arrangements for capacity-building."*[11]

Capacity building requires support, including financial support, and prepares countries for accessing climate finance for mitigation and adaptation projects, and for deploying new adaptation and mitigation technologies.

While not directly linked to the issue of climate finance, it is important to emphasize that all countries (including Israel) are expected to mitigate greenhouse gas emissions. The level of effort is self-determined in the so-called Nationally Determined Contributions (NDCs).[12] The relevant articles of the Paris Agreement read:

> *"Article 2*
>
> *This Agreement, in enhancing the implementation of the Convention, including its objective, aims to strengthen the global response to the threat of climate change, in the context of sustainable development and efforts to eradicate poverty, including by:*

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[11] See https://unfccc.int/resource/docs/2015/cop21/eng/l09r01.pdf, FCCC/CP/2015/L.9, Article 11, p.27-28.

[12] At the date of writing, Israel had not yet submitted its NDC, and had only submitted its Intended Nationally Determined Contribution (INDC), which for our purposes can be considered Israel's first NDC.

*(a) Holding the increase in the global average temperature to well below 2°C above pre-industrial levels and to pursue efforts to limit the temperature increase to 1.5°C above pre-industrial levels, recognizing that this would significantly reduce the risks and impacts of climate change;*

*(b) Increasing the ability to adapt to the adverse impacts of climate change and foster climate resilience and low greenhouse gas emissions development, in a manner that does not threaten food production;*

*(c) Making finance flows consistent with a pathway towards low greenhouse gas emissions and climate-resilient development.*

*This Agreement will be implemented to reflect equity and the principle of common but differentiated responsibilities and respective capabilities, in the light of different national circumstances.*

*Article 3*

*As nationally determined contributions to the global response to climate change, all Parties are to undertake and communicate ambitious efforts as defined in Articles 4, 7, 9, 10, 11 and 13 with the view to achieving the purpose of this Agreement as set out in Article 2. The efforts of all Parties will represent a progression over time, while recognizing the need to support developing country Parties for the effective implementation of this Agreement."*

It is important to note that the Paris Agreement has recently met the thresholds for entry into force.[13] The Paris Agreement suffers the lack of formal mechanisms to enforce compliance with its key provisions. However, the Paris Agreement follows a 'name and shame' approach that details how countries have responded to their obligations under the Paris Agreement, and whether this is sufficient. This is implemented through three different mechanisms:

- The <u>enhanced transparency framework</u> is defined in Article 13: "(…) The purpose of the framework for transparency of action is to provide a clear understanding of climate change action in the light of the objective of the Convention as set out in its Article 2, including clarity and tracking of progress towards achieving Parties' individual nationally determined contributions under Article 4 [of the Paris Agreement], and Parties' adaptation actions under Article 7 [of the Paris Agreement], including good practices, priorities, needs and gaps, to inform the global stocktake under Article 14(…)[, and] to provide clarity on support provided and received by relevant individual Parties in the context of climate change actions under Articles 4, 7, 9, 10 and 11, and, to the extent possible, to provide a full overview of aggregate financial support provided, to inform the global stocktake under Article 14.
- The <u>global stocktake</u> is defined in Article 14: "The Conference of the Parties (…) shall periodically take stock of the implementation of this Agreement to assess the collective progress towards achieving the purpose of this Agreement and its long-term goals (…)" The first global stocktake shall take place in 2023, and shall be repeated every five years, unless agreed otherwise.

[13] On 5 October 2016, the threshold for entry into force of the Paris Agreement was achieved. The Paris Agreement will enter into force on 4 November 2016.

- An expert committee is defined in Article 15: "The mechanism [to facilitate implementation of and promote compliance with the provisions of this Agreement] shall consist of a committee that shall be expert-based and facilitative in nature and function in a manner that is transparent, non-adversarial and non-punitive (...)"

The way that the Paris Agreement and the other UNFCCC texts are written, climate finance involves financial flows from developed countries to developing countries. Israel is member of the OECD and is therefore not considered a developing country. For that reason, Israel cannot expect to benefit from climate finance to finance projects situated inside Israel. If that is the case, how can Israel benefit from climate finance? Moreover, as a member of the OECD, Israel will be expected to provide climate finance and report on this. How could Israel best provide climate finance? This matter is discussed in Section 6 of this paper.

## 2.4 Implementation of Climate Finance Obligations

The implementation of climate finance obligations is periodically reviewed by the UNFCCC and also by private organizations. Particularly, the reviews by the Climate Policy Initiative in the form of annual Global Landscapes on Climate Finance are well known and have since 2011 provided a wealth of information on climate finance flows. In discussing the information, it is important to note the difficulties in correctly tracking climate finance flows, so that some of the results below may be due to *difficulties* in tracking climate finance, rather than that they are a feature of climate finance itself.

According to the latest report,[14] total climate finance amounted to USD 391 billion, of which USD 243 billion private finance and USD 148 billion public finance. However, it should be noted that public finance is more often in the form of grants or concessional finance, whereas private sector investments are often risk-bearing with higher return demands.

A first point to note is that international flows are only a small part of this overall picture. According to the Global Landscape of Climate Finance 2015, about 74% of total climate finance flows, and up to 92% of private investments were raised and spent within the same country, confirming the strong domestic preference of investors identified in previous years' Landscape reports and highlighting the importance of domestic frameworks for attracting investment.

A second point is the importance of understanding the breakdown among different players in providing finance. Public sector finance is mostly through national DFIs (USD 66 billion), followed by multilateral DFIs (USD 47 billion), bilateral DFIs (USD 17 billion) and government and agencies (USD 15 billion). Climate funds are unimportant in size of funding at USD 2 billion. In the private sector, the field is dominated by project developers (USD 92 billion), corporate actors (USD 58 billion), commercial financial institutions (USD 46 billion) and households (USD 43 billion). The various funds (PE, VC, and infrastructure) and institutional investors play very minor roles.

[14] Climate Policy Initiative (2015), *Global Landscape of Climate Finance 2015*. Climate Policy Initiative, 2015.

A third point is that the bulk of climate finance goes into mitigation (93%), while within mitigation, most goes to renewable energy (81% of total mitigation spending). Adaptation finance reached a total of USD 25 billion, of which the majority (USD 14 billion) went into water and wastewater management.

A last point is the importance of MRV of climate finance to be able to accurately report on climate finance and its results, something that must be kept in mind when thinking about Israel's own contributions to climate finance. For a discussion, we refer to the MRV policy report prepared under the ClimaSouth project.[15]

## 2.5 Recent Initiatives

There are a number of new initiatives that may be relevant for Israel. **Mission Innovation** and the related **Energy Breakthrough Coalition** are mostly relevant for Israel's climatech innovation agenda, and are discussed in a separate paper. However, we note in any case that Israel has already joined the Mission Innovation, as announced at the end of November 2016.

Another initiative that could be discussed in this context is the **NDC Partnership** initiated by Germany and led by the German development and environment ministries (BMZ, BMUB) and the World Resources Institute. According to the NDC partnership page on the WRI website,[16] the NDC Partnership is a new coalition of governments and international institutions working together to ensure countries receive the tools and support they need to achieve *ambitious* climate and sustainable development targets as *fast* and *effectively* as possible.

By joining the NDC Partnership, partners collectively commit to the following:

1. Provide country driven support and promote multi-stakeholder engagement
2. Build sustainable, in-country capacity
3. Advance the adaptation and mitigation objectives of developing countries
4. Align the agendas of climate change and sustainable development
5. Promote long-term climate action by all countries that aligns with the goals of Paris Agreement
6. Enhance the efficiency of new and existing initiatives, minimizing duplication and maximizing synergies
7. Enhance coordination of NDC-related activities at global level and at country-level

The official launch of the NDC partnership was at COP22 in Marrakech. However, this has not led to a significant clarification of the contents of the NDC partnership.

[15] See Rizzo, A. (2016), Transparency of Climate Action in the ENPI South region. An assessment of the capacity of South Mediterranean countries to undertake Measurement, Reporting and Verification (MRV) and related challenges. *ClimaSouth Policy Paper N.1, 2016*. ClimaSouth project. Available from http://www.climasouth.eu/.

[16] http://www.wri.org/our-work/project/ndc-partnership

## 2.6 Summary of Key Points

The key points from this section can be summarized as follows:

- The amount of climate finance is considerable and growing
- However, the target for the international climate is developing countries
- Israel, as an OECD country, is a developed country and will not be a recipient of climate finance, but a source of climate finance.
- This means that Israel can only be an indirect beneficiary of climate finance, if Israeli companies partially own the entities in third parties that receive climate finance and/or if Israeli companies provide equipment and/or license technologies to the projects receiving climate finance. This is the first track of our suggestions for Israel's engagement with international climate finance.
- At the same time, Israel is expected to provide climate finance, and would be well advised to do this in a way that would create some co-benefits for Israel (second track).
    - Positive PR, and avoiding negative PR. This means providing climate finance where such contributions are expected (e.g. GCF), thus avoiding negative publicity over lack of action; and by developing own initiatives where these would be visible and received positively (e.g., adaptation, which is a relatively uncrowded field).
    - Contributions to its other climate change obligations, such as mitigation under its (I)NDC and technology transfer.
    - Contributions to the promotion of the Israeli economy.

The remainder of this paper follow the logic of Israel's options on international climate finance according to these two tracks, with the 3 following sections providing some background information and the actual analysis, conclusions and recommendations following thereafter.

# 3. TARGETING COUNTRIES AND MARKET SEGMENTS

Some of the instruments discussed below require selecting sectors and products to focus on, and may also involve selecting countries that are good prospects for Israeli products and technologies. Such selection can be done in a variety of ways, including a Delphi type consultation on market segments, and countries that offer likely opportunities for Israel, considering factors such as strength of diplomatic ties, existing infrastructure,[17] etc. It is not the purpose of this paper to conduct such analysis, however, it can be useful to point out the possibility to contribute to these analyses using a formal instrument that has been developed by trade economists.

The index of revealed comparative advantage or RCA index is a measure of a country's relative strength in specific products, and can be used as an input in determining what products and sectors could be especially promising.[18] What is the RCA index? RCA is an index developed by Balassa in 1965.[19] It is defined as:[20]

$$RCA_{i,j} = \frac{E_{ij} \Big/ \sum_n E_{in}}{\sum_m E_{mj} \Big/ \sum_m \sum_n E_{mn}}$$

*In which:*

$RCA_{ij}$ = The revealed comparative advantage index of country i in commodity j.

