

# Developing AIJ criteria and institutions for South Africa

---

Jessica Hirst  
Randall Fecher

---

January 1998  
ENERGY & DEVELOPMENT RESEARCH CENTRE  
University of Cape Town

# CONTENTS

<i>Executive summary</i>	<i>i</i>
<i>Acknowledgements</i>	<i>viii</i>
<i>List of abbreviations</i>	<i>ix</i>
<b>1. Introduction</b>	<b>1</b>
1.1 Activities implemented jointly	1
1.1.1 Economic basis	1
1.1.2 A pilot phase	2
1.2 Research objectives	3
1.2.1 Goal	3
1.2.2 Objectives	3
1.3 Research methodology	4
1.3.1 Genesis of the project	4
1.3.2 Approach	5
1.3.3 Why this approach?	6
1.3.4 Methodology assessment	6
<b>2. Policy context</b>	<b>8</b>
2.1 International policy context: the Kyoto Protocol	8
2.1.1 Commitments	8
2.2 African perspectives on AIJ	10
2.2.1 Summary of African positions and concerns on AIJ	10
2.2.2 Time line of major events	11
2.3 AIJ in South Africa	12
2.3.1 AIJ Working Group of the NCCC	12
<b>3. AIJ investor objectives and motivations</b>	<b>14</b>
3.1 Private sector interest in joint implementation	14
Investor concerns	14
3.1.1 Hurdles for overseas projects	14
3.1.2 Additional hurdles for "unconventional" projects	15
3.1.3 Hurdles specific to AIJ projects	16
3.2 Investor experience in the pilot phase	17
3.2.1 Costa Rica	17
3.3 Investor objectives and motivations for the AIJ pilot phase	17
3.3.1 In the absence of credits, why is the private sector participating at all?	17
<b>4. Introduction to the case studies</b>	<b>19</b>
4.1 Housing for a sustainable SA: The Guguletu Eco-Homes proposal	19
4.1.1 Project description	19
4.1.2 Participants in the project	19
4.1.3 Status of project development	20
4.2 Hot water for Lwandle	20
4.2.1 Project description	20
4.2.2 Participants	20
4.2.3 Status of project development	21
4.3 Clean Commute trip reduction programme	21
4.3.1 Project description	21

4.3.2	Participants	21
4.3.3	Status of project development	22
4.4	Steel processing efficiency	22
4.4.1	Project description	22
4.4.2	Participants	22
4.4.3	Status of project development	23
<b>5.</b>	<b>Developing criteria</b>	<b>24</b>
5.1	Mission and objectives	24
5.1.1	Mission	24
5.1.2	Objectives	24
5.2	The basis for developing criteria	25
5.2.1	What are criteria meant to do?	25
5.2.2	Purpose of South African criteria	25
5.3	AIJ issue analysis and criteria	26
5.3.1	Compatible with and supportive of national priorities	26
5.3.2	Compatibility with local priorities	29
5.3.3	Cost-effectiveness vs “cherry picking”	30
5.3.4	Government acceptance	32
5.3.5	Emissions additionality	36
5.3.6	Monitoring and verification	39
5.3.7	Durability of emission reductions	41
5.3.8	Financial additionality	42
5.3.9	Crediting	43
5.3.10	Transparency	44
5.3.11	Capacity building and technology transfer	45
5.3.12	Environment, social and economic benefits and/or negative impacts	48
<b>6.</b>	<b>AIJ institutions</b>	<b>50</b>
6.1	Functions and actors	50
6.1.1	Policy	50
6.1.2	Planning	50
6.1.3	Day-to-day operations	50
6.1.4	Additional functions	50
6.1.5	Actors in South Africa	51
6.2	Experience from other countries	51
6.3	Workshop input and recommendations	51
6.3.1	Policy	51
6.3.2	Planning	52
6.3.3	Day-to-day operations	52
6.3.4	Representation and expertise	52
6.4	Funding the programme	53
<b>7.</b>	<b>Summary of recommendations</b>	<b>55</b>
7.1	Mission	54
7.2	Objectives	54
7.3	AIJ criteria	54
7.4	Institutional structure and process	54
7.4.1	The AIJ Working Group	55
7.4.2	AIJ planning	55
7.4.3	AIJ Co-ordinator	55
7.4.4	Evaluation process	55

<i>Bibliography</i>	57
<i>Glossary of terms</i>	59
<i>Appendix</i>	61
South Africa's Position on Activities Implemented Jointly	
AIJ/JI Working Group Terms of Reference	
Workshop participants: Workshop One	
Workshop participants: Workshop Two	
AIJ/JI: The Road from Rio to Kyoto	
UNFCCC-CC:INFO/AIJ - List of AIJ Projects	

## EXECUTIVE SUMMARY

### Overview of the activities implemented jointly policy research project

This report summarises the outputs from the EDRC Activities Implemented Jointly (AIJ) Policy Research Project, whose goal was to facilitate South Africa's efforts to develop policy on AIJ and evaluate potential pilot projects. Funding for the project was provided by the South African Human Sciences Research Council programme on Global Change and Social Transformation, Eskom and the US-South Africa Binational Commission (funded from the US Agency for International Development and managed by the US Information Service).

"Activities implemented jointly" is the name given to projects or policies undertaken collaboratively among countries to mitigate the threat of climate change within the scope of the United Nations Framework Convention on Climate Change (UNFCCC). AIJ grew out of international negotiations on "joint implementation" (JI), which refers to projects from which the investor would be able to earn credit for reducing emissions of greenhouse gases implemented in another country. In addition, the Kyoto Protocol to the Convention in December 1997 established a "clean development mechanism" (CDM) to support similar activities under the UNFCCC. The CDM will allow credits for certified emissions reductions starting in the year 2000; hence it may serve as a bridge between AIJ and JI.

### Objectives

The objectives of the AIJ policy research project are to support South African stakeholders in their efforts to understand risks and opportunities of AIJ, and to develop strategies to manage them. Specifically, the project aims to:

- recommend AIJ policies and criteria for project selection to the National Committee on Climate Change;
- recommend institutional processes and structures to support the recommended policies;
- enhance the capacity of the AIJ Working Group and other stakeholders to engage in AIJ policy debates;
- contribute to the NCCC's evaluation of submitted AIJ project proposals;
- provide analysis of lessons learned by other countries active in AIJ, and by AIJ investors and project developers.

### Approach

This research brings analysis of issues raised by national and international AIJ policy debates together with the experiences of other countries and investors to formulate recommended AIJ policy and criteria. Two stakeholder workshops, with extensive discussions of AIJ experience in other countries and potential projects in South Africa, played an important role in the development of these AIJ policy recommendations. Climate change policy stakeholders participated in the workshops, including members of South Africa's National Climate Change Committee, AIJ project developers from business and non-government organisations, researchers and members of civil society. The workshops aimed to provoke creative thinking on how to link concern for global climate change with projects that support South African objectives for energy, environment and sustainable economic development.

### Recommendations for a South African programme on activities implemented jointly

South Africa's current position on AIJ declares South Africa's intention to participate in the pilot phase. Although projects in the pilot phase of AIJ have been limited by lack of economic and regulatory incentives, the decisions taken at the Kyoto climate change negotiations in December 1997 to allow emissions

credits from the year 2000 will prompt greater interest. The binding emissions reductions targets adopted by industrialised countries will likely mobilise billions of dollars over the next 50 years, and South Africa's economic and political circumstances could attract significant investor interest. As with all foreign investment, it must be managed strategically in order for the benefits to outweigh the costs. The recommendations in this report are designed to help South Africa maximise the potential benefits from AIJ and the CDM and minimise the risks. The "AIJ programme" outlined below is a set of institutional structures, policies and procedures which can guide AIJ in South Africa.

## Mission and objectives for the South African AIJ programme

### *Mission*

The mission of the South African AIJ programme should be to evaluate the local and global impacts, both positive and negative, of AIJ projects to determine the conditions for equitable and effective activities implemented jointly under the clean development mechanism.

In addition, the programme should facilitate foreign investment in projects which support South Africa's development objectives while reducing emissions of greenhouse gases.

### *Objectives*

The objectives of the South African AIJ programme should be to:

- maximise participation and learning during the pilot phase;
- promote technology transfer and capacity building;
- formulate strategies to encourage participation by the private sector and non government and community based organisations;
- contribute to methodologies for effectively measuring greenhouse gas emissions and sequestration.

### *AIJ criteria*

The central challenge of developing national AIJ criteria is to strike an appropriate balance between (strong) guidance, so that projects are acceptable to the host country, and the flexibility to allow for innovation and broad experience. Based on the input from the workshops and the review of experiences of other countries and project participants, EDRC recommends the following criteria for South Africa's programme on AIJ.

To be found acceptable as an Activity Implemented Jointly under the pilot phase, a project must:

### *Be compatible with and supportive of national and local priorities:*

Projects must conform with key South African policies, including the RDP, GEAR and CONEPP, and with policies in the relevant sectors. The project proponent should refer to these policies, and should consult the South African AIJ programme for updates/additions to the list of relevant national policies and for referrals to the appropriate offices. The South African AIJ programme encourages projects that support South Africa's top priorities for reconstruction and sustainable development. Project developers are encouraged to consult with the South African AIJ programme co-ordinator early in the process of project development regarding priorities and the appropriateness of projects for AIJ application.

In addition, AIJ project proposals should demonstrate that they have consulted with relevant local stakeholders who would be affected by the project.

### *South African AIJ programme actions*

- Policies on AIJ and the (clean) Development Mechanism (CDM) should be integrated into proposals for South Africa's overall climate change National Action Plan, and should ideally be co-ordinated with other SADC countries.

- The South African AIJ programme should announce preferred types of AIJ projects in its programme information materials. General priority areas should be selected from the RDP and GEAR such as low-income housing, public transport, or new employment opportunities.
- The evaluators of AIJ proposals (such as the AIJ Working Group or a technical reference group) should also consider how to incorporate local input or confirm that relevant local stakeholders have been consulted on the project design.
- The mitigation options identified within the Climate Change Country Study and National Action Plan should be separated into the following categories for the purpose of securing funding for implementation:
  - projects or interventions which South Africa would implement and fund internally;
  - projects which South Africa would implement but fund through international aid;
  - projects which would be feasible and desirable under the current AIJ pilot phase;
  - projects which would be feasible and desirable under a future JI or CDM framework with certified emissions reductions.

***Contribute to cost-effectiveness in achieving global and national benefits;***

AIJ activities should contribute to meeting global and national goals at the least cost. Not only should projects mitigate greenhouse gas emissions cost-effectively, they should help South Africa meet national goals, such as mass housing or electrification, cost-effectively given the limited resources available in South Africa.

***South African AIJ programme actions***

South Africa may wish to take a strategic approach to "no-regrets" or very low cost projects by the following approaches:

- **Pay:** Charging an additional fee for the "lowest cost" emissions reductions.
- **Transfer:** Requiring a transfer of technology and/or capacity so that South Africa could replicate the project independently.
- **Allocate to South Africa:** Negotiating to keep a higher share of quantified emissions reductions or certified credits from low- or negative cost reductions than for higher cost reductions.

These options may only be practical after crediting becomes a reality.

***Generate reductions in emissions that are additional to any that would occur in the absence of the certified activity;***

The South African AIJ programme will only consider future certified reductions under the CDM for projects that clearly reduce emissions below "business as usual". During the AIJ pilot phase, however, the programme encourages projects that reduce emissions of greenhouse gases and promote the objectives of the programme regardless of the timing or primary motivation of the project.

***South African AIJ programme actions***

- Given that the ultimate objective of AIJ is to reduce emissions and support sustainable development, that the objective of the pilot phase is to experiment with the AIJ/JI mechanism, and that there are no credits during the pilot phase, the South African AIJ programme should take a flexible approach to the additionality criterion during the pilot phase of AIJ.
- The programme should take a more stringent approach to additionality for any projects submitted after the pilot phase which would acquire certified emissions reductions under the CDM after the year 2000. The programme should distinguish between activities implemented jointly (without credits)

and future joint implementation (with credits) or clean development projects that help Annex I countries meet their commitments under the Protocol.

- South Africa should develop national emissions scenarios that could be used to help establish the reference cases for proposed AIJ projects.
- Given the substantial implications for the amount and value of its certified emission reductions, South African stakeholders should play an active role in the debates around how to interpret and implement the Kyoto Protocol's requirements for emissions additionality under the CDM.

***Generate real, measurable, and long-term benefits related to the mitigation of climate change***

Project proponents must outline plans for monitoring and verification activities as required under the Convention, and for funding such activities. Monitoring plans should include the social, environmental and economic impacts of the project on the local community, in conformance with the Convention and with national policies.

Proponents must indicate the expected temporal durability of emissions reductions. They should transparently outline their assumptions and the aspects of the project design that will affect durability of emissions reductions.

***South African AIJ programme actions***

- The South African AIJ programme should develop a reference group of experts by the project type (housing, public transport, industrial energy efficiency) to assess each proposal's estimated emissions reductions within the local context.
- The South African AIJ programme should negotiate to ensure that the costs of monitoring and verification are not borne by South Africa, but rather by an international body or by the project itself.
- The South African AIJ programme should engage in the debates around procedures for ensuring transparency, efficiency and accountability of emissions reductions through independent auditing and verification of project activities. The programme should draw on domestic monitoring experience for input to international discussions.
- In the future, South Africa may wish to consider investing in domestic monitoring and/or verification systems in order to generate South African Certifiable, Tradable Offsets, which could be sold under the CDM after 2000.

***If receiving financing from governments, only utilise financing that is additional to the financial obligations of the investor country under the UNFCCC, as well as to current official development assistance***

Project proponents must indicate that their projects were not or would not be implemented with official development assistance. They should also obtain from the investor country government a status report, verified by the UNFCCC Secretariat, on the country's fulfilment of its obligations under the UNFCCC. The programme will bear in mind the commitments in the Kyoto Protocol by industrialised country Parties to "provide new and additional financial resources to meet the agreed full costs ... including for the transfer of technology," needed by developing country Parties in complying with the Convention.

***South African AIJ programme actions***

- The AIJ programme co-ordinator should make available to the AIJ Working Group and proposal evaluators the status report on whether the investor country is meeting its financial obligations under the convention.
- To evaluate this criterion, the South African AIJ programme will have to consider carefully whether to accept projects with government funding from Parties that have not met all their other financial obligations under the

Convention. The programme should not accept projects deemed to make unreasonable demands on South Africa's domestic financial resources.

- The South African AIJ programme should engage in the debates around how the clean development mechanism shall assist in arranging funding of certified project activities, as promised in the Kyoto Protocol Article 12.

***In accordance with the Berlin Criteria, not claim any credits toward emission limitation obligations during the pilot phase***

Project proponents may not claim credit toward emissions limitation obligations or commitments from AIJ projects in South Africa during the pilot phase.

Project participants are encouraged to collaborate with the South African AIJ programme to explore potential credit sharing mechanisms which could be applied under the clean development mechanism or a future joint implementation system, and the constraints and concerns raised by these mechanisms. Such explorations will contribute to South African and/or international discussions of these issues, but will not automatically set a precedent for emissions crediting or trading.

***South African AIJ programme actions***

- The South African AIJ programme will have to develop a position on the Kyoto Protocol Article 12.3(b) declaration that "Parties included in Annex I [ie those with emissions limits] may use the certified emission reductions [under the CDM] ... to contribute to compliance with part of their quantified emission limitation and reduction commitments" starting in 2000 (Kyoto Protocol 1997). The programme should seek to maximise exploration of potential mechanisms during the AIJ pilot phase to inform South Africa's positions in future negotiations.
- The programme should be careful not to commit South Africa to any credit-sharing arrangement prior to the establishment of rules for the CDM.

***Demonstrate transparency in aspects of project development and implementation that affect South Africa's other AIJ criteria***

Project proponents must provide any project details on explorations of crediting, emissions reduction projections, technology transfer, capacity building and project performance monitoring to the South African AIJ programme. Project participants should indicate any proprietary data they wish to have protected under the South African AIJ programme's confidentiality agreement.

***South African AIJ programme actions***

- The programme should prepare a standard agreement to maintain confidentiality that any person with access to project proposals and other confidential project documentation would sign. The programme should follow the South African government's policies for transparency, confidentiality and public disclosure of information.
- If South Africa decides to conduct its own monitoring activities the programme should study the experience of other countries to inform procedures to maintain transparency concurrent with needed confidentiality.

***Contribute to building capacity and transferring sustainable and appropriate technology***

The South African AIJ programme encourages proposals of projects that involve transfer of sustainable and appropriate technology. Any transfer of technological hardware or operational methods should be synchronised clearly with plans to build capacity around that technology.

Project proposals must document plans to build the relevant capacity for successful project implementation, whether it is technical training, institutional development or activities to raise public awareness of project issues.

### *South African AIJ programme action*

- The South African AIJ and climate change programmes should seek to synchronise acquisition of physical technology with building human resources and institutions.
- After completing its Climate Change Country Study and National Action Plan, South Africa should apply to participate in programmes, like the US Technology Co-operation Frameworks project, as one avenue to technology transfer.
- South Africa and its allies should develop specific, constructive negotiating positions regarding support for institutional AIJ capacity, as well as for the human capacity and technology transfer components of project development.

### *Identify the significant local benefits and impacts of the proposed project and propose plans to mitigate any negative local impacts*

In addition to identifying possible benefits and impacts, proposals must describe plans to mitigate any negative impacts. Project proponents should be aware that the South African AIJ programmes reserves the right to reject projects deemed to have significant negative local impacts. Monitoring plans should include mechanisms for assessing local impacts of the project, including stakeholder consultations.

### *South African AIJ programme actions*

- The programme should develop mechanisms, consistent with other South African policies, to facilitate input from relevant local stakeholders throughout project design and implementation.
- The programme should track the implementation and effectiveness of measures to mitigate negative impacts of projects.

### *In the long run, address the issue of sharing the economic benefits of the project's greenhouse gas abatement*

Because there is no crediting during the pilot phase, the economic benefits to investors from access to less expensive emissions reduction projects are limited. In the long run, however, as a crediting system is negotiated and credits have monetary value, South Africa will expect a fair share of any benefits associated with projects. Project proposals extending beyond the pilot phase should indicate the benefits to both parties of the project.

### *South African AIJ programme actions*

- If projects are considered under an international emissions crediting system, such as JI or the CDM, the South African AIJ programme will need to identify the investor's avoided cost of emissions reductions in their home country in order to negotiate South Africa's fair share of the project's economic benefits.
- Given that investors will be reluctant to share this information, the AIJ programme should work with the investor country governments and through international negotiations to establish transparent mechanisms that ensure developing countries receive a fair share of benefits.

### *Institutional structure and process*

South Africa should integrate AIJ into policy frameworks for energy, environmental, foreign investment and development. The AIJ programme need not be a new agency or separate policy infrastructure, but rather should draw on existing resources within and outside of government, with a co-ordinator managing the operations of the programme.

### *The AIJ Working Group*

- The AIJ Working Group should initiate AIJ policy development and make recommendations to the NCCC and DEAT on all AIJ policy issues.

- The AIJ Working Group, the NCCC and the DEAT should ensure that AIJ policy recognises and provides input to other environmental, natural resource and energy policy processes.
- In the capacity of initiating policy development, as well as setting the direction for planning and operation of the programme, adequate stakeholder representation and responsiveness in the AIJ Working Group is important. The NCCC as a whole serves an important advisory body for stakeholder input on climate change policy, and the AIJ Working Group must provide the same for AIJ and JI issues.

### *AIJ planning*

The AIJ Working Group should develop Terms of Reference for the planning functions (eg establishing proposal guidelines and evaluation procedures) and contract consultants to carry them out. The AIJ Working Group would review the consultants' work, and submit the results to the NCCC and DEAT as appropriate.

### *AIJ Co-ordinator*

The AIJ Working Group, in consultation with the NCCC and DEAT, should draw up terms of reference for an AIJ Co-ordinator to perform the day-to-day functions of the AIJ programme. This co-ordinator should be contracted directly to the DEAT, but report also to the NCCC.

### *Evaluation process*

- The AIJ Co-ordinator should be available to respond to inquiries from project proponents regarding the appropriateness of project concepts for the AIJ programme.
- Proposals should be submitted for evaluation to the AIJ Working Group through the AIJ Co-ordinator
- The AIJ Working Group should develop a technical reference group of experts willing and able to review AIJ proposals for the environmental and social impacts, but not their financial viability (which is up to the project developers). This group could include other members of the NCCC.
- Since South Africa's AIJ criteria will cover a range of technical, social and economic issues, the AIJ Working Group should invite experts in the project type (housing, public transport, industrial energy efficiency) to evaluate the project proposal within the local context.

### *Funding the AIJ programme*

The NCCC should recommend co-operation with other host countries to negotiate for fulfilment of the Kyoto commitments for the Clean Development Mechanism (CDM). The AIJ Working Group and NCCC should collaborate with other African countries to analyse the options for allocating funds from the CDM to defray administrative expenses under Article 12.8 of the Kyoto Protocol, and develop joint negotiating positions.

## Conclusion

South Africa has a window of opportunity to learn from its own and other countries' experience with the pilot phase so far, and to play an active role in shaping the post-2000 emissions crediting regimes. There are sufficiently large potential benefits and risks from AIJ and the new clean development mechanism to warrant a well-organised institutional approach of co-ordinated governmental and non-governmental activities. The recommendations presented here can lay the groundwork for an effective, transparent, and flexible AIJ programme. Experience from this programme will be a crucial input to South Africa's future positions on emissions trading and broader climate change policy.

## ACKNOWLEDGEMENTS

- The funders of the project: the South African Human Sciences Research Council programme on Global Change and Social Transformation, Eskom, and the US-South Africa Binational Commission, through funding from the US Agency for International Development, managed by the US Information Service.
- Rest Kanju, for his assistance in organising the workshops and preparing reports, and for being consistently cheerful.
- Theresa Williams and Elaine Hendricks, for patience and perseverance in typing.
- Joe Bryan, for editing assistance.
- Debbie Matthews, for logistical support.
- The Minerals and Energy Policy Centre, for hosting the second workshop.
- Amy Spalding-Fecher, for lots of help and support.
- The workshop participants, for their input to the process.

## ABBREVIATIONS

AIJ WG	Activities Implemented Jointly Working Group
AIJ	Activities Implemented Jointly
CBO	Community-Based Organisation
CDM	Clean Development Mechanism
CO <sub>2</sub>	Carbon Dioxide
CONNAPP	Consultative National Environmental Policy Process
COP	Conference of the Parties (to the UNFCCC)
CTO	Certifiable Tradable Offset
DEAT	Department of Environmental Affairs and Tourism
DME	Department of Minerals and Energy
EDRC	Energy and Development Research Centre
EIA	Environmental Impact Assessment
G-77 & China	Group of 77 and China
GEAR	Growth Employment and Redistribution
GEF	Global Environment Facility
GHG	Greenhouse Gas
IPCC	Intergovernmental Panel on Climate Change
JI	Joint Implementation
JIRC	Joint Implementation Registration Centre
MOP	Meeting of the Parties
MOU	Memorandum of Understanding
NCCC	National Committee on Climate Change
NGO	Non-Governmental Organisation
OCIC	Costa Rica (Joint Implementation) Office on Oficina Costaricense de Implementacion Conjunta
ODA	Official Development Assistance
RDP	Reconstruction and Development Program
SADC	Southern African Development Community
UNFCCC	United Nations Framework Convention on Climate Change
USAID	United States Agency for International Development
USJI	United States Initiative on Joint Implementation

---

# 1. Introduction

---

## 1.1 Activities implemented jointly

"Activities implemented jointly" is the name given to projects or policies undertaken collaboratively among countries to mitigate the threat of global climate change. Projects can be implemented in a variety of sectors: housing, industry, commercial, transport, forestry, solid waste and agriculture.

The term "activities implemented jointly" derives from the term "joint implementation," which was drawn from the text of the United Nations Framework Convention on Climate Change (UNFCCC). Article 4.2 of the UNFCCC allows signatories to "implement ... policies and measures *jointly*" with other signatories to reduce emissions of greenhouse gases:

**Article 4.2 of the UN Framework Convention on Climate Change:**  
...The developed country Parties and other Parties included in Annex I commit themselves specifically as provided for in the following:

(a)...Each of these Parties shall adopt national policies and take corresponding measures on the mitigation of climate change...

These Parties may implement such policies and measures *jointly* with other Parties and may assist other Parties in contributing to the achievement of the objective of the Convention...

Negotiators began referring to the mechanism as "joint implementation," or JI, and interpreted the phrase to mean that the investing party could get credit against its emission reduction obligations from a project undertaken in a "host country," which was usually assumed to be a developing country or country with an economy in transition to a market economy.

### 1.1.1 Economic basis

Economists offered their analysis of JI based on principles of environmental economics that suggest costs of abating pollution can be minimised by taking advantage of the least cost abatement opportunities first. If indeed the marginal cost of abatement was lower in a host country than an investor country, then there should be economic gains from reducing emissions in the host country rather than the investor country (see Figure 1). Greenhouse gases mix in the atmosphere, so emissions can be cut anywhere and have the same affect on climate change. This fact allows the international climate change regime to separate responsibility for reducing emissions, which rests on the industrialised countries, from the emissions reduction themselves, which under JI could happen anywhere.

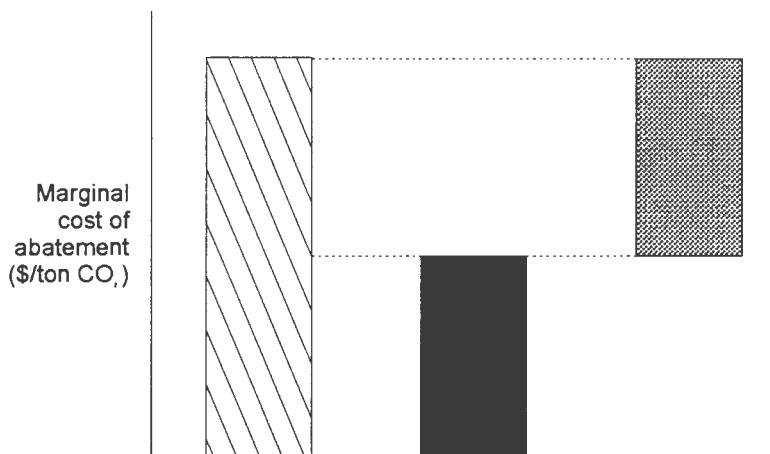


Figure 1. Reducing the marginal cost of abatement – a static view

Figure 2 shows the theoretical gains from JI between two hypothetical countries. The investor country must reduce its emissions from the left axis to the right axis. The width of the graph represents the total target reductions for the investor country. The cost to the investor country, if it were forced to meet its target exclusively by reducing emissions domestically, is reflected in the area under its marginal cost of abatement curve A-B-D.

The cost of emissions reductions in the host country, which has no emissions reduction target, is reflected in area under its marginal cost of abatement curve C-B-E. Note that, for the investor country, emissions reductions increase moving from the left to the right, while for the host country emissions reductions increase moving from the right to the left. The overall cost of the meeting the investor country's target could be minimised by reducing emissions in the investor country from point 0 up to the point H, and in the host country from the H to point T, the target. The total cost of reducing emissions up to the target under JI is therefore the area under A-B-C, so the triangle C-B-D represents the potential monetary savings from JI. The investor and host countries could split the savings through bilateral negotiation, international agreement or market price for JI credits.

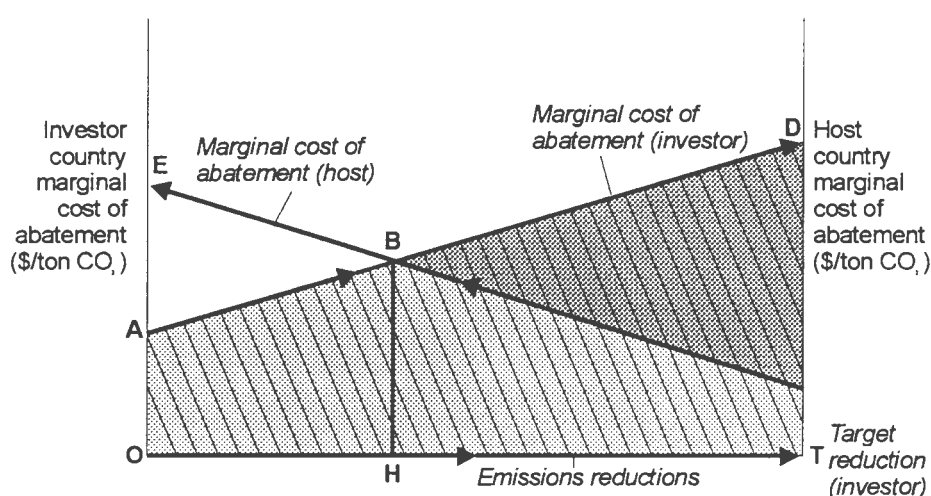


Figure 2. Reducing the cost of emissions abatement through JI – a dynamic view

Industrialised countries with commitments to reduce emissions recognised in JI a way to cut costs by earning credits in countries with less expensive emissions reduction opportunities. The World Bank estimated that international carbon emission reduction regulations requiring nations to make all emissions reductions within their own borders could cost \$250 billion a year by 2010. The Bank calculated that achieving the same emission reductions through global offset trading could cost only \$80 billion a year (World Bank 1996).

### 1.1.2 A pilot phase

Many countries were uncomfortable with allowing credits under JI before the mechanism had been adequately tested, and others had serious doubts about the global equity and justice of the JI concept overall. At their first session in Berlin, the Conference of the Parties to the Convention negotiated a compromise, and established a pilot phase for "activities implemented jointly" which would allow co-operative efforts among countries to reduce greenhouse gas emissions. Significantly, no credits for emissions reductions were to be allowed during the AIJ pilot phase. The Parties agreed to evaluate the pilot phase and its rules no later than 2000.

## CONFERENCE OF THE PARTIES

First session

Berlin, 28 March - 7 April 1995

Decision 5/CP.1

### Activities implemented jointly under the pilot phase

The Conference of the Parties:

... Noting that the largest share of historical and current global emissions of greenhouse gases has originated in developed countries, that per capita emissions in developing countries are still relatively low and that the share of global emissions originating in developing countries will grow to meet their social and development needs,...

Recognising that ...

Activities implemented jointly under the Convention are supplemental, and should only be treated as a subsidiary means of achieving the objective of the Convention,

Activities implemented jointly in no way modify the commitments of each Party under the Convention,

Decides:

- (a) To establish a pilot phase for activities implemented jointly amongst Annex I Parties and, on a voluntary basis, with non-Annex I Parties that so request;
- (b) That activities implemented jointly should be compatible with and supportive of national environment and development priorities and strategies, contribute to cost-effectiveness in achieving global benefits and could be conducted in a comprehensive manner covering all relevant sources, sinks and reservoirs of greenhouse gases;
- (c) That all activities implemented jointly under this pilot phase require prior acceptance, approval or endorsement by the Governments of the Parties participating in these activities;
- (d) That activities implemented jointly should bring about real, measurable and long-term environmental benefits related to the mitigation of climate change that would not have occurred in the absence of such activities;
- (e) That the financing of activities implemented jointly shall be additional to the financial obligations of the Parties... as well as to current official development assistance;
- (f) That no credits shall accrue to any Party as a result of greenhouse gas emissions reduced or sequestered during the pilot phase from activities implemented jointly.

## 1.2 Research objectives

### 1.2.1 Goal

The EDRC AIJ Policy Research Project has sought to facilitate South Africa's efforts to develop policy on AIJ and evaluate potential projects.

### 1.2.2 Objectives

The objectives of the AIJ Policy Research Project are to support South African stakeholders in their efforts to understand the risks and opportunities of AIJ, and to develop strategies to manage them. Specifically, the project aims to do the following:

- Recommend AIJ policies and criteria for project selection to the National Committee on Climate Change.

- Recommend institutional processes and structures to support the recommended policies.
- Enhance the capacity of the AIJ Working Group and other stakeholders to engage in AIJ policy debates.
- Contribute to the NCCC's evaluation of submitted AIJ project proposals.
- Provide analysis of lessons learned by other countries active in AIJ, and by AIJ investors and project developers.

Figure 3 illustrates how the project sought to meet its objectives by soliciting input from, and providing information to, South African stakeholders, government departments and committees and the international research and policy community.

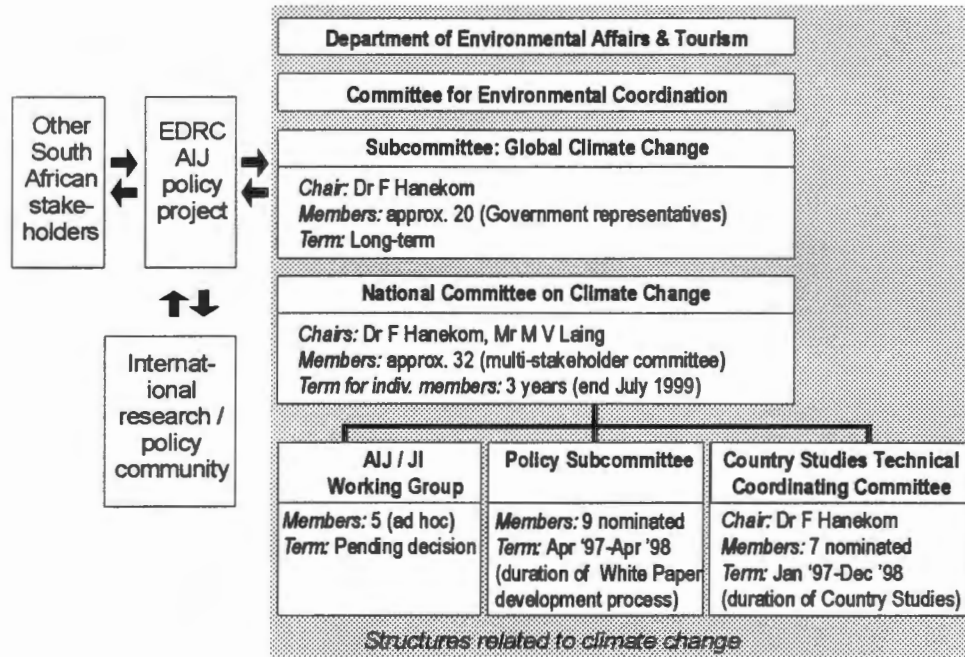


Figure 3. Institutional context for AIJ policy research project

## 1.3 Research methodology

### 1.3.1 Genesis of the project

The AIJ research project was conceptualised in 1995 in discussions between Jessica Hirst, a postgraduate student in the Energy and Resources Group at the University of California at Berkeley, and Anton Eberhard and Clive van Horen of the Energy and Development Research Centre at the University of Cape Town. They recognised that while climate change and AIJ would become significant issues for South Africa, there was little capacity or even awareness around the issue. Some of the reasons for the EDRC's interest included:

- **Vulnerability.** South Africa is vulnerable to the damaging impacts of climate change, which could include extreme and unstable weather patterns. For example, areas like the Transvaal could receive increased amounts of rain, leading to flooding, while others, like the Karoo, could experience a longer dry season leading to increased desertification (IPCC 1997).
- **Investor interest.** There is growing interest from the private sector in industrialised countries in investing in local projects on AIJ. South African parties in all sectors may be approached regarding participation in AIJ projects, and hence may wish to develop strategies based on a greater understanding of the issues involved. For example, NGOs could take the initiative to develop AIJ projects in line with the Reconstruction and Development Programme (RDP).

- **International involvement.** Many countries are expecting South Africa to assume a leading role in the implementation of AIJ in Africa. Affected parties may wish to participate in the development of South Africa's position on AIJ in international negotiations.

Ms Hirst had worked on the United States Initiative on Joint Implementation and had become concerned with how difficult it was for host countries to get access to resources to build their own capacity around AIJ policy. Hirst and Van Horen developed a proposal for an AIJ policy research project that would involve South African stakeholders developing a knowledge base around AIJ, analysing case studies, and considering policy strategies. They circulated the proposal to a broad range of funders in South Africa, the United States and Norway. The South African Human Sciences Research Council programme on Global Change and Social Transformation, Eskom and the US-South Africa Binational Commission, through funding from the US Agency for International Development, agreed to support the project.

### 1.3.2 Approach

This research brings together analysis of issues raised by national and international AIJ policy debates with the experience of other countries and investors in formulating AIJ policy and criteria. (see Figure 4). Two stakeholder workshops, with extensive discussions of AIJ experience in other countries and potential projects in South Africa, played an important role in the development of these AIJ policy recommendations. Climate change policy stakeholders participated in the workshops, including members of South Africa's National Climate Change Committee, AIJ project developers from business and non-government organisations and interested researchers and members of civil society. The workshops aimed to provoke creative thinking on how to link concern for global climate change with projects that support South African objectives for energy, environment and sustainable economic development.

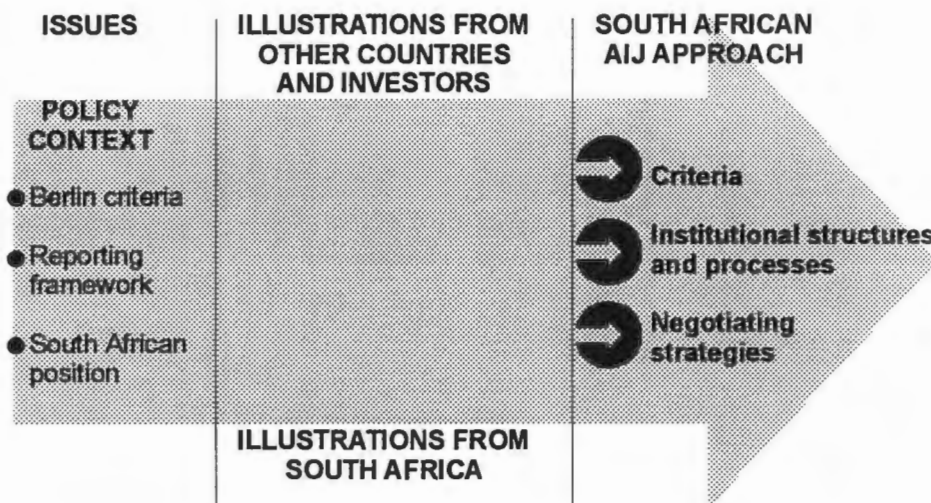


Figure 4. Policy research project approach

#### 1.3.2.1 Initial workshop

The initial workshop, held on 5 November 1997 in Cape Town at EDRC, presented the international and national policy context, illustrations from other developing countries involved in AIJ and from investors and project developers. Workshop participants discussed the AIJ pilot phase criteria established at the first Conference of the Parties in Berlin (the "Berlin Criteria"), as well as South Africa's current position on AIJ. The workshop also solicited input on priorities for AIJ project selection criteria and institutions, and regarding parameters for analysing the case studies.

### **1.3.2.2 Issues**

The EDRC researchers synthesised the input made at the first workshop into a list of key issues to address at the second workshop. The research team prepared a worksheet for each issue that included the definition of the issue, illustrations from the experience of other countries, illustrations from proposed South Africa AIJ projects, and questions for discussion. The chapter of this report on issues and criteria follows directly from the workshop format.

### **1.3.2.3 Illustrations from South Africa**

The illustrations of potential South African AIJ projects, drawn from actual proposals under development, were designed to clarify the practical aspects of the issues in the South Africa context and to facilitate discussion on how to manage the risks and opportunities from AIJ projects. In consultation with the South African AIJ Working Group, a sub-committee of the National Committee on Climate Change, EDRC selected case studies in transport, industrial energy efficiency, residential energy efficiency and small-scale renewable energy.

### **1.3.2.4 Second workshop**

The second workshop, held on 24 November 1997, at the Minerals and Energy Policy Centre in Johannesburg, included presentations of the South Africa case studies by the project developers. Workshop participants discussed the illustration presented in the worksheets, criteria for project selection and possible institutional structures (that is, institutions responsible and the process of evaluation).

## **1.3.3 Why this approach?**

Stakeholder consultation is an integral component of developing policy in post-apartheid South Africa. The South African government demonstrated that it would not make climate change policy decisions without due consideration; it delayed ratification of the Framework Convention on Climate Change for three years pending stakeholder consultations and analysis of the implications of ratification.

## **1.3.4 Methodology assessment**

### **1.3.4.1 Addressing the "information vacuum"**

The workshops began to address the "information vacuum" lamented by African AIJ stakeholders, and to move AIJ discussion from the abstract to the practical (Maya and Gupta 1996). As South Africa's experience with the ratification of the UNFCCC demonstrated, building capacity to develop policy around complex issues is challenging. Non-government organisations in particular have suffered from a lack of adequate resources to build capacity around climate change, or even to understand why it is a relevant issue. Longer-term efforts are needed to build the capacity of civil society and the private sector to engage in the policy development process and to develop successful AIJ projects.

### **1.3.4.2 Encouraging broader stakeholder participation**

Although the NCCC was established as a forum for stakeholder input and interaction, the EDRC research project found that some key stakeholder groups lacked the capacity to participate effectively. Non-government organisations, provincial government, and small business have been scarcely represented, due to lack of human and financial resources. Some stakeholders reported that NCCC was not taking the steps needed to facilitate meaningful participation by stakeholders lacking the resources to develop capacity independently. Lack of attention to participation and local institutional capacity was found to be the main cause of failure for World Bank projects, which share some foreign-funded "development" qualities with AIJ projects (Zazueta 1995). The two NGO members of the NCCC were both leaving the committee to work on other issues as the EDRC project began, creating difficulties because no replacements had been identified.

### ***1.3.4.3 Contributing to transparency and legitimacy***

The project approach has contributed to the transparent, legitimate AIJ policy development and project evaluation process. For AIJ or JI to attract investment in sustainable development, carbon credits must have value, which in turn means that host country acceptance must have enduring validity. At least one USJI project accepted outside of a national host country JI programme has already had its acceptance challenged, and other projects accepted by an ad-hoc process may experience similar difficulties when the process changes. Institutional capacity, as would be created in a national programme or policy framework, will reduce these risks.

---

## 2. Policy context

---

### 2.1 International policy context: the Kyoto Protocol

The Kyoto Protocol is a legally binding instrument to the United Nations Framework Convention on Climate Change (UNFCCC). It was adopted at the third session of the Conference of the Parties (COP) to the Convention in Kyoto, Japan, on 10 December 1997 (Conference of the Parties 1997). The Protocol was negotiated pursuant to the Berlin Mandate, adopted at the first session of the COP, which called for a legally binding instrument to further the Convention's ultimate objective, to prevent catastrophic human-induced climate change (Conference of the Parties 1995). The Appendix contains a timeline of major events in the evolution of AIJ, "The Road from Rio to Kyoto" (*Joint Implementation Quarterly* 1997).

#### 2.1.1 Commitments

Article 10 of the Protocol declares that all Parties shall:

- maintain inventories of anthropogenic greenhouse gas (GHG) emissions by sources and removal by sinks;
  - formulate and implement plans to mitigate and adapt to climate change
  - promote technology transfer;
  - collect data on climatic changes and impacts;
  - co-operate to strengthen human and institutional capacity and facilitate public awareness; and
  - communicate progress to the UNFCCC secretariat.
- (Conference of the Parties 1997)

##### 2.1.1.1 *Developing country participation*

The Protocol reaffirms the common but differentiated responsibilities of the Parties, but does not introduce any new commitments for developing countries. The language that would have provided a "voluntary opt-in" for developing countries to commit to their own emission targets and timetables, Article 10 in the draft Protocol, was removed during the final session at the insistence of the Group of 77 and China.<sup>1</sup> The South African delegation was disappointed that the language removed, as they thought developing countries should be allowed to make voluntary commitments to reduce emissions. They were also concerned that the exclusion of Article 10 would hinder US ratification of the Protocol (Weather Bureau, DEAT, 1998).

The "voluntary opt-in" language was meant largely to assure the US Congress of meaningful participation by developing countries, a condition for ratification imposed by the US Senate. The removal of the language throws US Senate ratification into further uncertainty (US Climate Action Network, 1997).

Annie Petsonk, International Counsel for the Environmental Defense Fund, pointed out that a clause adopted at the last moment provides another way for developing nations to voluntarily join the Protocol through a simple amendment to the list of participants (US Climate Action Network 1997).