E = Exports

$E_{ij}$ = Country i's exports of commodity j

m = Index over all countries

n = Index over all products

If the index is above 1, the country has a revealed comparative advantage in the trade of that particular good, if below 1, the country has a revealed comparative disadvantage. Such an analysis can be conducted systematically for all products exported by Israel using, for example, PC-TAS data,[21] giving an indication of its main strengths.

A similar approach can also be followed to determine the countries to which Israel relatively exports a lot of products, which may be an indication of attractiveness as a target for Israeli climate finance instruments (again, to be used together with other instruments).

17 For example, the next section will demonstrate that Israel has 'target markets': Brazil, China and India.

18 It should not be used as the only factor, but should be combined with other factors such as the total size of the global export markets in the selected products.

19 Balassa, B. (1965), Trade Liberalisation and Revealed Comparative Advantage. The Manchester School, 33, 99-123.

20 Or alternatively, in words, as the share of product j in the exports of country i, divided by the share of product j in total (world) exports.

21 Alternatively, it may be possible to use http://wits.worldbank.org/.

# 4. ISRAEL'S EXPORT PROMOTION

Israel's export-promotion organizations include:

### *1. The Export Promotion Branch, Foreign Trade Administration, Ministry of Economy*[22]

The Branch is responsible for promoting the export and operating the representative offices abroad. For that purpose it is divided into regional desks which operate a chain of professional commercial attachés around the world. The geographic desks include the following areas: Europe (1+2), America, Asia-Pacific and Africa, India-China, the Middle East and North Africa. The activity includes, among other things, the following activities:

- Operating the economic representatives' arrangement.
- Setting policy and priorities for the activity in the countries.
- Promoting the economic and trade relations with the countries under its responsibility.
- Organizing and handling business and/or governmental delegations to the country and from it.
- Supervising and controlling activity, personnel and budgets of the economic representative office.
- Issuing publicity material for distribution abroad, for presenting the economic-industrial potential of Israel.
- Preparing regional and branch surveys for the use of the exporters.
- Hosting foreign journalists in Israel and accompanying them through their visit in the industry.
- Conducting seminars and meetings with businessmen in Israel and abroad.
- Participating in commercial exhibitions of the field around the world.

### *2. Israeli Export and International Cooperation Institute*[23]

The Israel Export and International Cooperation Institute (IEICI) was established in 1958 as a non-profit organization by the government of Israel and the private sector. IEICI promotes exports through initiatives and programs in many countries, operating through Israeli commercial and economic attachés, as well as local business development representatives. IEICI maintains working relations with foreign diplomats and commercial attachés in Israel and trade organizations throughout the world. It provides information and consulting services, offering extensive connections and assistance in promoting exports of Israeli companies as well as complementary services for the international business com-

22 http://economy.gov.il/English/InternationalAffairs/ForeignTradeAdministration/Pages/AboutFTA.aspx

23 http://www.export.gov.il/eng/About/About/

munity. IEICI initiates and organizes incoming and outgoing commercial delegations and mounts national pavilions and information centers at international exhibitions and conventions throughout the world.

### *IEICI's Technology Industries Division*

Expands opportunities for Israeli exporters in technological fields, stressing the creation of quality business links. Activities include initiating effective business encounters, cooperation agreements and knowledge transfer, and marketing activity at fairs and business meetings. It also fosters direct links between Israeli companies and worldwide institutional bodies, opening doors to integrators, bringing buyers and foreign journalists to Israel, and organizing conventions and seminars worldwide.

### *Target Markets Unit*

Coordinates activities in China, India and Brazil, providing services that aid exporters targeting these countries, among them consulting, preparation for meetings and subsequent follow-up, and enhancing the understanding of local business cultures. It also manages multi-sector delegations, conferences and business meetings pertaining to these markets.

### *Professional Services Units*

- Exhibitions and Fairs: Provides exporters with all services required to participate in international exhibits and conventions. The unit annually mounts some 40 national pavilions worldwide, taking charge throughout, from determining venues, promoting the exhibition to exporters, logistics and organization.
- External Relations: Organizes incoming and outgoing business delegations, conventions and meetings leading to international cooperation. Also promotes and develops programs with global partners who promote Israeli trade in new and special target markets.
- The Center for Export and International Trade Studies: Offers courses, workshops and seminars on international marketing, legal and financial aspects, international shipping and logistics, market intelligence, using the web to promote business activities, management training, and more.
- Economics: Analyzes and publishes information and economic surveys of export markets. It also analyzes data, trends and forecasts of foreign trade in general and Israel exports in particular.
- Business Intelligence and Information: Offers exporters superior information sources, including online data banks, a business library, information specialists, as well as contacts with Israeli commercial attachés and economic representatives, and trade and other international organizations.
- Consulting Services, Logistics and Shipping: Provides solutions to exporters on all related matters, such as trade agreements and rules of origin, including verification examinations for customs services worldwide, customs tariffs, legality of exports and imports, shipping and logistics, marine and air insurance, payment methods, international marketing, etc.

- International Tenders and Business Initiatives: Helps exporters develop and promote their business overseas, i.e., programs for identifying business partners, among these via the European Enterprise Network (EEN), and identifying international tenders and finance opportunities.

- Center for Small Exporters: The principal address for beginning exporters, or smaller exporters seeking to augment their exports. Among its activities: meetings for initial acquaintance with IEICI services and how to commence exporting, general business consulting and guidance.

### *Media and Production Division*

Publishes printed and electronic materials on Israeli industry, including catalogs and indexes, guidebooks, sectoral surveys, image publications, films and multimedia presentations, as well as media coverage.

## *3. Division of Foreign Trade and International Relations, Manufacturers Association of Israel*

### *Assistance in promotion and encouragement of export*

- Host business delegations from abroad: Coordinate business meetings in collaboration with the Israel Export Institute, and through the participation of our members in trade fairs, international exhibitions and professional seminars.

- Enhance relations with foreign embassies and bi-national chambers of commerce

- Facilitating market penetration strategy.

### *Information and advice on trade and economic policy issues*

Establish and enhance a far-reaching network in Europe and in all important target markets and international organizations, in order to improve penetration into international markets:

- Locate strategic partners and business opportunities overseas.

- Provide information and consulting on target markets with focus on the EU; conduct market surveys, and collect data on financial and legislation aspects, interest rates, customs tariffs, market surveys.

- Provide bilateral and multilateral trade data - Information on agreements and international treaties, and their implication on industrialists and entrepreneurs.

- Rules of origin regarding products and specific agreements.

- Kompass database, tenders, exhibitions, agents

- Assistance in locating business partners overseas

- Support and facilitate international technological and business cooperation.

***Enhance international relations***

- Participation in bi-national business councils.
- Cooperation, participation and membership in International economic organizations such as World Trade Organization (WTO), OECD, Business and Industry Advisory Committee to the OECD, Enterprise Europe Network, International Labor Organization, International Organization of Employers, United Nations Conference on Trade and Employment, World Bank.

***Strengthen business relations with Europe***

- Monitor implementation of European regulation
- Integrate Israeli industry in European programs and funding opportunities.
- Institutionalization of relations with European institutions: European Commission, Bologna Agreement, Euro-Med, EEN, MED–Invest, ENPI.

***Relations with neighboring Arab nations and the Palestinians***

- Assistance in marketing and locating agents in neighboring Arab countries and the Palestinian Authority (PA)
- Continued maintenance of the QIZ and gradual creation of a Middle-East joint accumulation opposite Europe and from the US
- Maintain frequent discussions with business sectors in Egypt, Jordan and the PA.

## *4. ASHRA - Israeli Foreign Trade Risks Insurance Corporation*[24]

ASHRA is a government-owned company and is the only Israeli company in its sector. It was established in 1957 to encourage exports from Israel, to help minimize political and commercial risks, to raise export financing for the mid and long terms (from one year and up to 15 years) and to finance Israeli investments abroad. ASHRA's policies are fully backed by a state guarantee. ASHRA operates mainly in developing countries, characterized by a high level of commercial and political risks, concerns that agreements will not be honored, and suffering from claims and difficulties in the transfer of funds. ASHRA is involved in significant part of the mid and long-term export transactions to developing countries. Most of the insured countries are located in South East Asia, Eastern Europe and South America.

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[24] http://www.ashra.gov.il/eng/

# 5. INTERNATIONAL EXPORT PROMOTION EXPERIENCE

The Israeli trade promotion system may be compared against what can commonly found in the OECD. This enables us to find out what parts, if any, might be lacking, which in turn can point toward how climate finance related instruments might be used to promote Israeli exports.

## 5.1 Trade promotion in general[25]

The main traditional instruments for trade promotion can be broadly characterized as promotional services, information, and training. For each of these, specific services can be characterized.

### Promotional Services:

- Participation in international and regional trade fairs and exhibitions
- Trade missions
- Inverse fairs
- Business meetings
- Advertising/information campaigns (publication of promotional materials, such as trade magazines, newsletters, catalogues)

### Information Services:

- Information services with market research studies and analysis as well as the availability of accurate up-to-date information on markets
- Laws and proceedings abroad
- Trade statistics
- Market research: country, markets and product report
- Search of information
- Information about business opportunities
- Help Guide to exports.

### Training Services:

- Training services to prepare export managers on internationalization, business games, etc.
- Short and long training programs
- Languages courses.

[25] Based on Unioncamere (2005), *Regional Programme for the Promotion of the Instruments and Mechanisms of the Euro-Mediterranean Market "Euromed Market". Study on Different Techniques to Promote Trade: Traditional Techniques, Consumer Protection, New techniques: E-commerce. Algeria, Cyprus, Egypt, Israel, Lebanon, Jordan, Malta, Morocco, Palestinian Authority, Syria, Tunisia, Turkey*. Unioncamere (Italian Federation of Chambers of Commerce and Industry), 2005.

Less traditional are the following services:

**Targeted information:**

- Services oriented toward export companies: public programs, businesses and contracts, documentation, advice on branding, patents and intellectual property; how to adapt the product, package and transport, costs and export prices, export financing, and how to find agents and distributors abroad;
- Assistance through overseas trade representations/joint desks
- Provision of export and investment guarantees
- Strategic advice services to export: analysis of competitive positions, analysis on export strategy.

**Internet Services to export:**

- Internet services to export
- Foreign trade website
- Virtual fairs and catalogues
- E-commerce services for business opportunities
- Website development services
- Distance training.

**Support Programs for foreign trade:**

- Cooperation forum for new export programs
- Sectoral export association
- Multi-sector association
- Creation of export areas shared among different enterprises
- Programs for special sectors
- Development cooperation programs
- International institutional cooperation programs
- Export clubs and consortia
- (Self-) evaluation programs to assess readiness to export.

A comparison of the trade promotion services offered in Israel against this list suggest that all the traditional trade promotion services (promotional, information and training services) are well covered. For the less traditional services, targeted information including export and investment guarantees are available, as are the Internet-based services to export. It is not entirely clear whether the services included under the category "support programs for foreign trade" are covered to a sufficient degree, and this could be subject to future benchmarking.

## 5.2 Case History: Netherlands Export Promotion in the Early 2000s[26]

To provide a perspective on international export promotion mechanisms, let's look at a concrete case, rather than trying to look

[26] See Van den Berg, M. et al. (2008), MKBA financieel buitenlandinstrumentarium: Een onderzoek naar de maatschappelijke kosten en baten van het financieel buitenlandinstrumentarium van het Ministerie van Economische Zaken, SEO-rapport nr. 2008-64. SEO Economisch Onderzoek Amsterdam. [Economic Cost Benefit Analysis financial policy instruments: Research into the economic cost benefit analysis of the financial policy instruments of the Ministry of Economic Affairs, SEO-report nr. 2008-64. SEO Economic Research Amsterdam]

at a set of countries. The case looked at is the Netherlands, a small, open, export oriented economy with a long history of international trade.[27] The advantage of looking at one country in detail is that it is possible to provide a more comprehensive description of the instruments used than would be possible by reviewing instruments of a series of countries. At the same time, the type of instruments used by the Netherlands is fairly typical.[28] It may be advisable to benchmark Israel's trade promotion instruments against those of other countries with relative open economies, and to do so frequently.

The main Netherlands trade policy instruments are:

- Information and promotion. To solve the Netherlands business community's problems related to knowledge, information and contacts, the Ministry of Economic Affairs has made a considerable effort to inform businesses about interesting market opportunities and developments. The EVD ("Economische Voorlichtings Dienst" or Economic Information Service) is an agency of Economic Affairs that plays an important role providing such information. The EVD informs Dutch companies about foreign markets and supports companies in selecting and gaining access to those markets. The EVD organizes also, in cooperation with the Ministry of Economic Affairs, promotional activities targeted to establish contacts between Netherlands businesses and foreign business partners. These promotional activities may take the form of trade missions, occasionally led by the minister of Economic Affairs, or participation in trade fairs. The efforts of the Netherlands government in supporting companies have a high added value, and especially so in those countries and sectors in which the influence and control of the (local) government on transactions and partner selection is significant (this is also called economic diplomacy).

- Netherlands diplomatic network overseas. The Netherlands diplomatic network overseas or "postennetwerk" is also important. The Netherlands diplomatic network is focused on maintaining relations in foreign markets. Embassies, consulates and economic support posts play an important role in the collection and provision of information, as well as in providing assistance to the Dutch business community. Several ministries have cooperated to strengthen the economic support provided by these posts, resulting in better prioritization of opportunities and classification of markets. In this way, the services offered by the Netherlands

[27] For reasons of familiarity, the instruments reviewed and summarized are those in place during the first half of the 2000s.

[28] For an overview of how support programs in other countries compare to the Dutch program, see Hessels, J. and Y. Prince (2005), Internationale vergelijking internationalisering MKB Analyses ENSR Enterprise Survey 2003 en inventarisatie beleid in enkele EU-landen ter stimulering van buitenlandse investeringen. Zoetermeer, EIM [International comparison internationalization: Economic Cost Benefit Analysis, ENSR Enterprise Survey 2003, and inventory of policies for the promotion of international investment in selected EU countries]. New Markets Corporate Finance (2006), Verkenning internationale investeringsfaciliteiten in zeven Europese landen. [Inventory of international investment facilities in seven European countries]. PricewaterhouseCoopers (2002), Eindrapportage benchmarkonderzoek financieel buitenlandinstrumentarium. PWC Global Incentives Services. [Final report benchmark research financial policy instruments]

diplomatic network have become better adapted to the needs of the Netherlands businesses.

- PSB. This is an acronym standing for "Programma Starters Buitenlandse Markten" (Program for Companies Entering Foreign Markets). PSB focuses on SMEs with less than 100 employees and no or limited export experience. Each year at least 700 SMEs are to be supported, and in at least half of the cases this needs to result in exports. Budget per supported SME is very limited, around 15000 EUR. Support is in the form of:
  - Advice in the preparation of a plan to enter foreign markets (export plan).
  - Support during the implementation of the export plan
  - Coverage of specific costs up to a maximum of 50%, with a maximum budget of 11500 EUR. Costs that could be covered include product presentation, market studies, presentation materials, legal advice, selection of partners, or international patents.

The actual support is based on the requirements of the SME, following a 'menu'-approach. Despite positive evaluations, PSB has currently been replaced by Prepare2Start.

- PESP. This acronym stands for "Programma Economische Samenwerking Projecten" (Program Economic Cooperation Projects). It involves support for the preparation of feasibility studies,[29] investment preparation studies, and project identification for a consortium of Netherlands companies interested in operating in a 'distant' market (non-OECD markets). The objective of PESP is to strengthen bilateral economic ties, and to increase exports to new markets. For each proposed project a budget is prepared, and part of the budget is covered by the government. The remainder is co-financed by the consortium. The supported percentage has been reduced over time, from 66% to 50%. Maximum support per project, at the end of the PESP program, was 133,000 EUR. Selection is based on proposals submitted by the companies, through a competitive procedure. Key eligibility criteria are:
  - Sufficient Netherlands export potential; at least ten times the amount of the PESP contribution by the government.
  - A consortium of at least two Netherlands companies, contributing to the PESP study.
  - Sufficient likelihood that the project being prepared can be financed.
  - Interest from a partner in the target market.

PESP (Ministry of Economic Affairs) has been discontinued, but has been replaced with a similar program, DHI (Ministry of Foreign Affairs), with the support for project identification stopped, and instead, demonstration projects (demonstration of a technology, cap-

[29] This is in preparation of investments, but in the Netherlands view, such investments may either trigger supporting Dutch exports, or be a necessary part to facilitate ongoing exports. Therefore, such investments are seen as having economic benefits that go beyond the ownership share in the investment and resulting profits flows. The same point also holds to other instruments mentioned below with a similar investment focus.

ital goods or service in one of the DHI countries) included.

- PSOM. PSOM is an acronym that stands for "Programma Samenwerking Opkomende Markten" (Program Cooperation Emerging Markets). It is a program that has developed out of a similar program, PSO, which was focused on East Europe. With a steadily changing focus to emerging markets, the name as changed. Rather confusingly, there are a number of different programs with the same acronym, and executed by different ministries (Ministry of Economic Affairs and Ministry of Development Cooperation), and focused on different types of economic cooperation. The underlying principles are often similar for all these subprograms. This description is based on the business-to-business program implemented by the Ministry of Economic Affairs. PSOM offers support for investments in emerging markets. Not all investments can be supported, for example, the focus is on projects that cannot be financed on commercial terms, because they are too risky. To reduce risks, PSOM offers support of maximally 50% of the investment costs (this percentage has changed over time, and at its highest was 100%). Because the supported projects are investments, the size of the projects are considerable, and the maximum support per project is 750,000 EUR. As with PESP, an important consideration is whether the PSOM-projects will lead to additional chances for Dutch exports, with a realized multiplier of about five.
- Technical Assistance Scheme. The Technical Assistance Scheme or "TA-regeling" provides skill training and management support for Netherlands investments by SMEs. This ensures that the necessary skills to support investments are available.
- Trust funds IFC and EBRD. These are trust funds of the Netherlands Ministry of Economic Affairs with the IFC and EBRD to support Netherlands technical assistance in preparation for investments (preferably Netherlands investments) supported by IFC and EBRD, and other activities of IFC and EBRD.
- PUM Netherlands Senior Experts. PUM Netherlands Senior Experts provides retired managers and experts to support local enterprises in emerging markets at highly subsidized rates. This may also be accessed by companies from outside the Netherlands, and without Netherlands ties.
- Export credit finance. A Netherlands program for the insurance of Netherlands export transactions.
- "Soft loans". The Netherlands soft loan programs are ORET and MILIEV (the environmental focused soft loan program), later ORIO and DRIVE. Although traditionally labeled a soft loan or 'mixed credit' program, it is actually a grant (the amount of which is dependent on the host country of the project, but in the early 2000s, 35% or higher of the transaction amount). It is labeled a soft loan, because it is governed by rules agreed within the OECD regarding the use of mixed credit and soft loan instru-

ments.[30] The main conditions for the soft loans are:

- Used for the financing of investment projects in developing countries utilizing Netherlands exports of products and services.
- Additionality: The projects benefitting from the soft loan needs to be additional to the BAU case, meaning that either the projects are commercially non-viable at market prices (not profitable enough) or unable to attract financing at market conditions.
- Financial sustainability: With the grant in place, the project should be able to pay the other sources of finance used according to market rates.
- Netherlands value added: The content of Netherlands exports in the total value of the transactions needs to exceed a specific minimum (at the time, 60%). In later iterations of the instrument, this requirement was dropped.
- Development relevance: sufficient economic returns from the national perspective, in line with country's development policy, neutral or better with regard to environment, gender and poverty.

- Regeling herverzekering investeringen. A Netherlands program to insure investments overseas.

[30] See: OECD (1998) Arrangement on Guidelines for Officially Supported Export Credits (several versions). Many OECD countries have soft loan / mixed credit programs that are covered under this arrangement.

- IFOM / FOM. FOM is the acronym for "Faciliteit Opkomende Markten" (Facility Emerging Markets). IFOM was the earlier "Investerings Faciliteit Opkomende Markten" (Investment Facility Emerging Markets) that was funded by the Ministry of Economic Affairs, which was incorporated into FOM. FOM is implemented by FMO, "Nederlandse Financierings-Maatschappij voor Ontwikkelingslanden N.V." (Netherlands Development Finance Company). FOM provides subordinated loans to Dutch companies with subsidiaries or joint ventures in emerging markets that have difficulties in attracting finance. The amount of the subordinated loan is between 45,000 and 5 million EUR, with the Netherlands government providing a guarantee of 80% to 85%, with the higher amount for smaller companies.
- BSE-ROF. This is an interest-rate bridging facility (an interest rate subsidy) that lowers the interest rate paid by Netherlands exporters for export related loans, to achieve a minimum interest rate set in consultation with OECD. E.g. if the agreed interest rate is 5% and the OECD has agreed to a minimum interest rate of 3%, the 2% difference will be potentially covered by the interest rate subsidy offered by BSE-ROF.
- SENO. This is a guarantee facility focused on transaction with Eastern Europe and Indonesia, focusing on export transaction for which export finance insurance is unavailable.
- GOM. GOM stands for "Garantiefaciliteit Opkomende Markten" (Guarantee Facility Emerging Markets). It provides Netherlands government guarantees for commercially financed export trans-

actions (or parts of transactions) for which export finance insurance is unavailable. The technical content is more complicated and refers to the commercially financed parts of the Netherlands soft loan program.