##### 2.1.1.2 *Emissions Trading and AIJ/JI*

Decision 5/CP.1 of the first meeting of the COP established the pilot phase of AIJ and laid out its ground rules (Conference of the Parties 1995). The Kyoto Protocol updated those decisions by adopting language on emissions trading and joint implementation (Conference of the Parties 1997). The US Climate Action Network's "Citizen Update" of 19 December 1997 contained the following summary of the agreements:

---

1. The negotiating bloc consisting of the developing countries and China.

The US succeeded – just barely – in convincing other nations to accept the principle of international trading of emission reduction credits. Detailed rules for just how such a trading system will work were not set in Kyoto; this will be a major agenda item for the fourth meeting of the Conference of the Parties, in Buenos Aires, Argentina, next November. Article 16 bis allows emissions trading "supplemental to domestic actions" and limited to those countries taking on binding emissions limits, which at this stage are the industrialised countries and countries with economies in transition to market economies.

The "joint implementation" idea of allowing emissions credits for investments in developing countries that have not yet taken on binding commitments was converted into a "Clean Development Mechanism." This provides a clearinghouse through which countries or companies can make investments in sustainable development projects in developing countries in return for emission credits which can be used to comply with their obligations. Use of this mechanism, which will be supervised by the FCCC, will only start after further review and establishment of verification procedures, but the Protocol allows "certified emissions reductions" after 2000 to be used to achieve compliance in the 2008-2012 commitment period. Private sector and other non-government entities may participate in the Clean Development Mechanism and may acquire certified credits.

In summary, the Kyoto Protocol allows for emissions trading among countries with binding commitments, and for emissions reduction credits from developing countries after 2000.

#### ***2.1.1.3 General summary of developing countries and countries with economies in transition***

The Appendix contains a list of AIJ projects reported to the UNFCCC Secretariat. The list reveals that the majority of AIJ projects so far are in Central America and Eastern Europe; few are in Asian Countries (only Indonesia and Bhutan), and only one is in Africa (Burkina Faso). Other AIJ projects are in development, but have not yet been reported to the UNFCCC. A project must be accepted, approved or endorsed officially by the governments of the partner countries before the UNFCCC may list it as an AIJ project. Figure 5 shows the African countries with projects reported to the UNFCCC (Burkina Faso) and with other activities (projects, proposals, concepts, etc) related to AIJ. Most of the AIJ projects are in energy and forestry (reforestation, afforestation and preservation), with only one in agriculture and none in transport (CC:INFO/AIJ1997a).

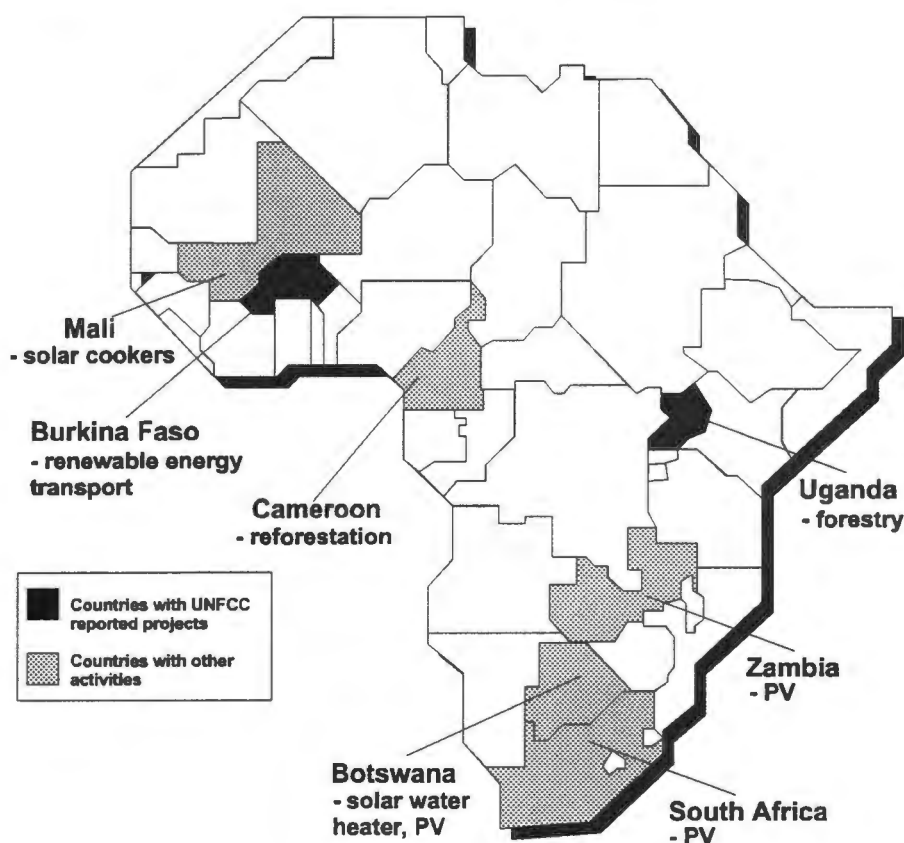


Figure 5. African countries with AIJ projects or other activities reported to the UNFCCC

## 2.2 African perspectives on AIJ

### 2.2.1 Summary of African positions and concerns on AIJ

African positions on AIJ and JI have evolved as participants in the debate build the knowledge base required to perform their own analyses of the potential risks and opportunities. The Southern Centre for Energy and Environment, based in Harare, Zimbabwe, published a series of papers whose titles demonstrate this evolution:

- 1994 Joint Implementation: Cautions and Options for the South
- 1995 AIJ: Africans in Jeopardy?
- 1995 Strategic Approach to Joint Implementation: Perspectives for Developing Countries.
- 1996 Joint Implementation: Carbon Colonies or Business Opportunities?

The series of publications traces the debate from its early stage of almost outright rejection in the name of fighting environmental imperialism, to reluctant acceptance, to recognition that AIJ and JI might offer Africa some beneficial opportunities, provided sufficient support to build capacity and a savvy business perspective.

African caution regarding AIJ and JI is grounded in the continent's experience with colonisation and continuing exploitation by the North. Peter Zhou of Botswana expressed the general fear that JI is a "Trojan horse", promoted by the North for its technological benefits, but actually a ploy to extend exploitation of cheap labour and natural resources (Maya & Gupta 1996). The authors of *Joint implementation: Carbon colonies or business opportunities*, a group of African climate change policy stakeholders, did not recommend rejecting AIJ, but rather called for action to raise awareness, develop legitimate policy and institutional frameworks, and build capacity to negotiate good deals (Maya & Gupta 1996). They said that African negotiators needed to develop the ability to assess the motives and

proposals of prospective AIJ investors and Northern governments in order to move from posturing to bargaining and “induced” to “restricted” acceptance.

South Africa was one of the developing countries interested in the possibility of JI early in the negotiations on the Framework Convention, although that position was taken under the previous government. Tanzania, in its prominent role as leader of the G-77 and China, has frequently voiced opposition and concern regarding the implications of JI. In the meetings leading up to the third session of the COP in Kyoto, Tanzania presented a G-77/China position that called for a Compensation Fund to minimise adverse impacts on developing countries of climate change and of activities to reduce emissions of greenhouse gases (Earth Negotiations Bulletin (ENB) 1997). The G-77 and China further proposed a Clean Development Fund to assist developing country Parties in complying with the Convention and pursuing sustainable development. Similarly, Zimbabwean delegates are often on record as championing equity and assistance on behalf of the African Group of countries (Earth Negotiations Bulletin (ENB) 1997).

### 2.2.2 Time line of major events

The series of African AIJ milestones described below does not represent a linear progression of increasing capacity to address AIJ issues. Rather, the workshops have exposed different groups around Africa to the AIJ concept. To date, a small group of Africans has developed sophisticated positions on AIJ, and these experts have been often invited to represent the “African” view on JI to the international community. Participants in the workshops below have remarked on the need for increased support to improve capacity in African governments, as well as in the African NGO and business communities to deal with JI issues and broaden the debate on JI.

#### *1994 Climate and Africa Project and the African Conference on Policy Options and Responses to Climate Change*

The Climate and Africa Project addressed joint implementation among other climate change issues and was co-ordinated by the Stockholm Environment Institute and the African Centre for Technology Studies. The Conference was held in Nairobi, Kenya in December 1994, and was co-sponsored by the United States Initiative on Joint Implementation (Silveira, 1994).

#### *1995 First Conference of the Parties, Berlin*

The Institute of Environmental Studies of the Free University, Amsterdam, and the Southern Centre for Energy and Environment of Harare, Zimbabwe held a joint workshop to discuss joint implementation (Maya and Gupta 1996).

#### *1995 Kadoma workshop and statement*

Held in Kadoma, Zimbabwe, by the Southern Centre for Energy and Environment and the Institute of Environment Studies, Amsterdam, the Kadoma workshop represented the culmination of a project that assessed JI possibilities in six African countries: Botswana, Kenya, South Africa, Tanzania, Zambia and Zimbabwe (Maya & Gupta 1996). The project was funded by the Netherlands Ministry of Housing, Spatial Planning and Environment. The workshop produced a statement on JI as well as a collaborative book entitled *Joint implementation: Carbon colonies or business opportunities? Weighing the odds in an information vacuum*. The book concludes that Africa’s ability to negotiate for and assess benefits from JI remains limited. The stakeholders consulted generally agreed that “Africa should take a strategic approach to JI and assess the benefits rather than lament the risks” (Maya and Gupta 1996).

#### *1995 South Africa signs Statement of Intent with the United States*

The South African and US energy ministers signed a bilateral statement of intent to co-operate in mitigating the threat of climate change and promoting sustainable development in December 1995, at the first meeting of the South Africa-US Binational Commission (US Department of Energy, 1995). South African NGOs have expressed concern that this statement was signed without adequate

consultation, prior to the formation of a national policy on climate change, and under significant pressure from the United States. Partly for these reasons, the statement does not refer by name to "activities implemented jointly", although the text describes co-operation on projects to reduce emissions of greenhouse gasses.

#### ***1996 Formation of South African National Committee on Climate Change***

The South African NCCC was formed in August 1996, under the direction of the Department of Environmental Affairs and Tourism (DEAT). The NCCC's first task was to generate support to ratify the UN Framework Conventional Climate Change (UNFCCC). The committee is an informal advisory body for the DEAT and so has no formal policy-making authority. NCCC members come from across the sectors: government, industry, NGOs and academia.

#### ***1997 South African Workshop on Country Studies and AIJ***

The US Country Studies Program held a workshop in March 1997 to launch the South African climate change Country Study. The US Initiative on JI held a one-day workshop to share information and discuss opportunities for AIJ in South Africa (Joint Implementation Quarterly 1997).

#### ***1997 Regional workshop on AIJ in Burkina Faso***

The World Bank's Global Climate Change Unit held a workshop in February 1997, as part of its AIJ Work Program. The Bank's AIJ Work Program and its pilot projects are being funded by the Government of Norway. The program is working with the Government of Burkina Faso to develop both a renewable energy project and an integrated travel demand management project.

#### ***1997 Cairo workshop***

The governments of Egypt, Germany, the Netherlands, Norway and the United States sponsored a regional workshop in AIJ in Cairo on 4-8 July 1997. Workshop participants from 25 countries called for additional support from donors and NGO's to build African capacity around AIJ (Fecher, R 1997). In lamenting the relatively small number of AIJ projects in Africa, participants proposed that the Kyoto meeting of the Parties "should establish parameters for a mutually beneficial incentive structure ... in order to facilitate investment flows to all interested Parties" (JIQ, September 1997).

#### ***1997 Kenya workshop***

This regional workshop on AIJ was convened in November 1997 by Climate Network Africa, a network of African NGOs. The participants, most of whom were from the private sector, concluded that Africa is not against AIJ, and that Africans should get more involved in the process right away in order to benefit from the learning experience in the pilot phase (Weather Bureau 1998).

## **2.3 AIJ in South Africa**

### **2.3.1 AIJ Working Group of the NCCC**

The AIJ Working Group of the NCCC was formed in 1996 as an interim body to consider AIJ policy questions and project proposals, disseminate information to the relevant government and private sector stakeholders, and to make recommendations to the NCCC. The DEAT, which chairs the NCCC, is responsible for authorising AIJ projects in co-ordination with other departments, such as Trade and Industry, and Minerals and Energy (DEAT 1996). The Working Group members all serve on a part-time basis, and include representatives from the Department of Environmental Affairs and Tourism's Weather Bureau, the Department of Minerals of Energy, Eskom and the Chamber of Mines. EDRC was also part of the group until September, 1997. The Appendix contains the terms of reference for the AIJ Working Group.

### **2.3.2 Approved Projects**

The AIJ Working Group recommended that the NCCC accept two proposed pilot projects in sustainable housing. The Netherlands and the United States are the

investor countries. In addition, the Working Group has approved in principle the project between Iscor and Hoogovens (Weather Bureau 1998).

### 2.3.3 South Africa's current AIJ position

The current position was developed by the political delegation to Berlin in 1995 in consultation with other African countries. The NCCC and DEAT adopted the position with minor modifications. The NCCC has emphasised that South Africa's official policy on AIJ will be developed as part of the climate change White Paper process. The current position is therefore subject to further modification, but is being used to guide decisions on the proposals already submitted to the AIJ Working Group (Weather Bureau 1998).

The position is consistent with the Berlin Criteria, with some additional conditions:<sup>2</sup>

- transparency (no other country's criteria mentions this);
- effective measurement of costs and benefits;
- capacity building to judge JI concept (no other country mentions this).
- (DEAT 1996
- the position notes that it applies only to AIJ, and that a position on JI with credits will be developed in due course;

---

<sup>2</sup> See the Appendix for the full text of the position.

---

## 3. AIJ investor objectives and motivations

---

### 3.1 Private sector interest in joint implementation

Corporate interest in JI and emissions trading arises primarily from the desire to minimise the cost of meeting climate change commitments. Firms that emit carbon dioxide, methane or other greenhouse gases may also recognise potential business opportunities in JI. JI could facilitate access to new markets, both geographically and for innovative technologies. In addition, some business executives may wish to contribute to sustainable development and build an image of a responsible global citizen, either as a personal commitment or as part of a corporate social responsibility programme (Trexler and Associates 1997).

Support for JI and emissions trading is rationalised through the economic principle of equalising the marginal cost of abating emissions of greenhouse gases across all sources (and sinks). This principle surmises that there are opportunities to reduce emissions in developing countries and countries with economies in transition that cost less per ton of gases than opportunities in their own facilities or countries. For example, Japan may find it extremely expensive to reduce emissions domestically, because its economy is already more energy-efficient than other industrialised countries.

### Investor concerns

Most of the challenges of financing AIJ projects are not unique to AIJ. The same obstacles challenge any overseas or "unconventional" project - that is, projects in renewable energy, energy efficiency, sustainable land use, forest conservation, etc. These projects are considered "unconventional" because they are not familiar to and accepted by mainstream sources of financing. Although supporters of AIJ had hoped AIJ status would help unconventional projects obtain financing, project developers have found that the uncertainties of the pilot phase sometimes pose obstacles to financing. The evolving nature of the pilot phase is at odds with financiers' demands for low risk and predictable returns. Usually, higher risk demands higher returns. AIJ projects, by focusing on longer-term and less easily monetised benefits, do not always produce the high short-term returns favoured by conventional investors. When the international community moves into a more mature phase of joint implementation or emissions trading, and establishes rules for measuring and monetising greenhouse gas emissions credits and debits, AIJ projects will start to realise financial advantages.

#### 3.1.1 Hurdles for overseas projects

Any project developed outside the home country faces challenges on the road to success, including the following:

##### 3.1.1.1 *Establishing a presence*

A company must make a significant investment in learning how to do business in another country before earning any new income. The company must become familiar with the country's business rules and customs, and build relationships with prospective partners, suppliers, customers and government officials. The start-up costs for establishing a presence can be a barrier to smaller firms, though a firm can reduce costs by working closely with in-country partners from the beginning (Abuehl, C 1997 and Shiflett, R 1997).

##### 3.1.1.2 *Uncertain or cumbersome regulations*

Although regulations can be unclear or cumbersome in any country, they are more likely to be in a state of flux in countries with quickly developing economies or frequently changing governments. For example, Guatemala passed environmental legislation several years ago, but did not develop the implementing regulatory infrastructure. Investors were left wondering what was required in an environmental impact assessment and to whom it should be

submitted. Guatemala's development of legislation for private power projects also took several years, during which time much project development had to be suspended due to the uncertain regulatory environment (US Export Council for Renewable Energy 1996).

### **3.1.1.3 Exchange risk**

Fluctuating currencies are more and more of an everyday hazard, as economies globalise. Loans or other expenses may be denominated in one currency, such as dollars, while project income is denominated in the local currency (Shiflett, R 1997). If the local currency loses value, the project developer will not be able to service the loan or pay suppliers.

### **3.1.1.4 Restricted repatriation of profits**

Some countries restrict the amount of local currency that can leave the country, or put an artificial cap on the rate of return an investor may recover. Such restrictions may make sense from the host country's perspective, but they pose problems for investors, whose returns are measured in their home countries (Shiflett, R 1997).

### **3.1.1.5 Bureaucratic delays**

Host countries' governments are often understaffed, and hence cannot make decisions quickly (Abuehl, C 1997 and Shiflett, R 1997). Large companies with many investment opportunities often require quick decisions in order to maximise their returns, and every day of delay imposes opportunity costs.

## **3.1.2 Additional hurdles for "unconventional" projects**

Projects that feature technologies or methods that deviate from business as usual, including most AIJ projects, confront additional barriers:

### **3.1.2.1 Difficulty of financing small projects**

The cost of analysing a project's financial viability varies little with project size, so banks and other sources of finance prefer larger projects because the costs of analysis are a smaller portion of the total project costs. A lawyer involved in financing AIJ projects graphically demonstrated the transaction cost problem by holding up two hardbound volumes of legal project financing documents. One was for a small financing of a few million dollars, the other for a large financing of \$100 million; both volumes were the same size (Johnson 1996). The bias against small projects works against most renewable energy and energy efficiency projects because they tend to be smaller than fossil fuel or large hydropower projects. For instance, multilateral development banks often will not consider projects smaller than 15 megawatts.

One illustration of this effect on AIJ projects is the financing search for a fuel-switch in the city of Decin, the Czech Republic (Centre for Clean Air Policy 1995). The International Finance Corporation (IFC) is the part of the World Bank which provides financing to private entities. The developers of the Decin project met with the Prague-based representative, and learned that the IFC was not a good source of financing for the following reasons (Center for Clean Air Policy 1995):

- All IFC projects must be at least 51% private sector owned. The Decin project was being developed as a joint stock company, but was to be virtually 100 per cent owned by the City of Decin.
- The amount of capital sought was too small. The IFC prefers projects that borrow over \$5 million.
- The required backing of the IFC loan by a Czech bank would make it too expensive. Before agreeing to back the loan, the Czech bank must conduct due diligence for the project. After adding on the Czech bank's percentage fee, charged to cover the costs of evaluating the project's financial viability, the project developer might have lost the advantage afforded by the IFC's lower-than-standard rates.

- The City of Decin would assume too much currency risk, since the loan would be denominated in US dollars.

### **3.1.2.2 Higher up-front capital costs, lower operating costs**

Relative to a conventional fossil-fuel project, the capital costs of a renewable energy project are concentrated in the earlier stages of the project, when the wind turbines or solar cells are purchased. A renewable energy project usually has much lower operating costs than a fossil-fuel project, because wind and sunshine are free fuels, while coal and fuel oil are not (Abuehl, C 1997 and Shiflett, R 1997).

### **3.1.2.3 Apparently lower returns**

The benefits of conventional projects, such as electric power, process heat or lumber, are highly valued in the market place, while the negative impacts, such as pollution or degraded lands, tend to be imposed on others and hence are external to project financial analyses. The additional benefits of unconventional projects, such as cleaner air, cleaner water and healthier natural resources, tend to be poorly valued in the market place. External costs and benefits form the basis of environmental economics, the study of which helps explain why unconventional projects appear to have a lower return on investment than conventional projects. (Abuehl, C 1997 and Shiflett, R 1997).

### **3.1.2.4 Financiers' preference for familiar technologies**

Financing institutions tend to be risk-averse, because they must ensure that the loans they make are repaid. They also have to minimise the amount of resources they invest in evaluating project risks. For both these reasons they tend to prefer familiar technologies and methods such as coal-fired boilers, internal combustion engines and rapid turnover of forestry stocks. Unconventional projects are less familiar, and hence perceived as more risky (Abuehl, C 1997).

### **3.1.2.5 Government reluctance to evaluate and oversee unconventional projects**

Some governments do not yet have the institutional capability to evaluate and administer unconventional projects. A Central American parastatal electric utility recently postponed development of several privately developed geothermal power projects, citing lack of experience with administering the technology (ICE, 1995). The energy sectors in many countries are currently undergoing restructuring, which in the short term dampens development activities. Restructuring, however, could present an opportunity to increase development of cleaner and more sustainable projects.

## **3.1.3 Hurdles specific to AIJ projects**

The hurdles specific to AIJ projects will be addressed in greater detail in subsequent chapters.

### **3.1.3.1 Higher transaction costs**

AIJ projects have additional transaction costs associated with interacting with home and host country governments, estimating emissions reductions, monitoring and following developments in international climate change policy. These costs will probably diminish as AIJ experience grows, but for the time being they are a serious consideration (Johnson, B 1997 and Abuehl, C 1997).

### **3.1.3.2 Uncertain legitimacy of host country acceptance**

During the pilot phase many host countries are responding to AIJ project proposals in an ad-hoc fashion, which engenders uncertainty for investors. Without a formal framework they cannot be sure that the acceptance will be honoured in future AIJ, JI or trading emissions systems (Bittle-Koenick, M 1997, Johnson, B 1997 and Shiflett, R 1997).

### **3.1.3.3 No crediting**

Crediting is the lynchpin of the Joint Implementation concept. A quantified credit for reducing emissions of greenhouse gases, if valued in the market place, could significantly affect investment decisions. Crediting is needed to give carbon offsets commercial monetary value (Abuehl, Chris 1997 and Bittle-Koenick, M 1997, Johnson, B 1997 and Shiflett, R 1997).

### 3.1.3.4 *Uncertain durability of emission reductions*

An AIJ investor's return has both financial and environmental (i.e. emissions reduction) components. If a project fails completely, or fails to reduce emissions as expected, the investor loses those environmental as well as financial returns (Bittle-Koenick, M 1997 and Shiflett, R 1997).

### 3.1.3.5 *Quantifiability of emission reductions*

Developing methods for measuring emissions reductions is one of the goals of the pilot phase and, as such, project developers must deal with uncertainty regarding the amount of emissions reduced. They must also grapple with changing requirements for monitoring and verification (Bittle-Koenick, M 1997 and Johnson, B 1997 and Shiflett, R 1997).

## 3.2 Investor experience in the pilot phase

The AIJ pilot phase has had mixed success in addressing the investor concerns mentioned above. Investors in several countries have found AIJ projects particularly complex and difficult to fund and implement. Examples from Costa Rica and a survey of US investors illustrate these ongoing issues.

### 3.2.1 Costa Rica

According to a case study by Alice Le Blanc (1997) of incentives for private sector investment in JI:

None of the four Costa Rican *renewable* energy projects has received help with project financing as a result of JI status. One of these projects is operational but did not obtain commercial financing; another is under construction but has not received construction financing.

Two of the *forestry* projects have received significant JI funding. One has received approximately \$900,000, which represents all of "Phase 1" funding, but which is less than one fifth of the total project scope. Most of the funding comes from an independent power producer in the United States in response to a requirement of a power purchase agreement to invest a fixed sum of money in carbon offsets. Another organisation donated the money for habitat protection...

Several private sector representatives said that they understand and support the concept of JI and hope it will some day provide value for environmentally beneficial projects. However, they said they are not interested in spending the money required to get official governmental approval for their projects. One individual said his firm would put terms in legal documents that assigned any possible future value of carbon credits to the partners in a deal, thus acknowledging that in the future carbon credits from JI projects may be recognised and have value. One sponsor of a USJI project said he had given up looking for investment funds and was trying to get grant money.

## 3.3 Investor objectives and motivations for the AIJ pilot phase

### 3.3.1 In the absence of credits, why is the private sector participating at all?

AIJ investors and project developers are investing during the pilot phase for different reasons than they would if certified credits were available. Studies have found that AIJ was not itself a primary driver for current AIJ pilot projects (Trexler, 1997). Project developers say they are participating in the pilot phase of AIJ for the following reasons:

- To comply with domestic regulatory requirements: Regulatory requirements in industrialised countries can provide incentives for AIJ investments. For example, the electric utility regulatory commission for the state of Oregon in

the United States recently gave a siting exemption for new power plant construction based on the evaluation of a plan for creating AIJ carbon offsets for the new plant's emissions (Carver, P and Trexler, M 1996).

- To influence climate change policy: Companies hope to build support for the JI concept and other market-based approaches to climate change mitigation, and to play a role in making the rules for a future JI or emissions trading system (Trexler and Associates 1997).
- To gain public recognition: Participants in AIJ projects have been invited to present their projects to high-level government officials and other stakeholder groups. Others have launched public relations efforts linked to the projects, such as Wisconsin Electric Power Company's contest for schoolchildren to visit their forest preservation project in Belize (Trexler and Associates 1997).
- To forestall mandatory regulations: Companies would prefer voluntary programmes to mandatory reduction targets. The emissions reduction registries in the Netherlands and the United States, however, show that in their first few years voluntary-reduction programmes have stimulated only a modest amount of investment (Trexler and Associates 1997).
- Deflect political pressure: Government officials in some countries have made public and private statements putting pressure on the private sector to take action (Trexler and Associates 1997).
- Gain access to new markets: The markets for AIJ are in many cases new both geographically and technologically. The wish to gain access to new markets is one of the few objectives common to the pilot phase and a mature system with crediting (Johnson, Brad 1997 and Shiflett, R 1997).

In light of these motivations, some private sector stakeholders have developed their own criteria for selecting AIJ investments. The International Utility Efficiency Partnership's investment criteria is one example (Shiflett 1997):

- Sustained long-term demand for the project's products - i.e. electricity, sustainable forestry products.
- Host country support for the AIJ concept and for facilitating AIJ project development. Support could include government assistance in obtaining proper permits, or expedited evaluations.
- A strong local partner, preferably one with a vested interest in the project's success.
- A large, quantifiable reduction in emissions.
- Partner and project able to meet lending requirements for interest coverage, pay-back period, rate of return, financial balance sheets and guarantees from other backers (i.e. government, power purchaser).

These criteria and perspectives are important to bear in mind as South Africa develops an AIJ programme. The section on analysis of issues and criteria will therefore refer to these investor perspectives.

---

## 4. Introduction to the case studies

---

This section introduces the four case studies from South Africa which were used in the analysis of AIJ issues and criteria for South Africa. A brief synopsis of the projects and participants is included here, while aspects of the projects which pertain to specific AIJ issues are included in the next chapter under each issue heading.

### 4.1 Housing for a sustainable SA: The Guguletu Eco-Homes proposal

#### 4.1.1 Project description

The project aims to reduce costs and pollution by designing and building homes to use energy more efficiently by means of passive solar design: orientation, size and position of windows, overhangs, ceilings, shade trees, etc.

The project will be implemented in Guguletu, a mostly black township on the Cape Flats, approximately 20 kilometres from central Cape Town. Guguletu has a population of approximately 129 500. Its housing stock consists of approximately 8 160 formal houses, 3 700 informal structures, several hundred worker hostels accommodating 7 300 people, and backyard shacks accommodating 3 500 people.

Temperatures in Guguletu drop below 5 degrees C (41 degrees F) about 35 nights annually, and summers are hot and dry. Guguletu is also buffeted by gale force "south easter" winds, which can damage poorly constructed houses. Residents currently heat their homes with kerosene, electricity and liquefied petroleum gas (LPG).

The homes in the project will be based on the "Eco-Home" design from PEER Africa. PEER pioneered this energy-cost-optimised design and implementation concept that builds upon work by the South African Department of Minerals and Energy, Eskom, CSIR, and Professor Dieter Holm. The Eco-Home fits into RDP housing efforts, giving people the option of using their RDP housing subsidy to build a home with passive solar and energy efficiency measures. Measures include ceiling and wall insulation, optimised solar orientation and room positioning, and behavioural training for residents. The project will help upgrade the design of up to 6 000 homes in Guguletu. (Community of Guguletu PEER Consultants, PC and International Institute for Energy Conservation 1997)

#### 4.1.2 Participants in the project

##### **SOUTH AFRICA:**

##### ***Community of Guguletu -***

The Community of Guguletu will be the primary South African partner, and has already organised community meetings to discuss the possibility of Eco-homes with local residents.

##### **UNITED STATES:**

##### ***PEER Consultants P.C***

PEER Consultants is an environmental engineering firm based in the United States. The focus of PEER's activities in South Africa is the provision of energy efficient, environmentally sustainable housing. PEER is a certified woman-owned, black-owned business.

##### ***International Institute for Energy Conservation (IIEC)***

IIEC is a world-wide non-profit organisation with offices in the United States, Thailand, Chile, the United Kingdom and South Africa. IIEC works to promote sustainable energy policies and practices in developing countries and transitional economies.

### 4.1.3 Status of project development

The project proposal has been recommended for approval by the AIJ Working Group, and is being formally voted on at the NCCC at its January 1998 meeting. The USIJI is prepared to accept the project if the South African government accepts it and provides a letter indicating as much (Scholand, M. 1998).

## 4.2 Hot water for Lwandle

### 4.2.1 Project description

This project is part of a larger AIJ proposal on sustainable housing which has been submitted to the Dutch AIJ programme for support. The focus of the project is the thermal improvement of the worker hostels in Lwandle, as well as the provision of solar water-heating.

Lwandle is a predominantly black community in the Cape Flats region of the Western Cape, under the jurisdiction of the Helderburg municipality. The Lwandle hostels are government-owned housing. Although the hostels were originally built to house black male workers away from white urban areas, today they are an affordable housing opportunity as part of the national "Hostels to Homes" campaign.

The hostel residents currently heat water with paraffin, LPG and wood, all of which pose fire and health hazards. The project has been investigating options to upgrade energy services, including hot water. Studies found that the most cost-effective method was to use solar water-heaters, with gas in-line heaters as a back-up measure. The Lwandle community seeks to install solar water-heaters with non-electric back-up heaters for 371 shower units. Some of the showers are private, while others are in communal ablution facilities and would have "pay-as-you-use" meters to ensure fairness and cost recovery. The Lwandle hostel community has already raised R400 000 of the project cost. The initial investment in the solar/gas hot water system, however, was higher than for electric in-line heaters, prompting the community to seek AIJ financing (Netherlands Energy Research Foundation, IIEC and ABT Consulting Engineers 1997).

### 4.2.2 Participants in the project

#### **SOUTH AFRICA:**

##### ***Lwandle Hostels to Homes project -***

Lwandle Hostels to Homes project is part of the national "Hostels to Homes" campaign to upgrade hostels into appropriate and safe housing (Scholand, M. 1998).

##### ***Energy Transformations***

Energy Transformations is a Cape Town-based energy consultancy that was invited to advise the Lwandle community on energy issues. The firm has conducted analysis of options to provide hot water for the hostels, and has presented Lwandle's case to the Helderburg municipality (Thorne, S 1997)

##### ***IIEC-Africa***

IIEC-Africa is co-ordinating development of a larger proposal on sustainable housing in South Africa, of which the Lwandle project is one component (Thorne, S 1997)

#### **EUROPE:**

##### ***IIEC-Europe***

IIEC-Europe will liaise with Dutch partner organisations and the Dutch Ministry for Development Co-operation (DGIS) (Netherlands Energy Research Foundation, IIEC and ABT Consulting Engineers 1997).

### ***Netherlands Energy Research Foundation (ECN), Petten, Netherlands***

The Netherlands Energy Research Foundation (ECN) is the leading energy research centre in the Netherlands, with programmes on fossil fuels, nuclear energy, radiation technology policy studies, energy engineering and renewable energy. Under the renewable energy unit, the group for the Built Environment is active in research, development and consultancy in the field of renewable energy, energy efficiency technologies for buildings and urban areas and co-operation with developing countries (Scholand, M. 1998).

### ***Dutch manufacturers***

Dutch water-meter and non-electrical water-heater manufacturers will provide "pay-as-you-use" meters for the communal showers, non-electrical back-up water-heaters and advice on retrofitting. They may also enter into joint ventures for local manufacturing (AIJ Project in South Africa 1997).

#### **4.2.3 Status of project development**

The Lwandle community and Energy Transformations presented their findings to the Helderburg City Council in November 1997. The Dutch AIJ programme will take its decision on the project in late January 1998 (Scholand, M. 1998).

## **4.3 Clean Commute trip reduction programme**

### **4.3.1 Project description**

Kyalami Park is a business park in Midrand, South Africa, with over 2000 employees. Like many areas, Kyalami Park lacks the infrastructure to ensure pedestrian safety (such as crosswalks and pedestrian overpasses). Commuters currently endure worsening congestion, dangerous street-crossings, unreliable public transport, and parking shortages. For these reasons, commuters currently rely mainly on private vehicles, often with a single occupant, and on "kombi" taxis, an industry plagued by turf violence. The project aims to improve public awareness of costs and pollution impact of transport alternatives. Clean Commute will implement an employer-based trip reduction program, which consists of a customised set of actions (IIEC Transport Program 1997). The menu of actions includes:

#### **1. Alternatives to single occupant vehicle**

- carpool programmes;
- vanpool programmes;
- bicycle/pedestrian facilities;
- public transport service improvements.

#### **2. Incentives and disincentives**

- preferential high occupancy vehicles treatments, such as preferential parking;
- public transport and ride sharing incentives;
- parking supply and pricing management.

#### **3. Alternative work arrangements**

- variable work hours;
- telecommuting.
- (IIEC Transport Program 1997).

#### **4.3.2 Participants**

##### **SOUTH AFRICA:**

##### ***Midrand Transport Association (MIDTRAN)***

MIDTRAN is a non-government organisation established by the Midrand Local Council to assist in designing transport options for organisations in the Midrand area, and to support solutions to taxi-related violence (IIEC Transport Program 1997).

***International Institute for Energy Conservation (IIEC) and IIEC-Africa***

IIEC is a US-registered non-profit organisation dedicated to promoting sustainable energy use. IIEC has branch offices in Chile, Thailand, the United Kingdom and South Africa (Scholand, M. 1998).

***Kyalami Park employers and commuters***

- Businesses and employees in the Kyalami Business Park will select and implement Clean Commute measures, with the assistance and support of MIDTRAN and IIEC (IIEC Transport Program 1997).

***UNITED STATES:***

IIEC is seeking to identify additional project partners from the United States, possibly an employer that has implemented its own trip reduction programme.

**4.3.3 Status of project development**

IIEC recently won a grant from the USIJI to develop Clean Commute into a full-fledged AIJ project proposal (Scholand, M. 1998). IIEC and MIDTRAN have already conducted a survey on Kyalami Business Park, which indicated that the business park environment had high levels of traffic congestion and associated emissions. They have also been working with a geographic information system to analyse commuting patterns in the area (IIEC Transport Program 1997).

**4.4 Steel processing efficiency****4.4.1 Project description**

The project consists of a co-operative study of potential measures to reduce emissions of greenhouse gases through improving the process efficiency of steel manufacturing. The participants will investigate possible measures at four sites of Iscor Ltd: Vanderbiglpark, Newcastle, Pretoria and Vereeniging. Iscor and Hoogovens may decide to implement one or more of the identified measures, but they are not obliged to do so (Iscor and Hoogovens, 1997).

The project study will take following steps:

- audit existing GHG emissions;
- prepare a baseline report;
- make recommendations for "good housekeeping" and training
- investigate viable and cost effective opportunities to reduce emissions of internally generated gases and the usage of waste combustible gases
- determine operational requirements and estimate costs and benefits of measures;
- prepare a report which will include a financing plan for each selected option, and a training programme to improve plant operation efficiency through operator behaviour.
- (Iscor and Hoogovens, 1997)

Preliminary calculations estimate the project could save up to 880,000 tons of carbon dioxide annually, and up to 42 million Rand (Snyman, 1997).

**4.4.2 Participants*****SOUTH AFRICA:******Iscor Ltd***

Iscor privatised in 1989, and is listed on the Johannesburg Stock Exchange (Scholand, M. 1998).

***NETHERLANDS:******Hoogovens Staal BV***

Hoogovens is a Dutch steel products manufacturer. Hoogovens has entered into an agreement with the Ministry of Economic Affairs of the Netherlands to promote energy efficiency, and has agreed to reduce CO<sub>2</sub> emissions at its plant in

Ijmuiden. Hoogovens Technical Service Europe is an affiliate which will be implementing the feasibility study (Iscor & Hoogovens, 1997).

#### 4.4.3 Status of project development

Hoogovens and Iscor have signed a letter of intent and an agreement to execute a study of possible measures to reduce CO<sub>2</sub> emissions from Iscor's metallurgical facilities (Iscor & Hoogovens, 1997). The Minister for Development Co-operation of the Netherlands and the Department of Environmental Affairs and Tourism of South Africa are negotiating a Memorandum of Understanding (MOU), which is required to release funds for the study (Weather Bureau 1998). The DEAT would sign the MOU, but as the funds would be considered foreign assistance, the Department of Finance, and perhaps even the Deputy President's Office, would have to be informed and approve of the project (Scholand, M. 1998).

---

## 5. Developing criteria

---

### 5.1 Mission and Objectives

The mission and objectives of the programme will guide the criteria, process and institutional structures used to evaluate AIJ projects. It is important to have wide agreement on the mission and objectives, therefore, before moving to criteria for evaluation.

#### 5.1.1 Mission

A survey of countries' reports on AIJ to the UNFCCC revealed broadly similar mission statements for a range of countries. Investor and host countries differ in that investor AIJ programmes emphasise possible global benefits and the social, economic and environmental impacts associated with AIJ or future JI. Host countries' programmes, by contrast, place more weight on determining possible national and local benefits and risks associated with AIJ or future JI (Ministry of Housing, Spatial Planning and the Environment (VROM) 1997 & CC: INFO/AIJ 1997 & Climate Network Africa (CAN) 1995 & Figueres, C, Hambleton, A, Lay, L, MacDicken, K, Petricone, S, Swisher, J, 1996 & Instituto Nacional de Ecologica 1997 & Maya and Gupta 1996).

Participants in the South African Workshops generally agreed with the synthesis mission statement presented by EDRC, but most participants did not state an strong opinion.

#### **Recommendation:**

The mission of the South African AIJ programme should be to evaluate the local and global impacts, both positive and negative, of AIJ projects in order to determine conditions for equitable and effective AIJ. In addition, the programme should facilitate foreign investment in projects that support South Africa's development objective while reducing emissions of greenhouse gases.

#### 5.1.2 Objectives

The four objectives of national AIJ activities most commonly cited by Parties to the UNCFCC (CC: INFO/AIJ 1997) are to:

- contribute to establishing methodologies for effectively measuring GHG emission reductions or sequestration;
- promote technology transfer;
- formulate strategies to encourage private sector participation;
- maximise participation and learning.

During the workshop discussion, EDRC facilitators asked if participants thought that these objectives should be prioritised or were all equally important. The workshop discussion noted that, although the ultimate objective of AIJ was to reduce emissions, the primary objective of the *pilot phase* was to evaluate whether AIJ or JI would be an effective and equitable *mechanism* for reducing emissions. To evaluate this requires broad participation and many projects.

#### **Recommendation:**

The objectives of the South African AIJ programme should be to:

- maximise participation and learning during the pilot phase;
- promote technology transfer and capacity building;
- formulate strategies to encourage participation by the private sector and non-government and community based organisations;
- contribute to methodologies for effectively measuring greenhouse gas emissions and sequestration.

The AIJ programme must also facilitate South Africa's participation in the review of AIJ and in the development of guidelines and rules for the Clean Development Mechanism.

## 5.2 The basis for developing criteria

### 5.2.1 What are criteria meant to do?

AIJ criteria are the standards by which a national AIJ programme evaluates proposed projects. They should not only identify important issues and hurdles for projects; they should indicate what is required for a project to be acceptable with regard to that issue. Since all AIJ projects will be undertaken within the Framework Convention on Climate Change, all AIJ criteria must be consistent with current international policy. Individual countries must establish how to interpret international criteria, as well as decide whether to add additional criteria or conditions for project acceptance. An illustration from Costa Rica's programme is presented in Box 1.

The criteria established at the first session of the Conference of the Parties in 1995 in Berlin provided a starting point for evaluating AIJ projects. The Kyoto Protocol has since created some uncertainty for AIJ in developing countries by not mentioning AIJ by name anywhere in the document, and by establishing a "Clean Development Mechanism" which would allow developing countries to generate certified emission reduction credits with investments from industrialised countries (Conference of the Parties 1997). Since certified emission reduction credits will not be valid until after 2000, and since specific procedures for the Clean Development Mechanism will not be decided until subsequent negotiations, this report presumes that the Berlin Criteria will continue to guide AIJ projects in the interim.

**Box 1. Costa Rica used the following guidelines (Figueres, C, Hambleton, A, Lay, L, MacDicken, K, Petricone, S, Swisher, J, 1997) to develop their AIJ project criteria:**

*Minimise red tape:* as few criteria as possible, and highest possible levels of consistency with existing sets of criteria in established national programmes of industrialised nations.

*Meet current international standards:* criteria should meet current pilot phase standards set by the Conference of the Parties to the UNFCCC.

*Represent Costa Rica's particular interests (country-driven):* criteria should address Costa Rican development priorities as distinct from the considerations of the investor country or of other developing nations.

*Address GHG abatement benefits sharing among participants:* criteria should address quantification and monetary valuation of the GHG abatement, including the sharing of the monetary surplus between the buyers and the sellers.

### 5.2.2 Purpose of South African criteria

The central challenge of developing national AIJ criteria is to strike an appropriate balance between strong guidance, so that projects are acceptable to the host country, and the flexibility to allow for innovation and broad experience. Investor interest is likely to be highest in countries with relatively flexible requirements. Thus, while stringent national criteria may increase the comfort level of host countries, they may dampen interest from project developers and investors.

#### 5.2.2.1 Input from the workshops

During the workshop discussions, participants agreed that South Africa AIJ criteria should:

- meet current international standards;
- represent national interests;
- address technical greenhouse gas issues;
- minimise institutional demands;
- address distribution of project benefits;
- ensure consistency with specific national policies;

- promote cost effectiveness.

Participants also felt that the overall AIJ programme objective of maximising learning and participation should be kept in mind when developing criteria.

**Recommendation:**

South African AIJ stakeholders should bear in mind the need for flexibility and encouraging learning in the pilot phase when interpreting or adding to the criteria for AIJ project selection. The South African AIJ programme should distinguish both criteria for the pilot phase and plans for future involvement with the CDM and crediting.

### 5.3 AIJ issue analysis and criteria

This section of the report addresses major issues raised by local stakeholders and by EDRC's research on international experience with AIJ. For each issue we present relevant international decisions and background followed by illustrations of how other countries have attempted to tackle the issues. We highlight South Africa's experience with examples from proposed AIJ projects as well as discussion and input from stakeholder workshops. Each issue section concludes with EDRC's analysis and recommendations. Not all issues need become criteria. Some issues can be effectively addressed through appropriate institutional arrangements, information dissemination, or other AIJ programme-related activities.

#### 5.3.1 Compatible with and supportive of national priorities

***Berlin Criteria***

... activities implemented jointly should be compatible with and supportive of national environment and development priorities and strategies ...

***South Africa's position on AIJ***

AIJ projects can be considered only if they contribute to national development programmes, and need to be synchronised with such programmes.

Throughout the negotiations on Activities Implemented Jointly, representatives from developing countries have expressed concern that AIJ not develop into a mechanism for outside investors or donors to control the course of development. Developing countries can use this first of the Berlin criteria to ensure that AIJ projects are consistent with national priorities. However, the criterion presumes that each country has clearly articulated these priorities in a way that is accessible to potential AIJ project developers. A related question is whether national guidelines should restrict projects to particular sectors which are a high priority for development (such as investment in energy infrastructure or community forestry).