The Netherlands showcases a richer set of trade promotion instruments, not only promotional, informational and trading services as well as insurance services but also a set of instruments that provides exporters and investors abroad with direct benefits, either in the form of soft loans or grants toward projects in developing countries, or in the form of grants toward the costs of preparing a feasibility studies in preparation of an investment project / export transaction. Israel does not seem to have these direct benefit instruments to the same degree that the Netherlands has.

## 5.3 Implications for Israel

It may be clear that countries such as the Netherlands have a very wide-ranging set of instruments available to promote overseas business, including exports and investments. This positions countries like the Netherlands well to participate in international tenders and biddings, and to effectively enter markets, including markets for climatech. While Israel also has a wide set of trade promotion instruments, it appears that a number of the direct benefit instruments that the Netherlands has are missing in Israel.

To ensure that Israeli companies operate on a level playing field, an attractive approach could be to benchmark the Israeli export and investment promotion instruments against that of other countries, including the Netherlands. This may point our certain areas where Israel currently does not have the right export promotion tools in place, a gap that may then be effectively addressed.

This being said, it is also important to evaluate the various instruments that are offered, to ensure that instruments offered are indeed used, and that the use of the instruments provides the expected for benefits. In the case of the Netherlands, it seems that there are too many different programs that provide only small benefits to the applicants, making the cost of applying and evaluating the applications very high in relation to the benefits from the instruments.

Another way to look at the set instrument is that it can give guidance to the type of mechanisms that could usefully be incorporate in suggestions for Israeli climate finance. In this respect, especially PESP (as it relates to the possibility to prepare feasibility studies which can, among others, be used to mobilize finance for projects with either Netherlands part-ownership and/or utilizing Netherlands exports) and the Netherlands soft loan / mixed credit programs[31] can be useful in structuring the climate finance instruments, and have influenced some of the instruments suggested in the following section.

[31] Particularly, the additionality requirements and requirement of a certain minimum Netherlands added value.

# 6. USING CLIMATE FINANCE AND ISRAEL'S CLIMATE FINANCE CONTRIBUTIONS

As a developed country and member of OECD, Israel is expected to provide climate finance. Israel is also expected to foster technology transfer. Furthermore, Israel is expected to reduce its greenhouse gas emissions considerably, in line with its INDC. Last, Israel has a significant strength in climate relevant solutions and technological innovations, which means there ought to be opportunities to use climate finance to leverage Israeli business. However, a passive acceptance of climate finance instruments that are being developed by various financial institutions will be unlikely to satisfy the potential that climate finance offers to Israel. Rather, a proactive approach will be needed to maximize the synergy between Israel's contributions as global citizen and its own interests. Based on these considerations, we list various options for Israel to engage with climate finance and provide next our evaluation of these options.

## 6.1 Options for Climate Finance

Below we consider several options for Israel to engage with climate finance. We have considered more options, such as structurally supporting NAMAs (Nationally Appropriate Mitigation Actions) by developing countries, but have assessed that joining the German/UK/Danish/EU NAMA Facility initiative might not be feasible, while starting a formal NAMA initiative may require too much funding. This said, Israel could consider funding NAMAs on an *ad hoc* basis.

### *1. Contributing to the GCF*

> *Making a contribution to the GCF in line with expectation regarding the contributions of an OECD member country.*

At this moment, the status of pledges and contributions to the GCF[32] does not show a contribution or pledge by Israel. It would seem wise to make contributions to the GCF, firstly because this is in line with Israel's status in the OECD, secondly because it would give Israel a seat on the table during discussions that are important for Israel. For instance, currently the GCF is considering its role in promoting innovation, access to technology, and joint research and development,[33] which would be an important topic for Israel.

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[32] Status of Pledges and Contributions made to the Green Climate Fund. Status Date: 17 October 2016. http://www.greenclimate.fund/documents/20182/24868/Status_of_Pledges.pdf/eef538d3-2987-4659-8c7c-5566ed6afd19, Accessed 27 October 2016.

[33] See GCF (2015), Support for facilitating access to environmentally sound technologies and for collaborative research and development, document GCF/B.14/02, dated 30 September 2016.

Also, many of the options below would provide Israeli funding upfront that can be used to trigger funding from other climate finance sources, the most important of which is the GCF. It would be important to have a stake in the GCF funding, to make it possible to more effectively promote such follow-up funding of activities implemented with Israeli government funding.

## 2. Liaising with the NDC partnership

*Discussing with the NDC partnership about joining it, provided that the right conditions have been met regarding influence on processes and procedures and Israeli business opportunities.*

Joining the NDC partnership, at this stage, does not provide a clear view as to what Israel would gain from it except some goodwill, because at the moment the concrete ideas for implementation that are out in the public domain are not yet sufficient to form a good view. However, it would make sense for Israel to start discussions with the NDC partnership, mentioning that it would have an interest in joining and/or making some of its key technological innovations available, depending on the specific ideas put forward by the NDC partnership.

## 3. Climate bonds34

*Investing in climate bonds available on the market, with a focus on climate bonds of which the proceeds are invested in developing countries.*

Climate bonds (and its close relatives, green bonds) have recently gained popularity. Climate bonds are normal bonds backed by the full balance sheet of the issuer, with a link to climate change mitigation or adaptation. Typically the proceeds of the climate bond issue will be used fund projects or programs dealing with climate change mitigation and/or adaptation. The difference between green bonds and climate bonds may be obvious: while green bonds are issued in order to raise the finance for one or more environmental project(s) or programs, climate bonds are issued to raise finance for investments in emission reduction or climate change adaptation. In other words, climate bonds are a special case of green bonds.

A straightforward option for Israel is to participate in climate bonds issued by developing countries[35] or by multilateral development banks for investment in developing countries. These should on the one hand provide a reasonable return, and on the other hand may count toward Israel's climate finance obligations.

## 4. Mitigation bonds / mitigation loans

*Zero- or very-low-interest bonds and loans invested in mitigation projects and programs in developing countries, which, instead of yielding interest, provide a share in the mitigation results obtained, transferred as ITMOs.*

Variations on climate bonds could be a novel way of dealing with Israel's climate change obligations (mitigation and offering climate finance). The basic concept is that Israel would

[34] An excellent source of information is https://www.climatebonds.net/

[35] This is, developing countries as used in UNFCCC context.

invest in bonds that carry zero interest rate, but that offer Israel a part of the greenhouse gas emission reductions that are generated by the projects funded with the proceeds from the bond issue. As far as I know, no such "mitigation bonds" are currently offered. However, the concept seems attractive enough, so Israel could discuss with the various multilateral development banks of which it is a party to offer such bonds to interested investors, of which Israel could be the first. This would give the MDB a cheap source of funding that could be cheaply on-lend as "mitigation loans" (near-zero interest rate loans) to its developing member countries (or corporate entities) for projects and programs that reduce greenhouse gas emissions, possibly blended with other sources of (climate) finance, such as funding from the GCF. A condition for a country to receive cheap funding from a mitigation funds is an agreement to share the emission reductions resulting from the financed investments with the investors in the mitigation bond; something that is possible under Article 6, clauses 2 and 3 of the Paris Agreement.

*(...)*

*2. Parties shall, where engaging on a voluntary basis in cooperative approaches that involve the use of internationally transferred mitigation outcomes towards nationally determined contributions, promote sustainable development and ensure environmental integrity and transparency, including in governance, and shall apply robust accounting to ensure, inter alia, the avoidance of double counting, consistent with guidance adopted by the Conference of the Parties serving as the meeting of the Parties to the Paris Agreement.*

*3. The use of internationally transferred mitigation outcomes to achieve nationally determined contributions under this Agreement shall be voluntary and authorized by participating Parties. (...)*

The internationally transferred mitigation outcomes are also known as ITMOs. If no MDB would be willing to take on the idea of a mitigation bond, an alternative would be that one or more of Israel's own financial institutions would start offering such mitigation bonds to the public (and the Israeli government) to raise finance and use the proceeds to provide mitigation loans. However, there are advantages from a political nature in having such a mitigation bond issue and provision of mitigation loans managed by MDB(s) on behalf of several investors rather than it being a purely Israeli play.

Would the combination of mitigation bonds / mitigation loans be an efficient way for countries to achieve mitigation objectives? One way to look at this is to financially model such investments, assuming that the marginal cost of emission reductions achieved domestically, per the (I)NDC would be 15 EUR/t$CO_2$ (which is a modest estimate). This would allow the return on mitigation bond investments to be calculated for several representative sample projects. We have done such an exercise in Table 1.

While the returns would not be extremely high, they certainly look very acceptable (note, as usual, the attractive return on energy efficiency, here typified by a boiler replacement in a former communist country). Moreover, for the recipient of the soft loans financed with the mitigation bonds, these loans provide an attractive source of finance of mitigation projects at low costs, and comprehensive in coverage.

Table 1. Pro forma mitigation loan investments

| Windpark (renewable energy) | | Lignite-fired Boiler replacement (energy efficiency) | |
|---|---|---|---|
| Capacity: | 50MW | Capacity: | 1MWth |
| Investment cost: | 1.2 EUR/W | Investment cost: | 90,000 EUR |
| Debt finance: | 70% | Debt finance: | 70% |
| Equity: | 30% | Equity: | 30% |
| Power tariff: | 0.075 EUR/kWh | Efficiency old boiler: | 50% |
| O&M costs: | 0.005 EUR/kWh | Efficiency new boiler: | 80% |
| Operating hours: | 2500 | Operating hours: | 4500 |
| Grid emission factor: | 1 tCO2e/MWh | Lignite costs: | 25 EUR/t |
| Assumed carbon price: | 15 EUR/tCO2e | Assumed carbon price: | 15 EUR/tCO2e |
| Loan interest rate: | 0% | Loan interest rate: | 0% |
| Loan duration: | 6 year | Loan duration: | 6 year |
| Project duration: | 21 year | Project duration: | 10 year |
| Sharing of ITMOs | 50% | Sharing of ITMOs: | 50% |
| | | NCV: | 3300 kcal/kg |
| ***Implied rate of return:*** | ***5.49%*** | ***Implied rate of return:*** | ***18.65%*** |

Would an MDB be willing to issue mitigation bonds? Hard to say, as this would be a novel instrument. However, it should be noted that the Asian Development Bank has put in place the "Japan Fund for the Joint Crediting Mechanism", which supports Joint Crediting Mechanism (JCM) projects with grants and technical assistance. The Joint Crediting Mechanism, predating the Paris Agreement, is a mechanism that post Paris Agreement may create ITMOs that can be divided by Japan and the host country and be used for their respective obligations under the UNFCCC.