Many countries do not have clearly articulated development plans, making it difficult for an AIJ project developer to assess the project's compatibility with national priorities. South Africa has an advantage in that the Reconstruction and Development Programme (RDP) and the Growth, Employment and Redistribution (GEAR) macroeconomic policy have been widely publicised expressions of national goals and priorities.

##### 5.3.1.1 Experience from other countries

***Clarifying national development goals***

Several countries have used their AIJ programme documents to lay out national priorities, while others are setting up mechanisms to direct AIJ investment to key sustainable development goals.

*Costa Rica* has taken both of these approaches by explaining its sustainable development priorities within the AIJ criteria document and by establishing a

greenhouse gas-related fund to manage large-scale AIJ projects. The AIJ programme documents (CC:INFO/AIJ 1997) specifically mention the following areas:

- Biodiversity conservation, reforestation and forest conservation, sustainable land use, watershed protection, air and water pollution reduction, reduction of fossil fuel consumption, increased utilisation of renewable resources, enhanced energy efficiency and support for Costa Rica's efforts to fulfil its obligations under the UNFCCC, Biological Diversity and Agenda 21.
- Enhancement of income opportunities and quality of life for the Costa Rican civil society.
- A minimised or acceptably low level of adverse consequences of the project through site selection, scale adjustment, timing, attenuation, and mitigating measures.
- Local capacity building such as the transfer and adaptation of know-how and high quality technologies.

In addition, Costa Rica established a "national specific fund" to serve as "an efficient mechanism to direct and manage AIJ foreign investments" (Le Blanc 1997). The fund aims to facilitate financing and execution of national-scope AIJ projects of strategic value to the country and to reduce transaction costs (see Figure 6).

*Poland* includes excerpts from its national environmental law in its AIJ program materials, and places a high priority on "economic use of natural resources" and "utilisation of modern production processes" in AIJ projects (Galon-Kozakiewicz 1997).

In *Zimbabwe*, the Southern Centre for Energy and Environment suggested that Zimbabwe should require AIJ projects to contribute to value-added products in the secondary and tertiary levels of production, such as secondary processing of mineral products, rather than focus on primary industries such as forestry and agriculture (Maya and Gupta 1996).

Finally, *Mexico* requires that AIJ energy projects promote private investment in Mexico's energy sector, thereby supporting national privatisation efforts (Instituto Nacional de Ecologia 1997).

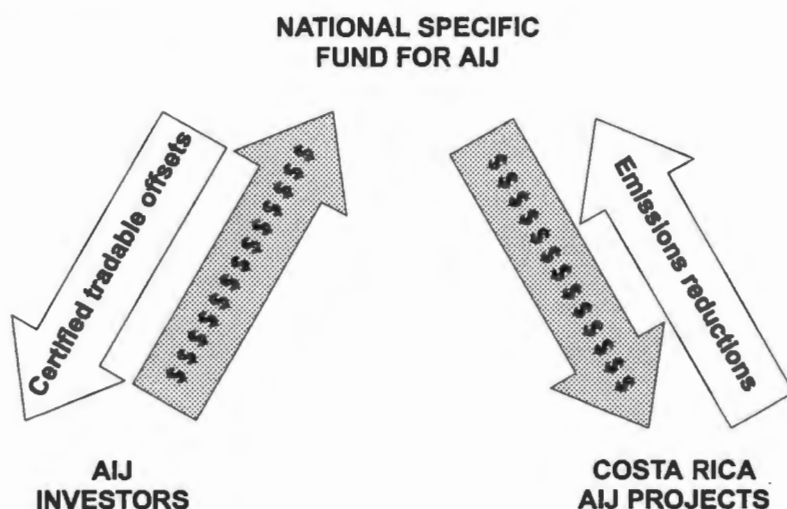


Figure 6. Costa Rican national AIJ fund

#### *Sectoral priorities or restrictions*

Countries can channel AIJ investment toward priority sectors and away from areas they wish to keep off-limits by including these preferences in their AIJ

project selection criteria, or by providing the information, as an addendum to the criteria, to potential developers.

*Poland* calls for projects that directly reduce the generation of greenhouse gases in the production of goods and services (rather than the sequestration of those gases) by (i) improving the efficiency of raw materials use or improving composition thereof (by changing fuels, for example), (ii) reducing the GHG content of wastes through chemical, biological, or physical treatment processes or recycling, as well as projects that remove greenhouse gases from the atmosphere (such as carbon sequestration by tree-planting). Poland also lists specific priority project areas, such as reducing low stack emissions and improving heating efficiency (Galon-Kozakiewicz 1997).

*Mexico* lists separate criteria for energy projects and natural resource projects. Forestry projects must provide evidence of defined property rights and the community's long term commitment to the project. Energy projects must promote private investment in Mexico's energy sector (Instituto Nacional de Ecologia 1997).

#### 5.3.1.2 *Illustration from South Africa*

The "Housing for a healthier future in South Africa" proposal, a four part project to improve thermal performance and provide hot water has made specific reference to South African priorities. The document includes excerpts from the RDP, the Bill of Rights, the Draft White Paper on Energy, and the Housing White Paper. The excerpts include references to improving thermal performance, promoting energy-efficient appliances, and installing solar hot water-heaters, all of which are components of the proposed project (Netherlands Energy Research Foundation et al 1997).

#### 5.3.1.3 *Input from workshops*

Workshop participants discussed how to ensure that AIJ projects recognise and support national development priorities. One government representative said that AIJ projects should support human resource capacity building and social advancement for disadvantaged communities. Industry representatives emphasised that AIJ projects would in any case need to comply with national policies on environment, energy, and water, among other areas; the AIJ programme should not "reinvent" these priorities. Workshop participants agreed that the South African AIJ programme would have to distinguish between priorities that are essential for project acceptance and those which *increase the likelihood of project acceptance*, but are not requirements.

#### 5.3.1.4 *Analysis and recommendations*

Host countries can encourage quality AIJ projects that are supportive of national priorities by taking an active approach to criteria development that addresses national priorities and investor concerns. Countries can channel AIJ investment toward priority sectors either by including preferences in AIJ project selection criteria or by providing information to potential project developers as an addendum to the criteria.

As with most AIJ policy issues, there are benefits and costs associated with specifying desirable and undesirable project characteristics. The more specific and mandatory the specifications, the more confidence the host country may have that AIJ projects will not stray from the national development path. However, detailed and numerous requirements can dampen investor interest.

South Africa needs to take a strategic approach that allows for a variety of projects but also asks whether they fit with national objectives. The Climate Change Policy Discussion Document and the Climate Change Country Study, due out in 1998, will both be valuable inputs to setting priorities. Of the activities identified in the Country Study, some will be more appropriate for AIJ than others (see discussion under "Cost-effectiveness vs cherry-picking").

**Recommendations:**

- The South African AIJ programme should announce preferred types of AIJ projects in its programme information materials. General priority areas should be selected from the RDP, such as low-income housing, public transport, or a healthy living environment.
- The mitigation options identified within the Climate Change Country Study and National Action Plan should be separated into the following categories for the purpose of securing funding for implementation:
  - projects or interventions which South Africa will implement and fund internally;
  - projects which South Africa will implement but fund with international aid;
  - projects which are feasible and desirable under current AIJ;
  - projects which are feasible and desirable under future JI or a CDM framework with certified crediting.

**5.3.2 Compatibility with local priorities**

The Berlin Criteria require compatibility with *national* priorities, but make no mention of *local* priorities. National governments are the designated Parties to the Convention, so UNFCCC insistence on supporting local priorities could be viewed as an infringement on national sovereignty. Most AIJ programmes in industrialised countries (eg US, Germany, Canada, Japan, Australia, Netherlands, Norway, Sweden) make no mention of local priorities, although the Netherlands requires "clear beneficial local environment benefits" and others consider general economic, environmental and social impacts (eg Japan, Australia, US) (CC:INFO/AIJ 1997, Ministry of Housing, Spatial Planning and Environment 1997).

**5.3.2.1 Experience from other countries**

Some developing countries explicitly require some type of acceptance by local communities:

*Costa Rica's* proposal guidelines ask whether the local community will participate in and benefit from AIJ projects. In addition, Costa Rica's Certifiable, Tradable Offsets (CTO) materials emphasise the need to respect local landholders (Le Blanc 1997).

*Indonesia* has already experienced conflicts between national and local priorities. Indonesia's first AIJ forestry project, a reduced impact logging project in East Kalimantan, is consistent with official national priorities, but potentially counter to local priorities. The Indonesian forestry sector is characterised by a few major companies with close ties to high-level government officials. Indonesian and international NGOs report that the large companies have used their market and political power to virtually eliminate competition from small, locally owned forest products enterprises (Fried 1997). Although the USIJI consulted the USAID mission in Jakarta as part of evaluating the project proposal, the mission lacked the resources to conduct any consultations with local groups (Hesen 1997). Indonesian and international environmentalists have argued that the Indonesian and US approval of the project is illegitimate because neither government adequately consulted local people. They argue that, without participation by local people, the projects may continue destructive forestry practices, excessive emissions of greenhouse gases, and oppression of local people.

*Mexico* requires that forestry projects provide evidence of the Mexican partners' defined property rights for land used by AIJ projects and the community's long-term commitment to the project. One of Mexico's first AIJ projects, in fact, supports a community forestry scheme in Chiapas (Instituto Nacional de Ecología 1997, JI Online 1997). Mexico's requirement to prove property rights and for community commitment to forestry projects may require extra effort by project developers, but may result in lower risk, more durable greenhouse gas offsets. In addition, the requirement should help protect Mexican communities if indeed they have legal rights to the land.

### 5.3.2.2 *Illustrations from South Africa*

PEER Consultants built two demonstration Eco-Homes in Guguletu. The homes were open for community inspection and PEER sponsored a community forum to help residents understand the application requirements for housing subsidies. In April 1997 the local council and the Community Development Corporation of Guguletu endorsed developing Eco-Homes as an AIJ project (Community of Gugulethu et al 1997).

The Lwandle community itself initiated the water-heating project and retained Energy Transformations to analyse cost-effective options (Netherlands Energy Research Foundation et al 1997).

### 5.3.2.3 *Input from workshops*

Several workshop participants emphasised that local consultation and participation were already requirements for many investment and development activities in South Africa.

### 5.3.2.4 *Analysis and recommendations*

Assessing local support presents procedural and political challenges. Positions would vary among stakeholders, and it may be difficult to assemble a credible local reference group for a proposed project. It is also possible that some local communities might be reluctant to express their opposition. Transaction costs will increase with the level of consultation required. The investor country government is not likely to understand the local context well enough to judge whether a proposed project is appropriate, and does not have the authority to make such judgements. Therefore, the host country must take responsibility for assessing compatibility within the local context.

#### *Recommendations:*

- AIJ project proponents should demonstrate that they have consulted with relevant local stakeholders who would be affected by the project.
- The evaluators of AIJ proposals (eg, the AIJ Working Group or a technical reference group) should also consider how to incorporate local input or confirm that relevant local stakeholders have been consulted.
- AIJ project monitoring should include the impacts of the project on the local community.

## 5.3.3 Cost-effectiveness vs "cherry picking"

### *Berlin Criteria*

... activities implemented jointly should contribute to cost-effectiveness in achieving global benefits.

### *South Africa's position on AIJ*

AIJ projects must contribute to the achievement of the objective of the UNFCCC by aiming to bring about, in a cost-effective manner ... environmental benefits related to the mitigation of climate change

The introduction of this paper reviewed the economic arguments for the global cost-effectiveness of joint implementation and emissions trading, based on taking advantage of the least expensive emissions reductions first. Industrialised countries are interested in South Africa primarily because there are opportunities to invest in energy, transport and other improvements and reduce emissions of greenhouse gases at lower marginal cost per ton of carbon than at home. Some opportunities are even profitable, so that investors can make money while reducing emissions; these are the "no-regrets" measures as shown in Figure 7. From an economic perspective, rational AIJ investors would seek the lowest cost-per-ton projects first.

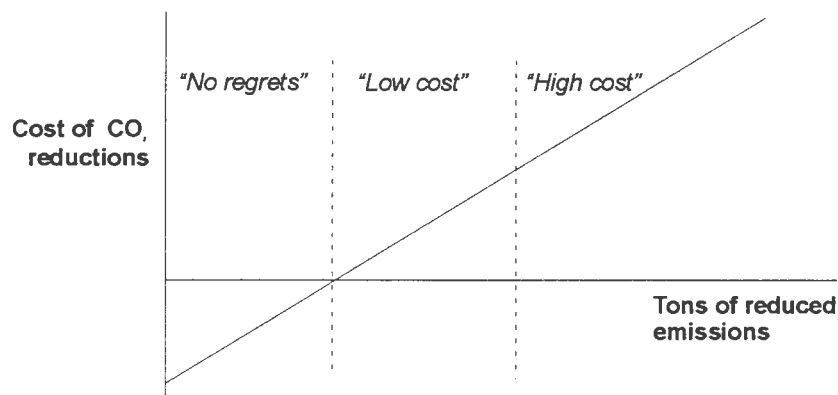


Figure 7. "No-regrets" and cost of emissions reductions

As the emitter of 95% of all greenhouse gases from SADC countries, and as a middle-income country, South Africa may face its own emissions reduction obligations in the future. With this in mind, several stakeholders have expressed concern that AIJ investors may "pick off all the cherries", investing in the lowest cost mitigation measures, leaving only the higher cost measures for the time when South Africa is required to undertake its own mitigation actions.

#### 5.3.3.1 Experience from other countries

Countries are divided on whether they wish to prevent "no-regrets" AIJ projects. Poland, for example, even encouraged some "no-regrets" projects, while Kenyan stakeholders were much more concerned.

**Poland's** criteria clearly state that JI projects should directly or indirectly result in cost-effective realisation of environmental goals. Where JI projects involve the installation of new capital equipment, they should also lead to a net reduction (or at least no increase) in the facility's costs of meeting current and anticipated environmental standards. The preference for projects that involve, for example, process changes and pollution reduction technologies, could easily result in a large number of "no-regrets" projects even though it would deter inexpensive forestry projects (Galon-Kozakiewicz 1997).

Interviews conducted in *Kenya* as part of the Kadoma research project revealed a preference among AIJ stakeholders to limit AIJ to projects that Kenya could not implement independently. The project cites carbon sequestration as an area Kenya could implement and so should not be available for AIJ (Climate Network Africa 1995). While this is not exactly the same as ruling out "no-regrets" projects, the position would prevent "cherry-picking" in forestry projects.

#### 5.3.3.2 Illustration from South Africa

One could argue that the thermal performance measures in the Guguletu AIJ project, the Lwandle solar hot water-heaters, and the steel processing improvements are all low-cost measures that South Africa should keep in reserve to meet its own future obligations. In the Guguletu case, IIEC has argued that the reductions are a one-time opportunity that, if not seized now, will be lost because the houses will already be built without the Eco-Home features.

Research from the Energy and Development Research Centre on providing energy efficiency to the urban poor shows that interventions such as the installation of energy-efficient lighting, improving the thermal efficiency of housing and switching from paraffin to other fuels have net economic benefits. EDRC has found this to be true even when the avoided health and environmental costs of energy use are ignored. While these options are "no-regrets" in an economic sense, the window of opportunity to implement them (for example, through the mass housing programme) is closing and South Africa has not yet invested in these options on a large scale (Fecher 1998; Simmonds & Clark 1998).

### 5.3.3.3 *Input from workshops*

Participants from industry suggested that South Africa should promote the most expensive projects for AIJ financing, and keep low-cost and the "no-regrets" opportunities in reserve for implementation by South Africa. Another option would be for South Africa to charge a premium for cheap CO<sub>2</sub> reductions (in addition to the project costs) to fund (more expensive) future emission reductions. However, projects in South Africa must be less expensive than emissions reduction opportunities in investor countries as well as other host countries if there are to be any AIJ opportunities. An industry representative proposed allowing "cherry picking" projects such as solar water-heating to go forward under AIJ, but requiring transfer of patent or design rights so that South Africa could replicate the project independently. In this way AIJ could be used to leverage much greater benefits for South Africa.

One project developer was concerned that a restrictive "cherry picking" policy would postpone or prevent implementation of relatively low-cost projects that could provide significant benefits other than GHG reductions, to the detriment of those communities. These "lost opportunities" could not be recovered in the future. Some projects, such as RDP low-income housing would go forward without AIJ and without the benefits of energy-efficient design.

### 5.3.3.4 *Analysis and recommendations*

South Africa would limit potential JI opportunities by restricting AIJ to only high-cost projects when cheaper options are available. Since the pilot phase allows no credits, investors are seeking "no-regrets" and low-cost projects with enough non-AIJ returns to justify the investment. In the long run, South Africa could address the problem of "cherry picking" through several strategies:

- Charging an additional fee for the "lowest cost" emissions reductions. The fee would have to be negotiated so that the cost of emission reductions would still be lower in South Africa than in the investor country. However, since emission reductions from developing countries cannot be credited until 2000, project developers may be unwilling to pay any extra fees before that time.
- Requiring a transfer of technology and/or capacity so that South Africa could replicate the project independently.
- Negotiating to keep a higher share of "credits" from low- or negative-cost reductions than for higher cost reductions. South Africa could "bank" these recorded reductions for the future, subject to rules adopted by the Parties to the Kyoto Protocol. Keeping a higher share of reductions effectively raises the price-per-ton of the lower cost projects and may be perceived as less burdensome than a fee.

## 5.3.4 Government acceptance

### *Berlin Criterion*

That all activities implemented jointly under this pilot phase require prior acceptance, approval or endorsement by the Governments of the Parties participating in these activities.

### *Kyoto Protocol*

... voluntary participation approved by each Party involved. (Article 12.5 )

Governments often have not had evaluation procedures in place when the first AIJ projects seek official acceptance. In many cases a single ministry has produced a letter indicating general approval of the projects as a contribution to the AIJ pilot phase. As some project developers and governments have already discovered, an ad-hoc approach can create controversies of legitimacy if it does not evolve quickly into a coherent national programme. In addition, the high transaction costs associated with AIJ projects are largely due to the cost of dealing with unclear or cumbersome government procedures and developing very

specific proposals. These are strong reasons for South Africa to develop clear institutional structures, policies and procedures for AIJ.

**5.3.4.1 Experience from other countries**

Experience in the *Czech Republic* shows why proper government procedures and responsibility are necessary for AIJ projects. The Center for Clean Air Policy, a Washington-based non-government organisation, and the city of Decin, in the Czech Republic, collaborated to develop one of the first AIJ projects in the world, a fuel-switch from coal to natural gas for the city's district heating plant. The Center and Decin negotiated and signed agreements to develop the project and distribute the emissions reductions among the project participants (including three US electric utilities). At the time the Czech Republic had not established official procedures for evaluating proposed AIJ projects.

The project broke ground in 1995 amid great fanfare and was widely publicised as an AIJ success story. In 1996 the Czech national government was systematically reviewing its AIJ policy and withdrew approval for the Decin project on the grounds that local authorities had no right to sell or allocate national property (the emissions reductions). The Decin project finally received formal approval from the Czech government the next year, and the national Czech AIJ guidelines now state clearly that all applications must include a statement from both governments which are parties to the UNFCCC (Center for Clean Air Policy 1995, Bittle-Koenick 1997).

The *Netherlands* AIJ programme has a multi-stage approval process that allows for several reviews of project concepts as they are developed. Figure 8 illustrates the process for the steel processing efficiency project involving Iscor and Hoogovens. The Netherlands Development Agency reviews project concepts early on, and notifies the project developer within two weeks as to whether they should proceed in formulating a full proposal and preparing letters of intent between parties involved in the project. If the proposal is approved, the Netherlands Development Assistance Agency (NEDA) provides funds for a feasibility study. NEDA makes a final decision on the project only after the letters of intent are signed and feasibility studies are complete, (Ministry of Housing, Spatial Planning and Environment 1997).

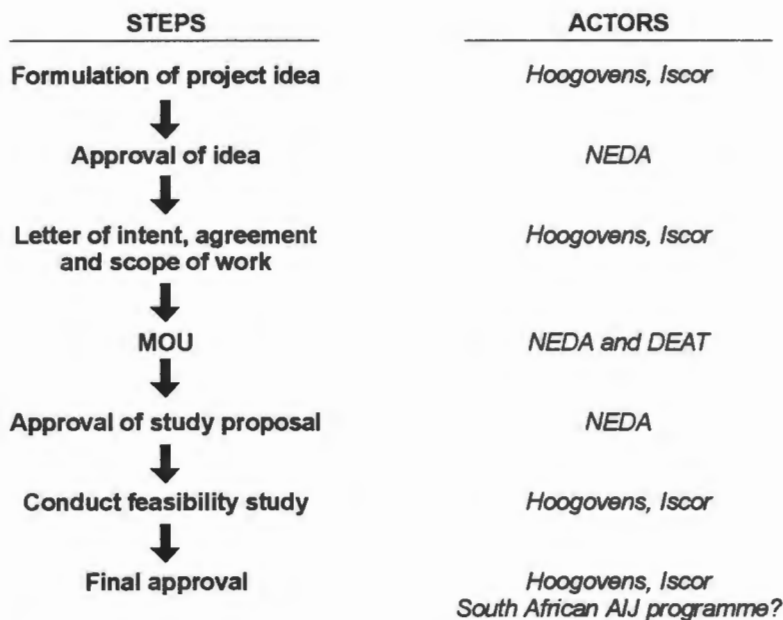


Figure 8. Netherlands AIJ approval process for steel project

By contrast, the *United States Initiative on Joint Implementation* does not require early discussion with developers and does not automatically provide funds for feasibility studies when it approves projects. In the first few groups of project proposals that were reviewed a project developer could submit full proposal to the USIJI without any prior communication with the USIJI Secretariat.

The USIJI Secretariat does convene groups of outside experts in energy and forestry to discuss each round of project proposals. These technical reference groups focus mainly on the greenhouse gas and AIJ-specific aspects of the project, rather than the economic viability.