### *5. Adaptation bonds / adaptation loans*

*Analogous to mitigation bonds and loans, however dealing with adaptation results. A prerequisite for this type of bond or loan is that the adaptation result must somehow obtain a value in which the investor can share. For example, in the case of a water-saving program, this could be achieved by agreeing on a price for saved water, on the basis of avoided marginal supply costs.*

The logic of the mitigation bonds and mitigation loans may be appealing. One question that logically arises is whether it could be extended to adaptation. At first glance, this would seem to be very difficult. After all, adaptation does not have a natural accounting unit like $CO_2e$, and adaptation results cannot be transferred from one country to the other the way that mitigation results can be transferred. As a result of these differences, whereas it is reasonable to talk about the marginal cost of mitigation and to envisage mitigation results being bought and sold, or otherwise transferred, the same cannot be done for adaptation. However, in more limited fields of adaptation it could be possible to think of similar types of mechanisms. Water would be a case in point. Where an important result of climate change is to exacerbate water scarcity, it is possible to value water saved, or water sources created, at the same level as the marginal cost of water supply in the existing system.

If a country agrees to this principle, Israel and the host country could agree that Israel provides an 'adaptation loan' at close to zero interest rate to implement water-saving and water-reuse projects, likely partially using Israeli technologies and inventions. The host country and Israel could then agree that Israel would in part be paid through a (typically limited) share in the water savings, which it could cash in against the agreed marginal costs of water supply. The water savings could be measures using the methodologies that are being developed by the Gold Standard Foundation under its water program.

It is likely that such adaptation loan program would remain much smaller in scale than the mitigation loan program, and it is not likely that an adaptation bond program would be set up to create the funding necessary for the implementation of such a loan program. However, for Israel it could be attractive to think of such an adaptation loan program because it would offer the possibility to showcase typical Israeli technologies relevant for adaptation (water-saving technologies, drought resistant crops, etc.)

### *6. Mitigation technology loans and insurance*

*Analogous to mitigation loans, except that relatively new mitigation technologies (and new to the country) are funded. Investor shares in the mitigation results of the funded projects and replications.*

Another perhaps more straightforward way in which the mitigation loan concept can be extended is to introduce mitigation technologies that are new to the host country (but that may be known in other countries). Introducing such technologies runs several implementation risks, and lack of local familiarity and local proof of performance may be significant barriers toward the uptake of mitigation technologies.

The mitigation technology loans and insurance scheme aims to address this barrier by providing soft loans and insurance against adverse impacts of the "new" mitigation technology. As with the mitigation loan, the interest rate of the loan is very low; however, contrary to the mitigation loan, Israel will not only share in the mitigation results of the funded project, but also in the results of the replications after a successful demonstration project. This increases the returns on the loan vis-à-vis the mitigation loan, and can be used, in part, to compensate the insurance provider against the risk it takes in providing the insurance.

As with the mitigation loans, and ideal case would be for the MDBs to manage such programs, and for Israel to be one of several investors. Perhaps the various climate technology finance centers that have been set up at the MDBs could be interested in setting up such loan programs with funding from various investor countries, including Israel.

## *7. Climate Innovation Funding Programs*

*Combination of Israeli funding (in a cost-effective manner) commercial demonstration projects in developing countries and an agreed 'concessional innovation rollout financing facility' (CIRFF) made available by international sources of climate finance that will fund the replication of successful commercial demonstrations.*

Israel, as a country from which many new climate and environmental technologies originate, has a clear interest in promoting international mechanisms that promote the diffusion and adoption of climate technologies. This is also a key objective under the UNFCCC and under the Paris Agreement. However, the barriers toward adoption and diffusion are well known, in the form of risks and uncertainty of unfamiliar technologies, and in some cases the lack of skilled personnel to use them. Is it possible to think of a funding program that would help to resolve such barriers?

Of course, mitigation technology loans, described above, are one way to address this issue. A more general approach is described here as a climate Innovation Funding Program. Basically, in such a program Israel, possibly together with other innovative countries that create climate technologies, would approach countries that are interested in acquiring climate technologies with a proposition: Israel will fund (or de-risk[36]) a limited set of demonstration projects per each targeted technology in the interested countries, and provided that these commercial demonstration projects meet certain agreed targets, will then replicate the demonstration projects together with the host.[37]

Together with countries who are committed to this idea, Israel and like-minded countries can approach potential sources of climate finance (e.g., the GCF or the MDBs, who could attract funding for this purpose) with the proposal to open a 'concessional innovation roll-

[36] De-risking would involve insuring the performance of the technology and insuring against adverse impacts of the technology's application if it fails. Thus the risks of the demo are drastically reduced and funding may, with these insurance measures in place, be provided on commercial terms.

[37] Details to be agreed. For example, as part of the overall deal, it may be agreed that equipment embodying the technology is produced under license or in a joint-venture arrangement. Alternatively, the replication projects in the rollout phase could in some cases be JV projects. Both of these options could also benefit from the concessional innovation rollout financing facility described in the main text.

out financing facility' (CIRFF). The CIRFF will be used to provide concessional financing to the replication projects, possibly including the production facilities, for the technologies that have demonstrated their worth and reliability.

For Israel, this proposal would at the same time contribute to its technology transfer obligations and to its climate finance obligations (the demonstration project funding and/or their de-risking). Furthermore, this approach would open up new markets for Israeli companies, technologies and exports.

## *8. Israel Climate Finance Proposal Preparation Facility (ICFPPF)*

*Facility provided by the Israeli government that will share in the costs and risks of preparing a climate finance proposal for concessional funding by international sources of climate finance in support of Israeli exports and investments to/in developing countries.*

Preparing good climate finance proposals takes time and effort and requires considerable skill, meaning that preparing such options is costly. Currently there is, partially for that reason, a shortage of sound proposals for climate financing. One of the options that Israel has available is to establish a facility, the ICFPPF, for the preparation of climate finance proposals for projects and programs that intend to use Israeli technologies and products. One of the conditions for this support facility is that the costs of the preparation of the climate finance proposals would be borne by the Israeli side, provided that Israeli technologies/products are used in the climate-relevant program or project. (This could be defined as a minimum percentage of the contract value for the investment in the project, i.e., an 'Israeli content' rule.) If this target is not met, the ICFPPF's contribution will become a loan that must be repaid with interest at normal market rates.

We propose that the ICFPPF would work as a partnership between the private sector and the public sector, with each sharing part of the costs for preparing the application for climate finance. This could be done in a variety of ways, and we have worked out one example in what follows[38]. The applicant to the ICFPPF would bear no cost if the application for climate finance is not successful, or if the application does not lead to a qualifying Israeli transaction (e.g. with the minimum Israeli content). If the application leads to a qualifying Israeli transaction, but not supplied by the applicant, then the Israeli suppliers will reimburse the government. If the application leads to a transaction for the applicant, the applicant will reimburse the costs to the Israeli government.

The cost of preparing the application, for the purpose of determining the contribution by the Israeli government, could be capped at 250,000 EUR (or equivalent in INS), which would be a reasonable amount for the preparation of a sound climate finance proposal. It would be logical to set a minimum amount of Israeli exports or investments as result of the application, if successful, with the leverage factor at least 20 (each EUR spent on preparing the climate finance proposal – by the Israeli government and applicant combined – would need to trigger at least 20 EUR in Is-

[38] An alternative would be simple cost-sharing, in which for example each of the government and the Israeli applicant would pay fixed shares of the cost (e.g., 50/50).

raeli exports or investments that are climate relevant, if the application is successful).

The budget of the ICFPPF could start at 1.25 million EUR per year, which should be sufficient to support the preparation of about ten applications for climate finance. If the facility is successful and in demand, the ICFPPF could be scaled-up over time. The attractiveness of this proposal would be that one the one hand, it provides funding through the ICFPPF that could be classified as climate finance, on the other hand, that it would increase Israeli business abroad, either in the form of exports and/or foreign investments. Finally, the ICFPPF might have favorable diplomatic impacts.

## *9. Capacity building and enabling framework (coordination with MASHAV)*

> *Creating an enabling framework in partner countries that will stimulate replication of successful earlier investments by reducing the importance of market barriers.*

The various options mentioned above could also be linked to capacity-building and the development of an enabling framework in the targeted countries. For example, in the case of water management, climate change may increase water scarcity. However, water scarcity is also the result of inefficient use of water, which in part is the result of lack of technical capacities and knowledge about technological alternatives, and partially the result of faulty policies that do not price water according to its true supply costs. In such a case, investment programs will only have a limited impact, and would have to be complemented by capacity building and the creation of an enabling framework (soft investments). It would therefore make sense to combine the various finance and investment oriented instruments (hard investment) with soft investments.

The Israeli international development cooperation has a long tradition dating back to at least 1958 and is organized by Israel Agency for International Development Cooperation (MASHAV).[39] It has a good reputation in various types of capacity building and enabling framework oriented activities. Israel's climate change activities could very be coordinated with MASHAV, to ensure that on the one hand the enabling framework is put in place, and on the other hand, concrete investments demonstrate the value of the enabling framework.

For example, if MASHAV organizes training courses focused on water policy and water saving, it could call in Israel's climate finance to demonstrate through investments the value of proposed measures. E.g., when advocating water pricing reform, climate finance according to option 5 (adaptation loans) above could be used to demonstrate that with proper pricing of water savings (as a way of simulating the overall water pricing reform), certain measures become cost effective. Alternatively, when climate financing is offered for certain hard investments, MASHAV could complement this with soft investments that pave the way for future investments that require less or no international support.

The contribution of soft investments through MASHAV will be especially promising in complementing mitigation loans, adaptation loans and ICFPPF.