Project developers have criticised USIJI for the significant expense of getting through the approval process. They have complained that the process is time-consuming and bureaucratic, even if the government approval at the end is critical (Trexler 1997; Le Blanc 1997).

One of the main objectives of *Costa Rica's* Certifiable Tradable Offsets (CTO) initiative and the establishment of national umbrella projects is to reduce project transaction costs. By purchasing CTOs, the investor can avoid both submitting a proposal and paying for the sometimes costly government evaluation and acceptance process. Developers can also reduce project risk with "umbrella" projects - national-scale projects which comprise many smaller sub-projects - that are insured against non-performance (Le Blanc 1997).

#### 5.3.4.2 *Illustration from South Africa*

The Netherlands Development Assistance Agency approved the concept of an AIJ project to improve steel process efficiency. Project developers included Hoogovens, a Dutch steel company, and Iscor, a South African Steel Company. Hoogovens and Iscor signed letters of intent in November 1997 to proceed with a feasibility study (Iscor and Hoogovens 1997). The Dutch AIJ process requires a Memorandum of Understanding between the Dutch and South African governments as a condition of releasing funds for the feasibility study. The Dutch AIJ office and the South African DEAT are currently negotiating the text of the memorandum (Kant 1997).

The NCCC was forced to adopt an ad-hoc process for evaluating AIJ projects because several proposals were submitted prior to the initiation of the Climate Change White Paper process. The AIJ Working Group received proposals that had also been submitted to the Dutch and US AIJ programmes. The members of the AIJ Working Group reviewed the proposals with the interim South African AIJ position as a guide. Members made comments and requested additional information from the project proponents, and eventually made recommendations to the full membership of the NCCC. A problem with this process is that Working Group members do not have systematic access to outside technical experts other than those consulted on a voluntary basis.

#### 5.3.4.3 *Input from the workshops*

Workshop participants, particularly the members of the AIJ Working Group, agreed that the current process was barely feasible even with the current small number of proposals, and that it needed to be rationalised to be sustainable. Participants noted that, while the Netherlands and the United States both have a reasonably clear process and identified contact people, South Africa has not had a clearly designated co-ordinator for the AIJ Working Group. This could lead to confusion for project developers and to proposals not going through the proper channels.

Some of the participants noted that the AIJ evaluation process must be clearly integrated within the larger policy context. For example, most AIJ projects would fall under the CONEPP procedures for assessing environmental impacts and obtaining community approval. In addition, the representative of the State President in the office of the State Law Advisor must approve any bilateral international agreement between countries.

Several of the workshop participants were in favour of a pre-screening step in the process, which would give the AIJ Working Group the opportunity to preview project concepts and provide quick feedback. This step should be designed to ensure that full project proposals are likely to meet South Africa's AIJ criteria before significant resources are devoted to project development.

On the issue of requiring a feasibility study to be submitted as part of a proposal, the discussion reflected the desire for a high level of detail, tempered by an understanding of the cost involved. Projects going through the Dutch AIJ programme receive funds to conduct feasibility studies as part of the process, but projects submitted to the US programme do not automatically receive such assistance. One of the project developers who has had experience with both the Dutch and US programmes suggested that proponents should be able to consult program staff on an informal basis regarding projects concepts.

The discussion of technical evaluation of project proposals again reflected the challenge of balancing the ideal situation – in which project developers and the AIJ Working Group would have access throughout the evaluation process to sector-specific technical expertise – with the real resource constraints of government and the Working Group. Industry participants suggested that sector-specific feasibility studies be left to the private parties and that the AIJ programme need only concern itself with evaluating the estimates of greenhouse gas emissions and reductions.

Workshop participants also felt that the technical evaluation should not be left exclusively in the hands of the investor countries' AIJ programmes, and indicated that South Africa needed to develop its own climate change technical expertise. Once again, a South African AIJ institution will have to balance the need to charge an application fee to fund independent evaluation with the recognition that each additional cost erects an additional barrier to submitting a proposal in South Africa. During the pilot phase, when credits have little or no monetary value, project developers will be even less likely to be willing to pay high fees for technical evaluations. Participants pointed out that since the pilot phase is meant to be a learning process, perhaps South Africa could get access to funds from international sources. An industry representative reminded participants that, in a mature joint implementation regime, the cost of certifying emission reductions should diminish and the procedure would become simply another line in a business plan, much like obtaining approval from the reserve bank for foreign exchange deals.

#### **5.3.4.4 Analysis and recommendations**

The recommended process for AIJ project evaluation and approval is presented in Figure 9. The institutional structure and responsibilities of the AIJ Working Group and AIJ Co-ordinator are outlined in the next chapter on "Institutions". In addition, the following specific recommendations are made on the approval process:

- Project developers are encouraged to contact the AIJ Co-ordinator early in the process of project development to check that it falls within the broad priorities for South Africa and to receive programme guidelines.
- Proposals should be submitted for evaluation to the AIJ Working Group through the AIJ Co-ordinator .
- Since South Africa's AIJ criteria will cover a range of technical, social and economic issues, the South African AIJ institution should invite experts in the project type (housing, public transport, industrial energy efficiency) to assess the project within the local context.
- The programme should also encourage AIJ proponents to consider AIJ issues when preparing environmental impact assessments, to avoid duplication of effort.

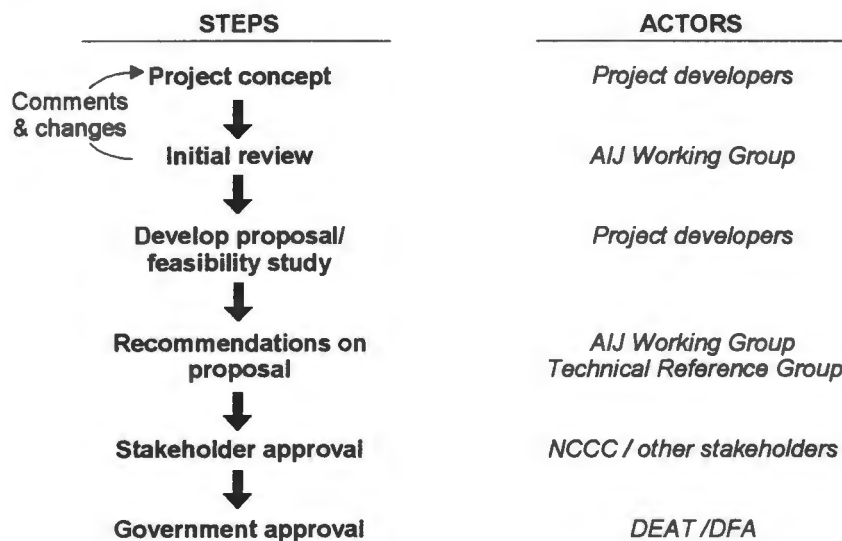


Figure 9. Proposed South African AIJ approval process

### 5.3.5 Emissions additionality

#### **Berlin criterion:**

That activities implemented jointly should bring real, measurable and long-term environmental benefits related to the mitigation of climate change *that would not have occurred in the absence of such activities*

#### **Kyoto Protocol**

[Projects must have] ... reductions in emissions that are additional to any that would occur in the absence of the certified activity...  
Article 12.5

#### **South Africa's position on AIJ**

AIJ projects must contribute to the achievement of the objective of the UNFCCC by aiming to bring about ... real, measurable and long-term environmental benefits related to the mitigation of climate change that would not have occurred in the absence of such activities.

Determining whether an activity is additional to what would have happened anyway is a complex exercise. AIJ project evaluators cannot say with certainty what would have happened in the absence of the AIJ intervention and are forced to make a reasonable guess. AIJ pilot programmes generally asked a project proponent to indicate the historical and current situation at the project site (the "historical baseline"), make a reasonable projection of what would happen without the AIJ intervention (the "reference case"), and compare estimated emissions from the reference case to those in the project case in order to estimate the project's emissions reduction.

#### **5.3.5.1 Illustrations from other countries**

Since the UNFCCC negotiations have not produced a specific, practical definition of the emission additionality requirement, countries have applied a variety of interpretations for pilot projects. In most cases project proponents must demonstrate, to the satisfaction of evaluators from host and investor countries, that the project will surmount barriers that would normally prevent the project's implementation.

For one commercial wind power project in *Costa Rica*, proponents argued that AIJ status moved the project more quickly through negotiations and permitting with the parastatal electric utility. They also suggested AIJ status would help the project gain financing. So far, however, financiers have not recognised any "bankable value" in the AIJ approval (Trexler and Associates 1997, Le Blanc 1997).

In *Belize*, a carbon sequestration project obtained private funding from US electricity utilities and support from the Nature Conservancy environmental organisation based on interest in demonstrating AIJ's viability (Trexler and Associates 1997). Presumably the electric utilities would have been less likely to fund such a project in the absence of AIJ.

In addition to the above examples, criteria and proposal guidelines for AIJ demonstrate how individual countries have tried to grapple with establishing emissions additionality:

The Czech Republic guidelines state that:

Evidence must be given that a significant reduction of emissions of greenhouse gases (at least 10%) per unit of the final production in comparison with the initial state (baseline) will occur through:

the replacement or modification of existing technology or possibly any of its parts;

the addition to the existing technology of "end of pipe" equipment (such as denitrification, waste gas incineration, trapping of volatile organic compounds) (Ministry of Environment of the Czech Republic 1997).

The World Bank and the government of Switzerland are assisting potential host countries in formulating National AIJ/JI Strategy Studies, which could include developing national emissions baselines. The study for the Czech Republic emissions and marginal abatement modelled "mild" and "fast" economic growth reference scenarios. The cost curves developed for the study could be used as an aid for evaluating whether a particular proposed project would reduce emissions beyond the reference case scenarios (Joint Implementation Quarterly, 1997b).

The United States AIJ technical evaluation process generally assumes that the project developer will assess the overall technical and economic feasibility of a project, and therefore concerns itself mainly with the greenhouse gas and specific AIJ aspects of proposed projects.

The US Initiative Joint Implementation distinguishes between *emissions* additionality and *project* additionality. Emissions additionality means that the emission reductions would not have taken place in the absence of the AIJ project. Project additionality asks project proponents to demonstrate that the project itself would not have occurred in the absence of the AIJ programme.

Given the lack of strong incentives to overcome the many obstacles to AIJ projects, it is hardly surprising that project developers complain about the additionality requirements of the pilot phase. Comments include the fact that "additionality gets in the way of projects; it is not clearly defined and hard to prove," and that "if a project is additional, it probably won't pass the business rationality test and our company won't have any reason to invest in it" (Trexler and Associates 1997).

#### 5.3.5.2 Illustrations from South Africa

Defining the appropriate baseline for the Hot Water for Lwandle project illustrates the problems with emissions additionality.

The *historical baseline* for heating water in the hostels in Lwandle would have to be calculated based on the fuels that have been used over a representative time period prior to the initiation of the AIJ project (see Figure 10). Residents of the Lwandle hostels have been using paraffin and gas stoves to heat water for about the last ten years. Monthly data on paraffin and gas use, if available, would

indicate seasonal changes in demand. Otherwise, some adjustments would be necessary.

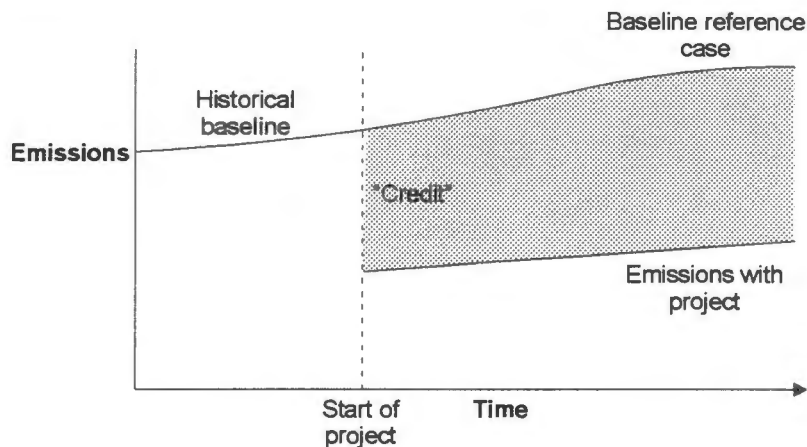


Figure 10. Baselines and additionality

The *baseline reference case* is what would likely occur in the absence of an AIJ project. Many of the hostels being upgraded in the national Hostels to Homes project are installing electrical in-line heaters because they have the lowest up-front cost of the available options. Assuming this practice continues, a static reference case could be calculated using the number of heaters, the estimated annual electricity consumption of each heater and the estimated emissions per unit of electricity.

A *dynamic baseline* would have to consider possible changes in hot water consumption in the hostels, as well as possible changes in the emissions per unit of electricity produced. Consumption might rise if more people start using the ablution facilities, if each person uses more hot water because the electricity supply is more convenient, or people start washing clothes in hot water. Emissions per unit of electricity might also fall in the future if Eskom introduces new clean coal technology.

#### 5.3.5.3 *Input from the workshops*

Participants discussed the challenges of coping with baselines and project additionality in the context of the Lwandle hostels project. The Lwandle project developer explained that the prospect of AIJ financing was part of the motivation to help the Lwandle community pursue solar water heating rather than electric in-line water heating. Confusion arose because his efforts and action by the Lwandle community moved more quickly than the process for submitting and evaluating the AIJ proposal. The community may, in the end, overcome the barriers and obtain financing before receiving AIJ approval or financial assistance. When asked whether they thought the Lwandle project would meet a strict additionality criterion, participants recognised the complex and somewhat arbitrary nature of deciding baselines. Participants were in favour, rather, of standardised international methodologies for baselines which would put all projects on an even playing field.

#### 5.3.5.4 *Analysis and recommendations*

Unless the Parties to the Convention modify rules for the AIJ, South Africa and other countries will have to contend with additionality in their AIJ evaluation process. Some participants in the AIJ debate have argued that the additionality criterion would no longer be necessary if all countries adopted binding emissions budgets, since in that case all emissions would be accounted for. Negotiators in Kyoto disagreed, however, so the Kyoto Protocol retains the additionality

requirement even for emissions trading among Annex I countries,<sup>3</sup> all of which are taking on binding emissions reductions targets. The Protocol also retains the additionality requirement under the new Clean Development Mechanism for certified emission reduction from AII-type activities with non-Annex I countries beyond the year 2000.

By motivating the Lwandle community to implement a more environmentally friendly method for heating water even before being officially declared an AII project, the project accomplishes AII's ultimate objective: reducing emissions and promoting sustainable development. The South African AII programme should consider the motivation and intent of the project proposals when considering this "additionality" criteria.

#### **Recommendations:**

- South Africa should develop national emissions reference scenarios, similar to those developed for the Czech Republic (see experience from other countries, above). The mitigation section of the Climate Change Country Study should utilise the most up-to-date methodologies accepted by the IPCC and UNFCCC to ensure that the results can be used in AII/JI decisions. If JI-relevant national baselines are beyond the scope of the Country Study, the NCCC should consider seeking funding from the World Bank-Swiss initiative described above to develop them.
- Given the substantial implications for the value of certified emission reductions, South African stakeholders should play an active role in the debates on baselines and additionality leading up to the Conference of the Parties in late 1998. While baselines can quickly become a technical debate, South Africa should emphasise the original motivation for the additionality requirements-- to encourage incremental, real and measurable shifts from "business as usual" development to low greenhouse gas development paths.
- Given that the ultimate objective of AII is to reduce emissions and support sustainable development, that the objective of the pilot phase is to experiment with the AII/JI mechanism, and that there are no credits during the pilot phase, the South African AII programme should take a flexible approach to the additionality criterion during the pilot phase of AII.
- The programme should take a more stringent approach to additionality for any projects submitted after the pilot phase which would acquire certified emissions reductions under the CDM after 2000. The programme should distinguish between Activities Implemented Jointly (without credits) and future Joint Implementation (with credits) or clean development projects that help Annex I countries meet their commitments under the Protocol.

### 5.3.6 Monitoring and verification

#### **Berlin criteria**

[Projects must have] ... real, *measurable* and long-term environmental benefits related to the mitigation of climate change...

#### **Kyoto Protocol**

[Projects must have] ... real, *measurable*, and long-term benefits related to the mitigation of climate change ...

The Conference of the Parties serving as the meeting of the Parties to this Protocol shall, at its first session, elaborate modalities and procedures with the objectives of ensuring transparency, efficiency and accountability through independent auditing and verification of project activities.  
(Articles 12.5b and 12.7)

<sup>3</sup> Annex I countries are those which agreed to emissions reductions under the UNFCCC. See glossary for more information.

### ***South Africa's position on AIJ***

AIJ projects must contribute to the achievement of the objective of the UNFCCC by aiming to bring about ... real, *measurable* and long-term environmental benefits related to the mitigation of climate change....

Monitoring is essential for measuring the actual emissions of an AIJ project relative to the baseline reference case. National AIJ institutions may also wish to monitor other indicators of project performance, such as local environmental, economic and social impacts. While project participants may monitor projects themselves, the Protocol requires independent verification of emissions reductions to ensure the system's integrity. Private sector firms involved in certification see a business opportunity in JI and CDM verification, and several have already launched business development activities.

#### ***5.3.6.1 Experience from other countries***

The *Costa Rican* proposal guidelines require that AIJ projects, particularly those linked to CTO's, have a monitoring plan which includes the participation of organisations "capable of successfully monitoring the project." The monitoring plans should include actual measurements of the project's emissions or sequestration, and ask whether a third party will be able to verify the emissions (Figures, C et.al 1996).

#### ***5.3.6.2 Illustration from South Africa***

The Gugulethu Eco-Homes project included a monitoring proposal in the submission to USIJI. The developers stated that, in addition to the project developers, independent local organisations would be involved in monitoring the project's benefits, although they did not specify the organisations. Household sampling, with statistically significant sample sizes, will be used to collect data from the year prior to construction and regularly thereafter (Community of Gugulethu 1997). The difficulty that this project faces, however, is that the USIJI does not fund monitoring activities (although USIJI only requires participants to monitor emissions reductions). The IIEC has asked Eskom to support monitoring.

#### ***5.3.6.3 Input from workshops***

Participants thought that a range of local impacts should be monitored, but they recognised that extensive monitoring requirements would increase costs and potentially discourage investors. They suggested that the pilot phase should be a time to test a variety of monitoring schemes. One government representative felt that the incentives for both investors and host countries to inflate claimed reductions in emission makes third-party verification necessary.

Participants acknowledged that willingness to pay for verification and the interest in verification methods would both increase with the market value of emissions credits. In a mature market, verification might become as routine as financial audits.

#### ***5.3.6.4 Analysis and recommendations***

Investors and project developers are reluctant to pay for monitoring during the pilot phase, because they cannot claim credit for the emission reductions, no matter how well monitored. Pilot phase monitoring experiments must build the necessary empirical knowledge base for certifying creditable reductions in the future, so funding for monitoring is an investment in the future viability of the JI mechanism.

Research projects on AIJ in South Africa, such as the one initiated by EDRC and ECON, a Norwegian policy research firm, should also contribute to understanding and fulfilling monitoring needs.

### 5.3.7 Durability of emission reductions

#### *Kyoto Protocol*

[Projects must have] ... real, measurable, and *long-term* benefits related to the mitigation of climate change.

Article 12.5 (b)

#### *South Africa's position on AIJ*

AIJ projects must contribute to the achievement of the objective of the UNFCCC by aiming to bring about ... *long-term* environmental benefits related to the mitigation of climate change....

Investors and host countries alike have an interest in securing the integrity of their emissions reductions over the life of the project. A major concern raised in international debates over AIJ and JI is how to guarantee that investments which reduce emissions will actually last as long as the project developers claim.

#### 5.3.7.1 *Experience from other countries*

*Costa Rica* and *Poland* both attempt to address the issue of durability by ensuring that project developers and implementing organisations have a sound track record and are economically viable (CC:INFO/AIJ 1997). *Poland* also asks whether the site chosen is the one which has the most chance of succeeding.

*United States and Honduras* Proposals to the *USIJI* must include a discussion of factors that could cause the reductions to be lost or reversed in the future and indicate what steps would be taken to address these risks. A major risk in technology-switching projects is that the technology will fail, causing users to revert to the old technology. Enersol, a US organisation specialising in rural solar electrification, emphasises training to develop the human infrastructure needed to ensure the durability of the technology switch. Enersol's AIJ project in *Honduras* includes training local technicians to install and maintain the solar electrical equipment, reducing the likelihood that users will switch back to kerosene (Kaufman. S 1995).

#### 5.3.7.2 *Illustration from South Africa*

All of the AIJ proposals in South Africa have made assumptions about the length of time over which emissions reductions will occur. The emissions calculations in the Gugulethu Eco-Homes proposal, for example, assume that the measures will reduce emissions for 50 years (Community of Gugulethu 1997).

#### 5.3.7.3 *Input from workshops*

Participants pointed out several risks related to durability:

- that investors would not provide adequate maintenance or re-investment;
- that investors would maintain a project against the interests of the community in order to preserve their emissions reductions. Long-term contracts to preserve forest lands, for example, could deny South Africa valuable resource options;
- that changes and instability in South African society would threaten project durability.

#### 5.3.7.4 *Analysis and recommendations*

Even after the UNFCCC has prescribed general procedures for developing baselines and emissions reductions projections, national programmes will have to evaluate whether a project proposal has assessed the local context realistically. For instance, the energy efficiency and passive solar measures in the Gugulethu Eco-Homes may not endure 50 years, as the proposal estimates, if residents make structural modifications.

**Recommendation**

The South African AIJ institution should invite experts in the project type (housing, public transport, industrial energy efficiency) to assess whether a proposal's assumptions about temporal durability are realistic in the local context.

**5.3.8 Financial additionality****Berlin criteria**

[Financing of activities implemented jointly shall be additional to the financial obligations of the parties...as well as to current official development assistance.

**Kyoto Protocol**

[Industrialised country parties shall] provide new and additional financial resources to meet the agreed full costs incurred by developing country Parties in advancing the implementation of existing commitments.  
(Article 11b)

The Clean Development Mechanism shall assist in arranging funding of certified project activities as necessary. (Article 12.6)

**South Africa's position on AIJ**

Funding for AIJ projects should be additional to all existing funding and technology transfer.

The Financial Additionality criterion was included to prevent industrialised countries from diverting development assistance toward AIJ, or from reducing previous obligations to contribute to the Global Environment Facility (GEF). The GEF is the designated interim financial mechanism of the UNFCCC and cannot be used to fund AIJ projects.

The UNFCCC Uniform Reporting Format for AIJ asks governments to report the total cost of each project, and then to disaggregate the "AIJ components" of the project (UNFCCC 1996). Some projects that received Official Development Assistance (ODA) or GEF funds, or that would have been implemented under business as usual, have still reported an AIJ component added on to the project.

**5.3.8.1 Experience from other countries**

*Costa Rica's* proposal guidelines ask whether the project developer states the AIJ financial component (in US dollars) of the project and whether the proposal shows financial projections with and without the AIJ additional financial contribution (CC:INFO/AIJ 1997).

*Czech Republic's* AIJ rules exclude from AIJ any investments of foreign companies in their Czech subsidiaries (Ministry of the Environment of the Czech Republic nd).

**5.3.8.2 Illustration from South Africa**

The USIJI is providing a grant to fund some feasibility research and proposal preparation for the Clean Commute project (Scholand 1998). The question is whether this money is "additional" given that US official development assistance is declining, and that the US has not fulfilled all of its other financial obligations under the Convention.

**5.3.8.3 Input from workshops**

Discussions concentrated on clarifying the interpretation of the financial additionality criterion, which applies only to governments, not the private sector. Participants, especially those developing projects, had not understood that the financial additionality rule is meant to keep government from diverting or decreasing aid funds, not to censure the private sector.

#### 5.3.8.4 *Analysis and recommendation*

A host country AIJ programme will have difficulty determining whether AIJ funding is actually additional to all existing funding and technology transfer. Parties to the Convention have devoted considerable energy to debating North-South resource transfers. In 1992, countries at the Rio Earth Summit agreed that industrialised countries would devote 0.7% of their gross domestic product to foreign aid. The UNFCCC and the Kyoto Protocol both say that the industrialised countries will pay the incremental costs the developing countries incur to comply with the Convention. Few industrialised countries have fulfilled these commitments. Indeed, some countries, notably the United States, have cut their foreign aid budgets since 1992.

Developing countries in some regions, such as Central and South America, have successfully gained access to climate change resources by co-operating at a regional level to push industrialised countries to live up to their UNFCCC commitments.

#### *Recommendations*

- Rather than focusing on the domestic reasons for declining Northern aid budgets, South Africa should form alliances with other developing countries to hold the industrialised countries accountable for their specific commitments under the UNFCCC.
- South Africa and its allies should develop detailed, constructive negotiating positions on support for institutional AIJ capacity, as well as for project development. Positions on AIJ and the Clean Development Mechanism should be integrated into proposals for South Africa's overall climate change national action plans, and should ideally be co-ordinated with other SADC countries.

#### 5.3.9 Crediting

##### *Berlin criterion*

That *no credits* shall accrue to any Party as a result of greenhouse gas emissions reduced or sequestered during the pilot phase from activities implemented jointly.

##### *Kyoto Protocol*

Parties included in Annex I may use the certified emission reductions accruing from [JI] activities to contribute to compliance with part of their quantified emission limitation and reduction commitments....  
(Article 12.3b)

Certified emission reductions obtained during the period from the year 2000 up to the beginning of the first commitment period [2008-2012] can be used to assist in achieving compliance in the first commitment period.  
(Article 12.10)

##### *South Africa's Position on AIJ*

South Africa supports AIJ as a defined, finite phase and notes that the ending or continuation of AIJ will be evaluated by the year 2000. The terms of participation during the subsequent JI phase will be based upon a national position on JI or any alternative; such a national policy will be formulated in due course.

To summarise, the Berlin Criteria do not allow credits during the pilot phase, which was to be evaluated no later than 2000. The Kyoto Protocol ruled that Annex I parties may earn credit towards their emissions reduction targets from JI projects with other Annex I parties starting in 2000. Emissions reduction credits from the Clean Development Mechanism (that is, projects with developing countries) which occur after 2000 can also be applied toward meeting targets.

### 5.3.9.1 *Experience from other countries*

#### *United States*

The US private sector has indicated that crediting would dramatically increase the interest in AIJ or JI. In the words of one potential investor, "If credits were awarded to firms who purchased carbon offsets, it would open the floodgate of JI participation" (Trexler and Associates 1997).

### 5.3.9.2 *Illustration from South Africa*

Isacor Steel and Hoogovens signed letters of intent to explore jointly implemented emissions reductions. The agreements state Hoogovens' interest in acquiring CO<sub>2</sub> credits to help meet domestic commitments in the Netherlands. The agreements indicate that Hoogovens would receive 50% of the validated emissions reductions. The draft intergovernmental Memorandum of Understanding, however, clearly states that the quantified reductions "cannot function as credits" during the pilot phase (Minister for Development Cooperation of the Netherlands 1998).

### 5.3.9.3 *Analysis and recommendations*

The inability to earn emissions credits in the pilot phase means that the emissions reductions have virtually no commercial value. Several studies have identified the lack of monetised value for credits as the primary barrier to AIJ projects (see, for example, Trexler and Associates (1997)). Without financially valuable credits the private sector has no direct economic incentive to undertake AIJ projects that are not profitable in their own right. For instance, the International Utility Efficiency Partnership of the US Edison Electric Institute requires commercially competitive rates of return for its AIJ portfolio (Shiflet 1997).

#### *Recommendations*

- The South African AIJ programme will have to develop a position on the Kyoto Protocol Article 12.3(b) declaration that "Parties included in Annex I [ie those with emissions limits] may use the certified emission reductions [under the CDM] ... to contribute to compliance with part of their quantified emission limitation and reduction commitments" starting in 2000 (Kyoto Protocol 1997). The programme should seek to maximise exploration of potential mechanisms during the AIJ pilot phase to inform South Africa's positions in future negotiations.
- The programme should be careful not to commit South Africa to any credit-sharing arrangement prior to the establishment of rules for the CDM.

### 5.3.10 *Transparency*

#### *South Africa's position on AIJ*

Transparency is essential in the evaluation of AIJ projects, the agreements reached, and in the performance monitoring.

Transparency means the opportunity for an outside party to examine the assumptions or the decision-making process involved in a project. In the case of AIJ, project developers want to be able to track the project evaluation process and understand the reasons behind government approvals or rejections. National and international bodies have a similar interest in the transparency of project arrangements, including legal agreements among project participants that affect state interests. All AIJ project stakeholders want to hold project participants and evaluators accountable for their actions, and transparent access to information is a key to accountability.

#### 5.3.10.1 *Experience from other countries*

Other countries' AIJ programmes do not have explicit transparency requirements although their evaluation procedures are in many cases designed to address it (CC:INFO/AIJ 1997). In some cases, national legislation on the public's "right-to-know" takes precedence over any rules or procedures specific to AIJ.

*Netherlands* To address the potential conflict between proprietary business information about AIJ projects and the public's interest in transparency, the *Netherlands* has established the Joint Implementation Registration Centre (JIRC). The JIRC is an arm's-length agency which, it is hoped, will be considered sufficiently independent by industry so that it can verify the technical and economic details of AIJ and JI projects (Kant 1997).

#### 5.3.10.2 *Illustration from South Africa*

The agreement between Hoogovens and Iscor states that the detailed report on the project feasibility study will be subject to a secrecy declaration. The project participants will prepare a public version censored for proprietary information. This secrecy was questioned initially by members of the AIJ Working Group. The *Netherlands* AIJ programme, however, responded that the JIRC and their counterpart in South Africa would have the right to investigate and analyse all data relating to the project, to visit the sites and to monitor the improvements if they wish to do so (Kant 1997).

#### 5.3.10.3 *Input from workshops*

Participants discussed what aspects of projects need to be transparent to safeguard stakeholders and the integrity of emissions reductions. The project aspects discussed included:

- negotiation procedures;
- project management structure;
- sources and uses of funding;
- measurements and reporting of emissions reductions;
- costs of emissions reductions;
- evaluation process.

Workshop participants recognised the private sector's need to maintain the confidentiality of proprietary information, but also the project community's right to know about actions affecting them and their interests.

#### *Recommendations*

- The South African AIJ programme should prepare a standard confidentiality agreement for those with access to *financial* or sensitive technical information in project proposals and other confidential project documentation.
- In all evaluation procedures, the programme should follow the South African government's policies for transparency and public disclosure of information.
- If South Africa decides to conduct its own monitoring activities, the programme should study the experience of other countries on how to maintain transparency concurrent with needed confidentiality.

#### 5.3.11 *Capacity building and technology transfer*

The *Berlin criteria* do not refer to capacity building or technology transfer as such, although the Framework Convention includes provisions for both that presumably apply to AIJ. Developing countries have expressed concern throughout the negotiations that industrialised countries have not lived up to their capacity building and technology transfer commitments (Climate Network Africa 1995, Maya 1997). The UNFCCC Uniform Reporting Format for AIJ, developed after the *Berlin criteria*, asks countries to report on both issues.

Negotiations in Kyoto placed several provisions for capacity building and technology transfer in the Protocol text. The Clean Development Mechanism, established under Article 12, is subject to these provisions as one mechanism for implementing the Protocol:

### ***Kyoto Protocol***

[Parties shall] ... co-operate in the promotion of effective modalities for the development, application and diffusion of, and take all practicable steps to promote, facilitate and finance, as appropriate, *the transfer of, or access to, environmentally sound technologies, know-how, practices and processes pertinent to climate change*, in particular to developing countries....

(Article 10c)

... promote at the international level ... the development and implementation of education and training programmes, including the strengthening of *national capacity building*, in particular human and institutional capacities and the exchange or secondment of personnel to train experts in this field, in particular for developing countries.

(Article 10)

[Industrialised parties shall] ... provide such financial resources, including for the transfer of technology, needed by the developing country Parties to meet the agreed full incremental costs of advancing the implementation of existing commitments.

(Article 11.2)

The South African NCCC emphasised the instrumental role of capacity building in developing effective rules for future JI regimes:

#### ***South Africa's position on AIJ***

The AIJ pilot phase must be used to develop capacity in South Africa so that full local understanding of issues relating to the implementation of the UNFCCC is achieved. This enhanced understanding will improve South Africa's ability to judge the potential positive or negative impacts of a foreseen crediting mechanism and future resource requirements.

##### ***5.3.11.1 Experience from other countries***

*Thailand* requires endogenous capacity building as an integral part of projects, while *the Netherlands* requires a training component for authorities or companies in the host country in project proposals (Plamphongsant 1997, Ministry of Housing, Spatial Planning and the Environment 1997). In contrast, *Poland's* AIJ criteria declare that only projects involving the transfer of technological hardware, or of financial resources to procure technologies and equipment, will be endorsed as JI projects. Projects which include only technical assistance, education, or training, are considered valuable forms of assistance but they will not be accepted as JI projects (CC:INFO/AIJ 1997).

In *Africa*, the Kadoma Workshop statement suggests that equipment should carry a warranty and spare parts for the life of the project (Maya and Gupta 1996).

The *United States* Government had initiated a "Climate Technology Co-operation Framework Pilot Project" which seeks to help specific countries identify priorities and develop plans to implement sustainable energy technologies. The project will hold stakeholder workshops with representatives from "recipient countries" (Brazil, Mexico, Indonesia, India, Kazakhstan and the Philippines), development organisations, the renewable energy and energy efficiency industries, US Federal agencies and technical advisors. The country teams present their technology priorities to the other participants and discuss opportunities for complementary collaborative actions by countries, donors and the private sector. The US National Renewable Energy Laboratory will help countries refine their plans and seek to implement their top priorities (Climate Technology Cooperation Pilot Project 1997).

##### ***5.3.11.2 Illustration from South Africa***

The Iscor-Hoogovens project will train plant operators in "good-housekeeping" measures to improve energy efficiency. If new technologies or processes are introduced, Iscor personnel will be trained to operate or implement them. Iscor

personnel will build their skills through dialogue with Hoogovens during the feasibility study (Kant 1997).

### **5.3.11.3 *Input from workshops***

Capacity building was a major concern in the workshops. A government representative reported that capacity building for Africans has been raised repeatedly in international meetings about AIJ. Participants said the AIJ programmes must not allow foreign consultants to establish projects and leave the country without properly training South Africans to maintain the project.

Participants distinguished between developing broad public awareness of AIJ issues and building skills around specific AIJ projects. The latter would train South Africans, for example, in designing energy-cost-optimised homes, planning trip reduction programmes, installing and maintaining solar water-heaters, or operating steel plants to minimise energy use. For the former, an industry representative noted that the South African Country Study is meant to include capacity building to familiarise stakeholders with climate change issues. Participants from NGO's subsequently indicated that capacity building was surely neglected by the NCCC.

The discussion linked capacity building and technology transfer, noting the value of transferring skills and methods in addition to simple hardware. Participants discussed what "technology transfer" actually meant, since it can cover everything from turnkey operations to training. For technological hardware, especially large-scale technologies such as nuclear power, to be transferred successfully, the project must develop the appropriate human infrastructure.

Participants said AIJ must not subsidise "dumping" of inappropriate technologies, noting previous development boondoggles that left malfunctioning expensive or even dangerous technologies in their wake. A government representative was concerned that foreign firms might dump out-dated or inappropriate technologies because they do not want to help potential competitors. If approached strategically AIJ could present opportunities for South Africa to develop and transfer her own technologies to other developing countries.

### **5.3.11.4 *Analysis and recommendations***

Technology transfer is linked to capacity building. Investigations into the critical factors behind long-term improvements in industrial efficiency have concluded that increased human skills ("disembodied technical change") account for success more than upgraded physical capital stock ("embodied technical change") (Jepma & Munasighe 1998).

#### ***Recommendation***

- South Africa should seek to synchronise acquisition of physical technology with building human resources and institutions. South Africa negotiators should argue that investment in increased human skills is crucial for an AIJ project's success, and to the value and durability of emissions reduction credits.

Article 10 (c) of the Kyoto Protocol distinguishes between transfer of technology in the public domain, and access to technology in the private domain. So far the Parties have not created the right incentives for the private sector to transfer state-of-the-art technology hardware or skills.

#### ***Recommendation***

- To gain access to new technologies and capacity, the South Africa AIJ and climate change programmes must include well-designed creating incentives for private industry to act. South Africa could apply to participate in bilateral technology co-operation agreements, such as the US Technology Co-operation Frameworks project, as one avenue for technology transfer, although South Africa must first make significant progress on its Country Study and National Action Plan.

### 5.3.12 Environmental, social and economic benefits and/or negative impacts

The *UNFCCC Uniform Reporting Format* asks countries to report on environmental, social, cultural, and economic costs and benefits from activities implemented jointly projects. The format stipulates that whenever possible, quantitative information should be provided.

#### *Kyoto Protocol*

The Conference of the Parties ... shall ensure that a share of the proceeds from certified project activities is used to cover administrative expenses as well as to assist developing country Parties that are particularly vulnerable to the adverse effects of climate change to meet the cost of adaptation. (Article 12.8). The Protocol declares that developing countries "will benefit" from projects under the CDM, but does not mention how project benefits should be allocated to project participants.

#### 5.3.12.1 *Experience from other countries*

*Costa Rica* requires project proposals to account for all of the economic benefits associated with the project, as well as address the sharing of those benefits. *Poland's* AIJ criteria will not allow projects which decrease local environmental quality, while the *Czech Republic* says that projects must actually bring about additional positive environmental impacts and contribute to infrastructure development and employment (CC:INFO/AIJ 1997, Ministry for the Environment of the Czech Republic nd).

#### 5.3.12.2 *Illustration from South Africa*

The proposal for the Clean Commute Project outlines the potential negative and positive impacts of the project (IIEC Transport Program 1997), which will:

- save money by reducing the cost of commuting;
- reduce the number of motor vehicle trips made to and from the business park, thus reducing traffic congestion and the rate of energy consumption;
- promote technology co-operation by establishing a programmatic framework for the introduction of new technologies, including geographic information systems, trip reduction program software, commuter vans, and telecommunications technologies and workstations;
- decrease air pollution from motor vehicles;
- increase flexibility of employees using public transport to work, but decrease flexibility of employees who were using single occupant vehicles;
- increase worker productivity by getting employees to work on time, with less stress;
- decrease taxi violence and the rate of crime suffered by employees driving to and from work alone.

In terms of the distribution of benefits and funding for the AIJ proposals, the bulk of pre-feasibility and feasibility funds for all four AIJ case studies will go to consultants and project developers (IIEC, Energy Transformations, MIDTRAN, and Hoogovens). Funds for materials will purchase a mix of foreign technologies (eg pay-as-you use water meters, trip reduction software) and local goods and services (eg insulation, construction labour, vanpool drivers) (IIEC Transport Program 1997, Netherlands Energy Research Foundation 1997, Kant 1997).

Project implementation funds for the four projects will come from both inside South Africa (eg housing subsidies) and outside (eg Hoogevens).

#### 5.3.12.3 *Input from workshops*

Participants said local effects had to take precedence over global effects. AIJ projects must identify the significantly affected local parties, such as the paraffin or coal merchants who would lose business after their customers switched to cleaner fuels. They agreed the South Africa AIJ programme must require project developers to mitigate any negative local impacts as a condition for approval. An industry representative said environmental impacts would be identified and

addressed in the required environmental impact study, but some environmental NGOs countered that many projects in South Africa are still going forward without proper impact studies.

#### **5.3.12.4 Analysis and recommendations**

Addressing impacts outside a project's main focus is problematic for any type of project, not just AIJ. Many development debates focus on how to avoid or minimise negative impacts. These debates have already led to requirements for environmental impact assessments, local planning hearings, offsetting donations, or similar measures.

#### **Recommendations**

- The South African AIJ programme should ask project developers to detail the local social, environmental and economic impacts of the project.
- South Africa should integrate AIJ into existing frameworks for addressing the impacts of foreign investment and development, and not invent a separate policy infrastructure. The South Africa AIJ programme should not approve projects that do not comply with local requirements.

---

## 6. AIJ institutions

---

Effective institutional structures are necessary to carry out the mission and objectives of the AIJ programme and apply the evaluation criteria. This section analyses the functions and actors that would comprise a South African AIJ institutional structure, and recommends strategies for developing and funding that structure.

### 6.1 Functions and actors

Based on the experience of other countries' AIJ/JI programmes, and the work of the Center for Sustainable Development in the Americas contained in the manual *Implementing JI/AIJ; A Guide for Establishing Joint Implementation Programs*, EDRC identified the key functions which an AIJ institution will have to perform (Figueres, C. et. al 1996, CC:INFO/AIJ 1997). The functions are policy making, planning and implementation.

#### 6.1.1 Policy

- Define overall AIJ goals and policy strategies, within the context of other relevant policy processes.
- Integrate AIJ policy with other environmental, economic and social policies.
- Formulate AIJ and JI positions for international negotiations.
- Represent South Africa's AIJ interests in international fora.
- Develop AIJ criteria and overall guidelines for evaluation.
- Take final responsibility for decisions on proposed projects.

#### 6.1.2 Planning

- Establish project proposal guidelines and format.
- Determine and oversee proposal evaluation process.
- Establish procedures for soliciting, receiving, assessing and taking decisions on proposals.
- Recommend decisions on project approval.
- Define procedures for monitoring and verification.

#### 6.1.3 Day-to-day operations

- Disseminate information (procedures, policies, etc).
- Solicit and evaluate (or co-ordinate evaluation of) proposals.
- Oversee monitoring and verification.
- Prepare annual reports for the UNFCCC .
- Register emissions reductions.

#### 6.1.4 Additional functions

Depending on the objectives for the programme and the resources available, the South African programme should also consider whether and how to provide further assistance with project development:

- Capacity building for NGOs, CBO's and (small) business.
- Assistance with proposal preparation.
- Proactive project identification.
- Matching potential investors with projects.

- Marketing the AIJ programme and accepted projects to potential investors.

### 6.1.5 Actors in South Africa

The AIJ Working Group of the NCCC, with support from the Weather Bureau's Special Liaison office, is currently performing almost all of these functions. The Working Group consists of two industry representatives from the NCCC, and two government representatives from DME and the Weather Bureau. As discussed in the policy context section, climate change policy is formulated by the DEAT under the advice of an interdepartmental co-ordinating committee and with stakeholder input from the NCCC. DEAT, therefore, is responsible for AIJ policy decisions. While the interdepartmental committee has not been directly active in many policy debates, representatives from other departments sit on the NCCC and have access to the DEAT chair of the committee.

## 6.2 Experience from other countries

Most countries which have established AIJ/JI programmes have a central co-ordinating office, although these offices do not always play precisely the same role. While some of the industrialised country programmes have sizeable central staffs devoted to the whole range of functions, the co-ordinator in developing countries may have limited capacity or play mostly an informational role.

Even the role of information clearinghouse and promoting the AIJ programme can have dramatic results. *Poland's* JI Secretariat, for example, published a list of 65 project opportunities when the programme was still relatively young (Joint Implementation Quarterly 1997a). While these projects may not yet be funded, they give some sense of the opportunity for being proactive. *Costa Rica's* national JI office is more active than those in many developing countries, participating in a wide range of JI for a fora and negotiations, actively brokering JI projects, and developing relationships with potential funders (Figueres 1996).

At a policy level, *Costa Rica* has also made a significant effort to integrate climate change and other sustainable development concerns into its national policies and institutions. President Figueres' government, for example, has actively promoted JI as a strategy to obtain funding for the National Conservation Strategy for Sustainable Development (Le Blanc 1997).

The *USA*, *Mexico* and the *Netherlands* all have interdepartmental steering committees for JI to assist with co-ordinating AIJ and climate change policy with economic, natural resource, and energy policy and to get input from these sectors (CC:INFO/AIJ 1997, Instituto Nacional de Ecologia 1997). These three countries also have JI registries, which track the emissions reductions associated with specific projects. One key reason why some industrialised countries are concerned with registries is that, although from AIJ emissions reductions may be reported to the UNFCCC, in the pilot phase they are not internationally certified. It is unclear whether these functions will be as important if the UNFCCC Secretariat or some other body becomes an international registry for future JI or CDM projects.