[39] http://mfa.gov.il/MFA/mashav/AboutMASHAV/Pages/default.aspx

## 6.2 Evaluation of the Options

To facilitate the discussion of the various options, we have included summary tables for each of the options. We then briefly discuss each option in turn. Because we use the summary tables throughout, we first provide a short explanation of the contents of the tables:

- *Objectives* summarizes the reasons for the instrument, what it hopes to achieve.
- The *role of the Israeli government* describes the actions needed from the Israeli government to implement the proposed option. In the case of contributing to the GCF, the role is essentially passive, providing funds for disbursement by the GCF.
- *Preparatory steps* describes the actions that must be taken before the proposed action can be implemented. In some cases no preparation is needed, while in other cases, especially when the role of the Israeli government is more elaborate, additional preparatory steps are required.
- *Application process* describes the actions needed to avail oneself of a specific option. In the case of contributing to the GCF, there is no application process for the State of Israel, but Israeli companies and other project sponsors that want to avail themselves of GCF funding will need to work through an accredited entity.
- Related to this is the *selection process*. In the case of the GCF, this is not relevant to the State of Israel, but for Israeli companies and project sponsors will depend on the GCF board decisions.
- Some options are only open for actions in specific *sectors*. In other cases, the option is relevant for all sectors.
- Similarly, some options are only available for climate change adaptation, others only for climate change mitigation, and yet others are open for both. This is what we refer to with *issues addressed*.
- With *countries* we indicate in which countries the option will be active. In some cases, the number of countries where an option is implemented is more limited. For example, if the Asian Development Bank would issue a climate bond, use of the revenues would be restricted to its Asian Developing Member Countries.
- Under the heading of *visibility/PR aspects*, we indicate what type of reputational impacts will result from the implementation of the option. In some cases the impacts can be expected to be favorable, while in other cases the main benefit is to avoid the negative reputational impacts from a lack of action.
- *Budget* gives an indication of the amount that we propose the Israeli government could initially contribute.
- *Evaluation criteria* gives an indication what the Israeli government could consider at some point in the future to determine whether it makes sense to continue the option, to decrease, or to increase the amount of resources spent on the option.

### *1. Contributing to the GCF (table a)*

Apart from the benefits of being able to join the discussions at the GCF, it would be important for Israel to join the GCF and avoid negative publicity by being an exception. As OECD member country, Israel would be expected to contribute to the GCF. Only four other OECD countries have thus far not pledged contributions to the GCF: Greece, Slovak Republic, Slovenia and Turkey. All these countries have lower GDP/capita in PPP terms.

Table a

| | | | |
|---|---|---|---|
| **Objectives** | • Obtain seat at the table<br>• Contribute climate finance<br>• Avoid negative publicity | **Sector** | • Agnostic |
| | | **Issue(s) addressed** | • Adaptation<br>• Mitigation |
| **Role Israeli government** | • Providing funds | **Countries** | • Developing countries, agnostic |
| **Preparatory steps** | • None | **Visibility/PR aspects** | • Limited and defensive |
| **Application process** | • For Israel: none<br>• For projects and programs: through accredited entities | **Budget (proposed)** | • Initially 10 MUSD* in INS eq.<br>• Future contributions subject to M&E results |
| **Selection process** | • For Israel: none<br>• For projects and programs: GCF board | **Evaluation criteria** | • Mitigation achieved<br>• Adaptation achieved<br>• Israeli business triggered |

* Ten million USD was pledged by Mexico to the GCF.

### *2. Liaising with the NDC partnership (table b)*

Liaising with the NDC partnership would have the objective of assessing whether it would make sense for Israel to join. One of the key decision criteria I suggest to use is whether Israel would be able to affect the partnership processes and procedures, and especially, whether there would be the possibility to set up programs for Israeli technologies and technology companies under the auspices of the NDC partnership.

### *3. Climate bonds (table c)*

Here we have reviewed the possibility of Israel investing in climate bonds as a means of partially satisfying its climate finance obligations. It is a reasonable option that could be a suitable part of Israel's total international climate finance portfolio.

One of the stated objectives of investing in climate bonds is to gain familiarity with the instrument. The idea here, explored fuller in a companion paper, is that with more experience Israel may decide to start issuing climate bonds (or more general, green bonds) to support scaling up of its climatech/cleantech industries, thus contributing to the (partial) elimination of the 'valley of death'

Table b

| | | | |
|---|---|---|---|
| **Objectives** | • Assess benefits from joining | **Sector** | • Agnostic |
| | | **Issue(s) addressed** | • Mitigation<br>• Adaptation to a lesser degree |
| **Role Israeli government** | • Discuss and assess | **Countries** | • Developing countries, agnostic |
| **Preparatory steps** | • None | **Visibility/PR aspects** | • Depending on discussion |
| **Application process** | • Not applicable | **Budget (proposed)** | • Initially discussions only<br>• Future contributions subject to discussion |
| **Selection process** | • Not applicable | **Evaluation criteria** | • Expected mitigation achievements<br>• Israeli business triggered<br>• Influence on partnership processes and procedures |

Table c

| | | | |
|---|---|---|---|
| **Objectives** | • Obtain financial return<br>• Contribute climate finance<br>• Avoid negative publicity<br>• Gain familiarity | **Sector** | • As in climate bond prospectus |
| | | **Issue(s) addressed** | • Adaptation<br>• Mitigation |
| **Role Israeli government** | • Providing funds | **Countries** | • As in climate bond prospectus |
| **Preparatory steps** | • Identify attractive climate bonds | **Visibility/PR aspects** | • Limited |
| **Application process** | • Market process | **Budget (proposed)** | • No suggestions |
| **Selection process** | • Market process | **Evaluation criteria** | • Mitigation achieved<br>• Adaptation achieved<br>• Return on investment |

## *4. Mitigation bonds / mitigation loans (table d)*

The mitigation bond / mitigation loan idea as presented here is a novel idea that could be a very attractive way to meet climate finance and climate mitigation objectives at the same time. It would be worth exploring this option with some of the MDBs to which Israel is part. My intuition tells me that Asia Infrastructure Investment Bank (AIIB) in Beijing might be a good candidate. AIIB does not have a long track record, and may face some pressure to act on climate change. Moreover, there could be diplomatic gains for Israel to introduce this first to AIIB, even if the idea is not taken up.

Table d

| | | | |
|---|---|---|---|
| **Objectives** | • Contribute climate finance<br>• Meet NDC mitigation targets | **Sector** | • Mostly energy, transport |
| | | **Issue(s) addressed** | • Mitigation |
| **Role Israeli government** | • Initiate idea<br>• Providing funds | **Countries** | • Developing countries, agnostic |
| **Preparatory steps** | • Proposed: discuss with MDBs to assess interest.<br>• Alternatively, could be run by Israeli banks with a wide international network. | **Visibility/PR aspects** | • Initially limited<br>• Option of increasing publicity and obtain positive PR for Israel on success as initiator |
| **Application process** | • Assuming hosting with MDB, MDB managed. | **Budget (proposed)** | • Initially 50 MUSD* in INS eq. (revolving)<br>• Future contributions subject to M&E results |
| **Selection process** | • Assuming hosting with MDB, MDB managed. | **Evaluation criteria** | • Mitigation achieved<br>• Economic ROI |

* This is a relatively large amount. However, if an MDB would run such mitigation loans and issue mitigation bonds, it would need to see that the originator of the idea is willing to put a significant amount of funding on the table.

Table e

| | | | |
|---|---|---|---|
| **Objectives** | • Favorable publicity<br>• Contribute climate finance | **Sector** | • Agnostic, likely with Israeli technology strength |
| | | **Issue(s) addressed** | • Adaptation |
| **Role Israeli government** | • Initiate idea<br>• Providing funds | **Countries** | • Developing countries, agnostic |
| **Preparatory steps** | • Await mitigation bond / loan results<br>• Discuss with partner countries<br>• Discuss with MDBs | **Visibility/PR aspects** | • Positive and significant.<br>• Adaptation issues a key concern and underfunded.<br>• Innovative approach to deal with adaptation. |
| **Application process** | • Countries: Bilateral discussions to agree on framework for adaptation transfers, e.g., related to water<br>• Flexibility on application procedures specific projects | **Budget (proposed)** | • Initially none<br>• Subject to favorable experience mitigation bonds, 20 MUSD in INS equivalent (revolving).<br>• Future contributions subject to M&E results |
| **Selection process** | • Countries on basis of interest and willingness<br>• Specific investments by responsible financial institution(s); to be discussed | **Evaluation criteria** | • Adaptation achieved<br>• Israeli business triggered<br>• Israeli visibility and PR |

### 5. Adaptation bonds / adaptation loans *(table e)*

This again is a novel idea proposed in this report. It builds on the idea of a mitigation bond. However, the concept is less straightforward than the mitigation bond, because the transferability of adaptation results does not yet exist, but would have to be created. Thus the adaptation bond / adaptation loan idea proposes two new ideas, one on top of the other, and that would probably be too much. It is proposed to initiate the discussion of this idea only after the success of the mitigation bond / mitigation loan idea. It would be wrong to bring this idea too early.

### 6. Mitigation technology loans and insurance *(table f)*

This is an instrument that on the one hand can contribute to Israel's mitigation efforts, and on the other hand can contribute to the promotion of Israel's climate technologies while contributing to Israel's climate finance obligations. It is an attractive option that could be discussed with the various MDBs that have experience in running climate technology finance centers.

Table f

| | | | |
|---|---|---|---|
| **Objectives** | • Contribute climate finance<br>• Achieve mitigation targets<br>• Possibly positive impacts on Israeli companies | **Sector** | • Agnostic |
| | | **Issue(s) addressed** | • Mitigation |
| **Role Israeli government** | • Initiate idea<br>• Providing funds | **Countries** | • Developing countries, agnostic |
| **Preparatory steps** | • Discuss concept with MDBs.*<br>• Could alternatively be managed in house but difficult. | **Visibility/PR aspects** | • Positive because of technology transfer, a relatively neglected issue. |
| **Application process** | • Proposed managed by MDBs | **Budget (proposed)** | • Initially 20 MUSD** in INS eq. (revolving)<br>• Future contributions subject to M&E results |
| **Selection process** | • Proposed managed by MDBs | **Evaluation criteria** | • Mitigation achieved<br>• Adaptation achieved<br>• ROI<br>• Israeli business triggered |

* Attractive targets MDBs of which Israel is member that have a climate technology finance center. EBRD might be the best option available.
** This amount would be sufficient to draw the interest of MDBs regarding this issue.

## *7. Climate Innovation Funding Programs (table g)*

This is an instrument that would allow for climatech demonstrations abroad that could subsequently be replicated with the help of the CIRFF (concessional infrastructure rollout financing facility) that this report has proposed. There can be particularly strong synergies with the domestic program to support climatech/cleantech (discussed in an accompanying report)[40] and the following two options for international climate finance which can respectively be used (a) to formulate the relevant international climate finance proposals and (b) to create the right enabling environment.

Table g

| | | | |
|---|---|---|---|
| **Objectives** | • Contribute climate finance<br>• Promote Israeli climate technologies | **Sector** | • Agnostic, but promising sectors should be selected for efficiency. |
| | | **Issue(s) addressed** | • Adaptation<br>• Mitigation |
| **Role Israeli government** | • Initiate concept<br>• Promote CIRFF<br>• Providing funds for demos<br>• Stimulate rollout | **Countries** | • Interested developing countries,<br>• Possibly other interested OECD countries |
| **Preparatory steps** | • Discuss with countries interested in climatech/ cleantech adoption<br>• Potentially: Discuss with countries providing climate/cleantech<br>• Discuss CIRFF concept with climate funding sources | **Visibility/PR aspects** | • Positive and likely substantial<br>• Systematic technology transfer, which is an area where OECD countries have been weak.<br>• At least equal inclusion of adaptation, another relatively neglected area. |
| **Application process** | • Restricted call for proposals for demos on basis joint interest | **Budget (proposed)** | • Initially 50 MUSD* in INS eq. (revolving)<br>• Future contributions subject to M&E results |
| **Selection process** | • Proposal selection on basis of cost effectiveness, adaptation/mitigation benefits, replicability and/ or scalability, and ROI | **Evaluation criteria** | • Number of successful demonstrations<br>• Mitigation achieved<br>• Adaptation achieved<br>• Israeli follow-up business triggered<br>• ROI |

* This is a relatively large amount, but such an amount is helpful to attract the interest of other countries. Note that this needn't be grant money but could be in the form of soft loans or other instruments to promote demonstration projects.

[40] Van der Tak, C.M. (2016), *Israel and domestic climate finance: cleantech commercialization*. Final report. Report prepared for the ClimaSouth project.

### *8. Israel Climate Finance Proposal Preparation Facility (ICFPPF) (table h)*

This is a cross between climate finance and the Netherlands PESP program, providing a source of risk-bearing funding by the Israeli government to help formulate climate finance proposals that can support Israeli business abroad. This is a promising tool that, with a limited budget, may leverage a significant amount of international climate finance and Israeli business opportunities.

Table h

| | | | |
|---|---|---|---|
| **Objectives** | • Promote Israeli business<br>• Contribute climate finance | **Sector** | • Agnostic, but promising sectors should be selected for efficiency |
| | | **Issue(s) addressed** | • Adaptation<br>• Mitigation |
| **Role Israeli government** | • Providing funds to prepare climate finance proposals<br>• Formulate and run ICFPPF | **Countries** | • Identified developing partner countries, agnostic |
| **Preparatory steps** | • Discuss and identify partner countries*<br>• Design program and prepare documentation<br>• Advertise program<br>• Evaluate proposals<br>• Review / own** climate finance proposals | **Visibility/PR aspects** | • Limited initially<br>• May increase in visibility if large-scale programs are defined and funded |
| **Application process** | • By Israeli company with business interest (planned foreign investment and/or export) | **Budget (proposed)** | • Initially per year 1.25 MEUR in INS eq. (recurring budget item)<br>• Future contributions subject to M&E results |
| **Selection process** | • Proposed: continuous selection based on published criteria<br>• Criteria: company capacity / track record, likelihood of success, expected follow on actions, climate change impacts | **Evaluation criteria** | • Israeli company interest<br>• Quality finance proposals<br>• Funding obtained<br>• Mitigation achieved<br>• Adaptation achieved<br>• Israeli business triggered in relation to funding<br>• Success rate of climate finance applications supported<br>• Leverage factor of the program |

* Partner countries would (at least ideally) need to agree on reimbursement of the funding if the climate finance is successfully obtained, but not used for Israeli exports. This is also the purpose of ownership discussed in the next footnote. An alternative could be for Israel itself to have an accredited entity with the GCF and other main sources of climate finance.
** Ownership is relevant if the original applicant does not succeed in getting the transaction. If paid for funding offered, or if alternative Israeli business originates from the funding, ownership will transfer to the host country.

### *9. Capacity building and enabling framework (coordination with MASHAV) (table i)*

This option could easily be implemented in conjunction with some of the proposed climate finance contributions that Israel would manage itself. It would build on the existing processes and procedures of MASHAV, and would mainly require creation of a budget for climate change adaptation and mitigation activities. This option would appear to be attractive and provide significant synergies. Indeed, it could be anticipated that some of the earliest cooperation with developing countries on climate finance, as proposed above, could be in the form of broad-based partnerships in which these countries are the beneficiaries of various Israeli climate finance options, and that these partnerships could originate from MASHAV development cooperation frameworks as the first opportunity for discussion.

Table i

| | | | |
|---|---|---|---|
| **Objectives** | • Create conditions for climate finance<br>• Contribute climate finance | **Sector** | • Agnostic |
| | | **Issue(s) addressed** | • Adaptation<br>• Mitigation |
| **Role Israeli government** | • Coordinating actions between long-term development cooperation and new climate finance | **Countries** | • Developing countries with an international development cooperation tie to Israel |
| **Preparatory steps** | • Internal government discussion on operational procedures | **Visibility/PR aspects** | • Positive<br>• Possibly significant<br>• Position Israel as fast, effective and efficient climate change partner: “walk the talk” |
| **Application process** | • Not applicable | **Budget (proposed)** | • To be discussed inside Israeli government, probably depending on additional work done by MASHAV<br>• Future contributions subject to M&E results |
| **Selection process** | • Not applicable | **Evaluation criteria** | • Enabling environment created<br>• Mitigation achieved<br>• Adaptation achieved<br>• Effectiveness of climate finance |

# 7. CONCLUSIONS

The main conclusions of the preceding sections are herewith summarized:

1. Israel, as an OECD country, will have a moral requirement to provide climate finance. The question is not whether it should provide international climate finance or not, but how Israel can provide international climate finance smartly so that the country can indirectly benefit from it.
2. Indirect benefits from international climate finance provided by Israel may include contributions to other climate change obligations (mitigation and technology transfer), favorable PR impacts, presence at the discussion table, and indirect impacts on Israeli business opportunities
3. Israel will not be a direct beneficiary of (concessional) international climate finance. However, Israel may use climate finance activities for its commercial activities in developing countries, including Israeli exports and Israeli foreign investments.
4. Based on these premises, several concepts for Israel's engagement with climate finance have been developed:
    - Contributing to the GCF: Making a contribution to the GCF in line with expectation regarding the contributions of an OECD member country.
    - Liaising with the NDC Partnership: Discussing with the NDC partnership about joining it, provided that the right conditions have been met regarding influence on processes and procedures and Israeli business opportunities.
    - Climate bonds: Investing in climate bonds available on the market, with a focus on climate bonds of which the proceeds are invested in developing countries.
    - Mitigation bonds / mitigation loans: Zero- or very-low-interest bonds and loans invested in mitigation projects and programs in developing countries, that instead of yielding interest provide a share in the mitigation results obtained, transferred as ITMOs [this report].
    - Adaptation bonds / adaptation loans: Analogous to mitigation bonds and loans, however dealing with adaptation results. A prerequisite for this type of bond or loan is that the adaptation result somehow need to obtain a value, in which the investor can share. For example, in the case of a water-saving program, this could be achieved by agreeing on a price for saved water, on the basis of avoided marginal supply costs [this report].
    - Mitigation technology loans and insurance: Analogous to mitigation loans, except that relatively new mitigation technologies (and new to the country) are funded. Investor shares in the mitiga-

tion results of the funded projects and replications [this report].

- Climate Innovation Funding Program: Combination of Israeli funding (in a cost-effective manner) commercial demonstration projects in developing countries and an agreed 'concessional innovation rollout financing facility' (CIRFF) made available by international sources of climate finance that will fund the replication of successful commercial demonstrations [this report].
- Israel Climate Finance Proposal Preparation Facility (ICFPPF): Facility provided by the Israeli government that will share in the costs and risks of preparing a climate finance proposal for concessional funding by international sources of climate finance in support of Israeli exports and investments to/in developing countries [this report].
- Capacity building and enabling framework (coordination with MASHAV): Creating an enabling framework in partner countries that will stimulate replication of successful earlier investments by reducing the importance of market barriers.

5. These options are subject to discussions within the Israeli government to accept, reject, or modify them. Nevertheless, it is possible to offer suggestions as to the readiness of the various options, as described below.

6. Three of these options are (almost) immediately available for implementation: contributing to the GCF, liaising with the NDC partnership, and investing in climate bonds. It is proposed that these are concrete actions on climate finance that could be taken immediately.

7. Two of these options, mitigation bonds / mitigation loans and mitigation technology loans and insurance would appear to be best run by MDBs. Therefore, a first step if the Israeli government is interested in taking this further would be to approach appropriate MDBs. This is a discussion that does not need to take a long time.

8. One of the options, adaptation bonds / adaptation loans, should preferably be initiated after initial success with mitigation bonds/loans. It is therefore proposed that action on this one could be delayed until operational experiences with mitigation bonds/loans have been obtained.

9. The remaining three options, Climate Innovation Funding Programs, the Israel Climate Finance Proposal Preparation Facility (ICFPPF), and Capacity building and enabling framework (coordination with MASHAV) are options that require multilayer discussions, among others requiring discussions with developing countries that could be prospective partners in these efforts. It is proposed that a first step could be to discuss the concepts with prospective partner countries.

10. Partner country selection and market segment selection can and should be based on several criteria and assessment methods. One of the instruments that can be used for this purpose is the revealed comparative advantage index, as has already been described.

11. While these options may cost money and other resources, an attempt has been made to develop options that would offer Israel significant returns

in one form or another. Additionally, an attempt has been made to ensure that the options are revolving, in other words, that once funded they will remain intact and can be used in repeated climate finance cycles. To assess the fiscal implications, the impact on revenues (from profit taxes) would also have to be assessed.

12. It is advisable to monitor and evaluate the various options that are selected for implementation, so that successful ones can be scaled up and unsuccessful ones modified or closed down.

13. As a side issue, it is proposed that Israel could benefit from benchmarking its trade-promotion efforts against successful trading economies (currently Germany and the Netherlands), to identify best practices in trade promotion that could be incorporated in Israel's trade promotion. This said, some of the practices used in the Netherlands have been incorporated in the Israeli climate finance options.

# 8. RECOMMENDATIONS

Our concrete recommendations as the result of this research are the following:

1. Discuss the various climate finance options outlined, and develop more specific proposals for government decision making on a portfolio of climate finance options that Israel will implement.
2. For the selected climate finance options that involve joining an existing initiative, take direct action once domestic agreement and approval is given.
3. If one or more of the mitigation bonds / mitigation loans and climate mitigation technology funding and insurance options are selected, start discussions with MDBs.
4. Initiate adaptation bonds / adaptation loans only after initial positive results with the mitigation bond / mitigation loan concept.
5. If one or more of the other options are selected, start discussions with prospective partner countries.
6. Use, among other things, the revealed comparative advantage methodology to select target sectors and partner countries.
7. Conduct regular M&E and modify the portfolio of climate finance options on that basis.
8. Conduct MRV on the climate finance offered by Israel, in line with the international agreements.
9. Although outside the direct scope of this document, we also recommend that Israel benchmarks its trade promotion instruments against successful trading countries.

Below we elaborate on various aspects of these recommendations.

As mentioned above, the recommendations above give some possible directions for discussion and future decision-making, and many variations on the themes are possible. For example, in regard to the ICFPPF, there are different ways the cost sharing between the applicant and the Israeli government could be arranged. Moreover, it may be decided that Israeli investment abroad should not be an objective of the ICFPPF but that the ICFPPF should focus on Israeli exports. Such modifications of the foregoing write-ups could easily be incorporated without changing the general principles involved.

One of the important issues to consider is how to learn from the implementation of the various options that Israel may decide to implement. The learning should make sure that lessons are incorporated with regard to:

- Effectiveness in dealing with climate change

- Effectiveness in dealing with Israeli climate change obligations (mitigation, climate finance technology transfer)
- Domestic awareness (Do Israeli enterprises know about the instrument?)
- Domestic appeal (Is there demand for the instrument? Is it used?)
- International feedback (It may be necessary to discontinue the instruments that are internationally controversial.)

To make it possible that relevant lessons are learned and reflected in the instrument portfolio used by Israel, we proposes a systematic program of monitoring and evaluation (M&E) of the instruments that Israel selects to implement. Additionally, we propose that funding for each program could start relatively small, with amounts being increased or decreased over time, depending on the results of the M&E. Successful programs with unmet demand could be scaled-up, unsuccessful programs can be downscaled, terminated, or modified, depending on the outcomes of the M&E.

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# Annex 1.
# PROJECTS APPROVED FOR GCF FUNDING

The GCF pipeline has, as of June 10, 2016, reached 41 proposals, with a total GCF funding request of USD 2.4 billion, and a total project value of USD 6.6 billion. Table A1.1 contains a list of approved projects as of October 25, 2016. Since then, a new round of approvals has resulted in additionally approved projects (not included in this overview).

## *Table A1.1 Approved GCF projects as of October 25, 2016*

| Number | Title | Country | Accredit-ed Entity | GCF funding | Total fund-ing |
|---|---|---|---|---|---|
| FP001 | Building the Resilience of Wet-lands in the Province of Datem del Marañón, Peru | Peru | Profnanpe* | USD 6.2 million | USD 9.1 million |
| FP002 | Scaling Up of Modernized Climate Information and Early Warning Systems in Malawi | Malawi | UNDP | USD 12.3 million | USD 16.3 mil-lion |
| FP003 | Increasing Resilience of Eco-systems and Communities through Restoration of the Productive Bases of Salinized Lands | Senegal | CSE | USD 7.6 million | USD 8.2 million |
| FP004 | Climate-Resilient Infrastructure Mainstreaming in Bangladesh | Bangladesh | KfW | USD 40 million | USD 80 million |
| FP005 | KawiSawi Ventures Fund in East Africa | Rwanda, Kenya, Uganda | Acumen | USD 25 million | USD 110 mil-lion |
| FP006 | Energy Efficiency Green Bonds in Latin America and the Carib-bean | Mexico | IDB | USD 22 million | USD 328 mil-lion |
| FP007 | Support of Vulnerable Com-munities in Maldives to Manage Climate Change-Induced Water Shortages | Maldives | UNDP | USD 23.6 million | USD 28.2 mil-lion |
| FP008 | Fiji Urban Water Supply and Wastewater Management Project | Fiji | ADB | USD 31 million | USD 222 mil-lion |

* Full names of the accredited entities are provided in Annex 2.

| Number | Title | Country | Accredit-ed Entity | GCF funding | Total fund-ing |
|---|---|---|---|---|---|
| FP009 | Energy Savings Insurance (ESI) for Private Energy Efficiency Investments by Small and Medium-Sized Enterprises (SMEs) | El Salvador | IDB | USD 21.7 million | USD 41.7 mil-lion |
| FP010 | De-Risking and Scaling-up Investment in Energy Efficient Building Retrofits | Armenia | UNDP | USD 20 million | USD 29.8 mil-lion |
| FP011 | Large-scale Ecosystem-based Adaptation in The Gambia: Developing a Climate-Resilient, Natural Resource-based Economy | Gambia | UNEP | USD 20.5 million | USD 25.5 mil-lion |
| FP012 | Africa Hydromet Program – Strengthening Climate Resil-ience in Sub-Saharan Africa: Mali Country Project | Mali | World Bank | USD 22.8 million | USD 27.3 mil-lion |
| FP013 | Improving the Resilience of Vulnerable Coastal Communities to Climate Change Related Impacts in Viet Nam | Vietnam | UNDP | USD 29.5 million | USD 40.5 mil-lion |
| FP014 | Project to Support the World Bank's Climate Adaptation and Mitigation Program for the Aral Sea Basin (CAMP4ASB) in Tajiki-stan and Uzbekistan | Tajikistan and Uzbekistan | World Bank | USD 19 million | USD 68.8 mil-lion |
| FP015 | Tuvalu Coastal Adaptation Project (TCAP) | Tuvalu | UNDP | USD 36 million | USD 38.9 mil-lion |
| FP016 | Strengthening the Resilience of Smallholder Farmers in the Dry Zone to Climate Variability and Extreme Events in Sri Lanka | Sri Lanka | UNDP | USD 38.1 million | USD 52.1 mil-lion |
| FP017 | Climate Action and Solar En-ergy Development Programme in the Tarapacá Region in Chile | Chile | CAF | USD 49 million | USD 265 mil-lion |
| FP018 | Scaling-up of Glacial Lake Out-burst Flood (GLOF) risk reduc-tion in Northern Pakistan | Pakistan | UNDP | USD 37 million | USD 37.5 mil-lion |
| FP019 | Priming Financial and Land-Use Planning Instruments to Reduce Emissions from Defor-estation | Ecuador | UNDP | USD 41.2 million | USD 84 million |
| FP020 | Sustainable Energy Facility for the Eastern Caribbean | Dominica, Grenada, St. Kitts, St. Lucia, St. Vincent | IDB | USD 80 million | USD 190.5 million |

| Number | Title | Country | Accredit-ed Entity | GCF funding | Total fund-ing |
|---|---|---|---|---|---|
| FP021 | Senegal Integrated Urban Flood Management Project | Senegal | AFD | USD 16.7 million | USD 79.2 mil-lion |
| FP022 | Development of Argan or-chards in Degraded Environ-ment – DARED | Morocco | ADA | USD 39.3 million | USD 49.2 mil-lion |
| FP023 | Climate Resilient Agriculture in three of the Vulnerable Extreme northern crop-growing regions (CRAVE) | Namibia | EIF | USD 9.5 million | USD 10 million |
| FP024 | Empower to Adapt: Creat-ing Climate-Change Resilient Livelihoods through Commu-nity-Based Natural Resource Management in Namibia | Namibia | EIF | USD 10 million | USD 10 million |
| FP025 | GCF-EBRD Sustainable Energy Financing Facilities | Armenia, Egypt, Geor-gia, Jordan, Moldova, Mongolia, Morocco, Ser-bia, Tajikistan, Tunisia | EBRD | USD 378 million | USD 1.4 billion |
| FP026 | Sustainable Landscapes in Eastern Madagascar | Madagascar | CI | USD 10 million | USD 69.8 mil-lion |
| FP027 | Universal Green Energy Access Programme | Benin, Kenya, Namibia, Nigeria, Tanzania | Deutsche Bank | USD 80 million | USD 301.6 million |

Source: http://www.greenclimate.fund/ventures/portfolio, accessed 15 August 2016 and http://www.greenclimate.fund/projects/browse-projects accessed October 25, 2016.

# Annex 2.
# ACCREDITED ENTITIES

The following is the list of GCF accredited entities as of October 25, 2016:[41]

1. Acumen Fund, Inc. (Acumen)
2. Africa Finance Corporation (AFC)
3. African Development Bank (AfDB)
4. Agence Francaise de Developpement (AFD)
5. Agency for Agricultural Development of Morocco (ADA)
6. Asian Development Bank (ADB)
7. Caribbean Community Climate Change Centre (CCCCC)
8. Centre de Suivi Ecologique (CSE)
9. Conservation International Foundation (CI)
10. Corporcion Andina de Fomento (CAF)
11. Credit Agricole Corporate and Investment Bank (Credit Agricole CIB)
12. Deutsche Bank AktienGesellshaft (Deutsche Bank AG)
13. Development Bank of Southern Africa (DBSA)
14. Environmental Investment Fund (EIF)
15. European Bank for Reconstruction and Development (EBRD)
16. European Investment Bank (EIB)
17. HSBC Holdings Plc and its subsidiaries (HSBC)
18. Inter-American Development Bank (IDB)
19. International Bank for Reconstruction and Development and International Development Association (World Bank)

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[41] Source: http://www.greenclimate.fund/partners/accredited-entities accessed 15 August 2016, and http://www.greenclimate.fund/partners/accredited-entities/ae-directory accessed October 25, 2016.

20. International Finance Corporation (IFC)
21. International Union for Conservation of Nature (IUCN)
22. Kreditanstalt fur Wiederaufbau (KfW)
23. Ministry of Finance and Economic Cooperation of the Federal Democratic Republic of Ethiopia (MOFEC)
24. Ministry of Natural Resources of Rwanda (MINIRENA)
25. National Bank for Agriculture and Rural Development (NABARD)
26. National Environment Management Authority of Kenya (NEMA)
27. Peruvian Trust Fund for National Parks and Protected Areas (Profonanpe)
28. Secretariat of the Pacific Regional Environment Programme (SPREP)
29. Unidad Para el Cambio Rural (Unit for Rural Change) of Argentina (UCAR)
30. United Nations Development Programme (UNDP)
31. United Nations Environment Programme (UNEP)
32. World Food Programme (WFP)
33. World Meteorological Organization (WMO)

During a recent GCF Board meeting, the following entities were additionally accredited.[42]

34. Banque Ouest Africaine de Développement (West African Development Bank, BOAD)
35. Caribbean Development Bank (CDB)
36. XacBank LLC (XacBank)
37. Deutsche Gesellschaft für Internationale Zusammenarbeit GmbH (GIZ)

[42] See http://www.greenclimate.fund/documents/20182/409835/GCF_B.14_15_Rev.01_-_Consideration_of_-accreditation_proposals_Entities_recommended_at_the_thirteenth_meeting_of_the_Board.pdf/9018c57e-7246-48d4-88f7-36df16779cd4

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