## 6.3 Workshop input and recommendations

### 6.3.1 Policy

Workshop participants suggested that the AIJ Working Group should provide the initial input for most of the policy functions. It would make recommendations to the full NCCC, which would in turn make recommendations to DEAT and the Inter-Departmental Committee.

#### **Recommendations**

- The AIJ Working Group should initiate AIJ policy development and make recommendations to the NCCC and DEAT on all AIJ policy issues.
- The AIJ Working Group, the NCCC and the DEAT should ensure that AIJ policy recognises and provides input into other environmental, natural resource and energy policies.

### 6.3.2 Planning

Participants generally agreed that the AIJ programme needed to clearly delineate functions and responsible parties, but they had concerns about who those parties should be. Industry representatives said the government had to provide leadership and good management, but they opposed adding to the size of the civil service. Industry supported drawing up terms of reference for an AIJ programme and contracting a private organisation to carry out the functions. Government representatives were in broad agreement, emphasising that the workload of supporting the AIJ Working Group was already too much for the allocated human resources. Workshop participants therefore suggested that the AIJ Working Group should develop terms of reference for the planning functions and contract consultants to carry them out. The AIJ Working Group would review the consultants' work, and submit the results to the NCCC and DEAT as appropriate.

#### *Recommendation*

- The AIJ Working Group should develop terms of reference for the planning functions and contract consultants to carry them out. The AIJ Working Group should review the consultants' work, and submit the results to the NCCC and DEAT as appropriate.

### 6.3.3 Day-to-day operations

Participants indicated that the AIJ Co-ordinator, who might be a consultant, should disseminate information and prepare annual reports. The DEAT is responsible for submitting South Africa's annual national Communication to the UNFCCC, so the AIJ Co-ordinator would report to DEAT in preparing the AIJ portion of the report. The AIJ Working Group would oversee proposal evaluation, and use a technical reference group as necessary to review greenhouse gas emissions estimates and other technical issues.

#### *Recommendations*

- The AIJ Working Group should develop a technical reference group of experts willing and able to review AIJ proposals for their environmental and social impacts, but not their financial viability (which is up to the project developers). This could include other members of the NCCC.
- The AIJ Working group, in consultation with the NCCC and DEAT, should draw up terms of reference for an AIJ Co-ordinator to perform the day-to-day functions of the AIJ Programme. This co-ordinator should be contracted directly to the DEAT, but report also to the NCCC
- The South African AIJ programme should consider the benefits of a pro-active approach of identifying project opportunities that are feasible and desirable for AIJ, the CDM or future JI, and promoting their development.
- South Africa can conserve institutional resources by utilising other existing policy infrastructures. For example, evaluators of AIJ proposals should take advantage of the environmental impact assessments (EIAs) that will be required for all construction starting from April, 1998 (Shevel 1998). The program should also encourage AIJ proponents to consider AIJ issues when preparing EIAs, to avoid duplication of effort.

### 6.3.4 Representation and expertise

Some participants emphasised the need to involve mainly experts on climate change policy and technical issues in policy and planning decisions, while others focused more on the need for representatives of various stakeholder groupings. Participants noted that larger committees tend to be less efficient, but that clear criteria and processes could mitigate conflicts between size and efficiency. Industry representatives reminded participants that some AIJ functions would be incorporated into standard business practice if AIJ moved forward to JI, which would decrease the burden on the AIJ institution. In the near term the AIJ

institution should help the private sector build capacity to incorporate AIJ considerations.

### **Recommendations**

- If the role of the AIJ Working Group is to initiate policy development, as well as set the direction for planning and operation of the programme, then adequate stakeholder representation is important. The NCCC as a whole is meant to be an important advisory body for stakeholder input on climate change policy, and the AIJ Working Group must be the same for AIJ and JI issues.
- Representation and expertise need not be mutually exclusive; a representative of low-income community's housing interests is likely to be familiar with low-income housing. Since South Africa's AIJ criteria will cover a range of technical, social and economic issues, the South African AIJ institution should organise itself to call on a range of stakeholders and experts, to participate in evaluating project proposals as needed.

## **6.4 Funding the programme**

The UNFCCC and Kyoto Protocol contain provisions to fund developing countries' costs of compliance with the Convention, including "enabling activities". Article 12 of the Protocol, which established the Clean Development Mechanism (CDM), stipulates that a portion of proceeds from certified project activities must be channelled to the defray administrative costs of the programme. There is a risk, however, that if host countries fail to organise themselves, the funds for administrative expenses could all be appropriated by whatever international body establishes itself as the CDM "executive board".

To date Annex II Parties under the Convention (the industrialised countries with financial commitments) have provided varying levels and types of support for enabling activities. Multilateral organisations such as the United Nations Environment Programme, the World Bank and the International Energy Agency have also funded activities.

### **Recommendations**

- The AIJ Working Group should assign resources to investigate funding sources and write grants for seed funding for whatever AIJ institution is agreed to by the NCCC. If the NCCC decides to incorporate AIJ functions into a broader climate change institution, funding could be pursued for the whole package.
- South Africa should argue in international negotiations and with funding institutions that the (preparatory) work to establish a host country AIJ institution is an activity which will enable the CDM (and future JI) to function effectively, and that the investor countries should support it as such.
- The NCCC should recommend co-operation with other host countries to negotiate for fulfilment of the Kyoto commitments for the CDM. The AIJ Working Group and NCCC should collaborate with other African countries to analyse the options for allocating funds from the CDM to defray administrative expenses under Article 12.8 of the Kyoto Protocol, and develop joint negotiating positions.

---

## 7. SUMMARY OF RECOMMENDATIONS

---

South Africa's current position on AIJ declares South Africa's intention to participate in the pilot phase. The recommendations in this report are designed to help South Africa maximise the potential benefits from AIJ and the CDM and minimise the risks. The AIJ programme presented in this report is a set of institutional structures, policies and procedures which can guide AIJ in South Africa. Note that the detailed actions for the South Africa AIJ programme outlined in the section on "AIJ Issues and Criteria" are not repeated here, only the key recommendations.

### 7.1 Mission

The mission of the South African AIJ programme should be to evaluate the local and global impacts, both positive and negative, of AIJ projects to determine the conditions for equitable and effective activities implemented jointly under the Clean Development Mechanism. In addition, in the longer term the programme should facilitate foreign investment in projects which support South Africa's development objectives while reducing emissions of greenhouse gases.

### 7.2 Objectives

The objectives of the South African AIJ programme should be to:

- maximise participation and learning during the pilot phase;
- promote technology transfer and capacity building;
- formulate strategies to encourage private sector participation;
- contribute to methodologies for effectively measuring greenhouse gas emissions and sequestration.

### 7.3 AIJ criteria

The recommended criteria for AIJ projects are as follows.

*To be found acceptable as an Activity Implemented Jointly under the pilot phase, a project must:*

- be compatible with and supportive of national and local priorities;
- contribute to cost-effectiveness in achieving global and national benefits;
- generate reductions in emissions that are additional to any that would occur in the absence of the certified activity;
- generate real, measurable, and long-term benefits related to the mitigation of climate change;
- if receiving financing from governments, only utilise financing that is additional to the financial obligations of the investor country under the UNFCCC, as well as to current official development assistance;
- in accordance with the Berlin Criteria, not claim any credits toward emission limitation obligations during the pilot phase;
- demonstrate transparency in aspects of project development and implementation that affect South Africa's other AIJ criteria;
- contribute to building capacity and transferring sustainable and appropriate technology;
- identify the significant local benefits and impacts of the proposed project and propose plans to mitigate any negative local impacts;
- in the long run, address the issue of sharing the economic benefits of the project's greenhouse gas abatement.

### 7.4 Institutional structure and process

South Africa should integrate AIJ into existing frameworks for energy, environmental, foreign investment and development policy. The AIJ programme

should draw on existing resources within and outside of government, with a co-ordinator managing the operations of the programme.

#### 7.4.1 The AIJ Working Group

- The AIJ Working Group should initiate AIJ policy development and make recommendations to the NCCC and DEAT on all AIJ policy issues.
- The AIJ Working Group, the NCCC and the DEAT should ensure that AIJ policy recognises and provides an input into other environmental, natural resource and energy policy.
- In the capacity of initiating policy development, as well as setting the direction for planning and operation of the programme, adequate stakeholder representation and responsiveness in the AIJ Working Group is important. The NCCC as a whole serves an important advisory body for stakeholder input on climate change policy, and the AIJ Working Group must provide the same for AIJ and JI issues.

#### 7.4.2 AIJ planning

The AIJ Working Group should develop Terms of Reference for the planning functions (eg establishing proposal guidelines and evaluation procedures) and contract consultants to carry them out. The AIJ Working Group would review the consultants' work, and submit the results to the NCCC and DEAT as appropriate.

#### 7.4.3 AIJ Co-ordinator

The AIJ Working Group, in consultation with the NCCC and DEAT, should draw up Terms of Reference for an AIJ Co-ordinator to perform the day-to-day functions of the AIJ programme. This co-ordinator should be contracted directly to the DEAT, but report also to the NCCC.

#### 7.4.4 Evaluation process (shown in Figure 9)

- Proposals should be submitted for evaluation to the AIJ Working Group through the AIJ Co-ordinator.
- The AIJ Working Group should develop a technical reference group of experts willing and able to review AIJ proposals for the environmental and social impacts, but not their financial viability (which is up to the project developers). This group could include other members of the NCCC.
- Since South Africa's AIJ criteria will cover a range of technical, social and economic issues, the South African AIJ institution should invite experts in the project type (housing, public transport, industrial energy efficiency) to assess the project proposal within the local context.

South Africa has a window of opportunity to learn from its own and other countries' experience with the pilot phase so far, and to play an active role in shaping the post-2000 emissions crediting regimes. There are sufficiently large potential benefits and risks from AIJ and the new Clean Development Mechanism to warrant a well-organised institutional approach of co-ordinated governmental and non-governmental activities. The recommendations presented here can lay the groundwork for an effective, transparent, and flexible AIJ programme. Experience from this programme will be a crucial input to South Africa's future position on emissions trading and broader climate change policy.

## REFERENCES

- Abuehl, C 1997. Center for Clean Air Policy. Interview with authors.
- Bittle-Koenick, M 1997. Center for Clean Air Policy. Interview with authors.
- Carter, L and Andrasko, C 1997. Technical issues in JI/AIJ projects: a survey and potential responses. In *AIJ/JI critical issues: Discussion papers prepared for the open forum on new partnerships to reduce the buildup of greenhouse gases*. 29-31 October 1996 San Jose, Costa Rica.
- Carver, P and Trexler, M 1996. Carbon standard for power plants—a competition in the state of Oregon. In Clean Air Policy Offsets Forum. Minutes of Proceedings. 12-13 September 1996. Washington, DC.
- CC: INFO/AIJ 1997. Activities Implemented Jointly List of Country Programmes: Australia, Canada, Costa Rica, Germany, Japan, Norway, Poland, Sweden, Switzerland, and the US. [<http://www.de/fccc/ccinfo>]
- Center for Clean Air Policy (CCAP) 1995. The Decin joint implementation project: report to the Rockefeller Foundation. Washington, DC: Center for Clean Air Policy. July 26.
- Climate Action Network 1997. Citizen Update. December 17.
- Climate Network Africa (CNA) 1995. Joint implementation workshop on the political and practical constraints to the acceptability of joint implementation under the United Nations Framework Convention on Climate Change. 8 June 1995. Nairobi, Kenya.
- Climate Technology Cooperation Pilot Project 1997. Report on the Golden, Colorado, USA International Workshop November 17-21.
- Community of Guguletu, PEER Consultants, P.C., and International Institute for Energy Conservation (IIEC), 1997. USIJI Project Proposal: Housing for a Sustainable South Africa/Izindlu zoMzantsi Afrika oqhubckela phambili, The Guguletu Eco-Homes Project, November.
- Conference of the Parties 1995. Decision 5/CP.1: Activities implemented jointly under the pilot phase. Conference of the Parties, First Session, Berlin 28 March-7 April 1995. [FCCC/CP/1995/7/Add.1]
- Conference of the Parties 1997. Kyoto Protocol to the United Nations Framework Convention on Climate Change. Conference of the Parties, Third Session, Kyoto 1-10 December 1997, Agenda item 5. [FCCC/CP/1997/L.7/Add.1] December.
- Costa Rica Office of Joint Implementation/ Oficina Costaricense de Implementacion Conjunta, 1996 Materials on the launch of Certifiable, Tradable Offsets.
- Costa Rica Office of Joint Implementation/ Oficina Costaricense de Implementacion Conjunta, 1995 Guidelines for Proposals.
- Department of Environmental Affairs and Tourism (DEAT) 1996. Terms of Reference for the AIJ Working Group.
- Department of Environmental Affairs and Tourism (DEAT) 1997. South Africa's Position on Activities Implemented Jointly.
- Department of Environmental Affairs and Tourism (DEAT) 1998. Weather Bureau. Interview with authors.
- Earth Negotiations Bulletin (ENB) 1997. Berlin: International Institute for Sustainable Development. October 31. [email text from [enb@igc.apc.org](mailto:enb@igc.apc.org)]
- Fecher, R 1997. AIJ for Africa and the Middle East. Report from Cairo AIJ Conference 4-8 July 1997 (mimeo).
- Fecher, R 1998. The real cost of conserving energy: Energy efficiency in low-income urban households. Energy and Development Research Centre, University of Cape Town. January.
- Figueres, C, Hambleton, A, Lay, L, MacDicken, K, Petricone, S, Swisher, J, 1996. Implementing JI/AIJ: A Guide for Establishing Joint Implementation Programs. Washington: The Center for Sustainable Development in the Americas (in association with U.S. Agency for International Development and Lawrence Berkeley National Laboratory). November.
- Figueres, C 1997. Center for Sustainable Development in the Americas. Interview with authors.
- Fried, S 1997. Environmental Defense Fund. Washington, D.C. Personal communication.
- Galon-Kozakiewicz, Jolanta 1997. Joint Implementaion in Poland. Warsaw: National Fund for Environmental Protection and Water Management. 3 March.

- Gore-Mbeki Binational Commission (BNC) 1997. US-South Africa Sustainable Energy Committee Progress Report IV. July 28.
- Heesen, D 1997. US Agency for International Development. Jakarta, Indonesia. Personal communication.
- ICE 1995, Costa Rica's electric utility, June. Personal communication.
- Instituto Nacional de Ecologica 1997. The Mexican Government's Guidelines on Joint Implementation.
- Intergovernmental Panel on Climate Change (IPCC) 1997. Intergovernmental Panel on Climate Change Report on Regional Impacts, Summary for Policy makers.
- International Institute for Energy Conservation, Transport Program (IIEC) 1997. "Clean Commute in South Africa," response to Solicitation for Proposals from the US Initiative on Joint Implementation.
- Iscor & Hoogovens, 1997. The Proposed Letter of Intent. 16 September.
- Jepma, C J and Munasinghe, M 1998. *Climate Change Policy: Facts, Issues and Analyses*. Cambridge: Cambridge University Press.
- Ji Online 1997. Country Maps. [<http://www.ji.org/maps>].
- Johnson, Brad 1997. Hawkins, Delafield and Wood. Interview with authors.
- Joint Implementation Quarterly 1997a, vol. 3, no. 3. Groningen, The Netherlands: Foundation JIN. September.
- Joint Implementation Quarterly 1997b. , vol. 3, no. 4. Groningen, The Netherlands: Foundation JIN. December.
- Joint Implementation Registration Centre (JIIRC) nd. Joint Implementation Registration and Certification Procedure. The Hague, The Netherlands.
- Kant, A 1997. Ministry of Foreign Affairs, The Netherlands. Personal communication.
- Kaufman, S 1995. Enersol. Personal communication.
- Lawrence Berkeley National Labs 1995. Survey of businesses with potential interest in AIJ in China.
- Le Blanc, A 1997. An emerging host country joint implementation regime: the case of Costa Rica. In *Incentives for private sector investment in JI: Four case studies of the Netherlands, USA, Norway and Costa Rica*. Oslo: ECON Centre for Economic Analysis.
- Maya and Gupta 1996. *Joint implementation: Carbon Colonies or Business Opportunities?* Harare: Southern Centre for Energy & Environment.
- Maya, S 1997. Activities Implemented Jointly and building African capacity for effective participation. In *AIJ/JI critical issues*.
- Minister For Development Cooperation of The Netherlands, and The Ministry of Industry/Natural Resources and Environment of The Republic of South Africa 1998. Memorandum of Understanding (final draft): Hoogovens & Iscor. 23 January.
- Ministry of Housing, Spatial Planning and the Environment (VROM) 1997. The joint implementation pilot project programme of the Netherlands. The Hague: VROM. June.
- Ministry of the Environment of the Czech Republic nd. Appendix B: Rules for AIJ Pilot Phase Projects Implemented in the Czech Republic. Prague.
- Netherlands Energy Research Foundation, International Institute for Energy Conservation (IIEC), and ABT Consulting Engineers 1997. Housing for a Healthier Future in South Africa: An Activities Implemented Jointly Project in South Africa. October.
- Olander, Jakob 1997. Eco-Decisions (Ecuador). Interview with authors.
- Parker, G 1997. Building South Africa's future: joint implementation for delivery of passive solar, energy-efficient housing for South Africa's urban poor. London School of Economics and Political Science. Unpublished Master's thesis.
- Petricone, S M 1996. Reason to believe? AIJ project financing and the future of AIJ pilot phase for pro-AIJ developing countries. In *AIJ/JI critical issues*.
- Plamphongsant, Suphavit 1997. Government of Thailand. Interview with authors.
- Scholand, M 1998. International Institute for Energy Conservation (IIEC). Personal communication.
- Shevel, 1998. *Cape Times*. 20 January.
- Shiflett, R 1997. International Utility Partnerships. Edison Electric Institute. Interview with authors.
- Simmonds, G and Clarke, A 1998. Energy Strategies for the Urban Poor. Energy and Development Research Centre, University of Cape Town.

- Snyman, W. 1997. Iscor Steel. Personal communication.
- Sugandhy, A 1997. Assistant Minister for Environmental Division of Policy Formulation for Environmental Management, Indonesia. May. Interview with authors.
- Thorne,s 1997. Energy Transformations. Interview with authors.
- Trexler and Associates 1997. Achieving AIJ/JI in the Unites States: An assessment of past experience, stakeholders perspectives, and future options. In *Incentives for private sector investment in JI: Four case studies of the Netherlands, USA, Norway and Costa Rica*. Oslo: ECON Centre for Economic Analysis.
- UNFCCC 1993. United Nations Framework Convention on Climate Change.
- UNFCCC 1996. Uniform Reporting Format: Activities Implemented Jointly under the Pilot Phase.
- US Climate Action Network 1997. USCAN Citizen Update, December 19, 1997, Kyoto Protocol Edition. 19 December.
- US Department of Energy, and SA Department of Minerals and Energy 1995. Statement of Intent to Cooperate on mitigating the threat of Climate Change.
- US Export Council for Renewable Energy, 1996. Draft documents on investing in renewable energy in Guatemala energy policy (produced for the National Biomass Industry Association). Draft documents on Guatemala's energy policy. Personal communication with staff and private sector members of US-ECRE.
- US Intitiative on Joint Implementation (USIJI) 1997. Proposal Screening Worksheet: Housing for a Sustainable South Africa: The Guguletu Eco-Homes Project. 27 August.
- World Bank 1996. Pilot project selection criteria for the World Bank Activities Implemented Jointly Program. Washington, DC: World Bank Global Environment Division. 10 December.
- World Bank 1997. Report of the African Regional Workshop on Activities Implemented Jointly under the UN Framework Convention on Climate Change. February 4-6, 1997. Ouagadougou, Burkina Faso.
- Zazueta, 1995. "Policy Hits the Ground: Participation and Equity in Environmental Decision-Making", World Resources Institute.

## GLOSSARY OF TERMS

**Annex I Parties:**

The industrialised countries listed in this annex to the Convention must adopt measures aimed at returning their greenhouse gas emissions to 1990 levels by the year 2000 as per Article 4.2(a) and (b). They include the 24 original OECD members, 11 former members of the Soviet bloc, and the European Union.

**Annex II Parties:**

The wealthier countries listed in this annex to the Convention have a special obligation to help developing countries with financial and technological resources. They include the 24 original OECD members plus the European Union.

**Article 4.1 of the FCCC:**

Contains general commitments for all Parties: developing and developed.

**Article 4.2:**

Contains specific commitments for developed country (Annex I) Parties only, notably to take measures aimed at returning greenhouse gas emissions to 1990 levels by the year 2000.

**Banking and borrowing:**

The proposal that a country that reduces emissions faster than required be allowed to make "extra" emissions in the future, while a country that fails to achieve its target must later reduce its emissions even further than would normally be required.

**Berlin Mandate:**

Decision 1 of COP 1, which concluded that the developed country commitment to take measures aimed at returning greenhouse gas emissions to 1990 levels by the year 2000 is inadequate. Talks to strengthen this commitment were launched within the Ad hoc Group on the Berlin Mandate.

**Conference of the Parties (COP):**

The COP is the supreme body of the Convention. It currently meets once a year to review the Convention's progress. The word "conference" is not used here in the sense of "meeting" but rather of a decision making body, which explains the seemingly redundant expression "first session of the Conference of the Parties".

**COP sessions:**

The first session of the Conference of the Parties (COP-1) was held in Berlin from 28 March to 7 April 1995, the second (COP-2) in Geneva from 8 - 19 July 1996, the third (COP-3) will be held in Kyoto from 1-10 December 1997, and the fourth (COP:4) is expected in November 1998.

**Financial mechanism:**

As defined by the Convention its role is to transfer funds and technology to developing countries on a grant or concessional basis, under the guidance of the COP. The Global Environmental Facility is "operating" the mechanism on an interim basis.

**Global Environment Facility (GEF):**

The multi-billion dollar GEF was established by the World Bank, the UN Development Programme, and the UN Environment Programme in 1990. It operates the Convention's "financial mechanism" on an interim basis and funds developing country projects that have global climate change benefits.

**Greenhouse gases (GHG's):**

The major GHG's responsible for causing climate change are carbon dioxide (CO<sub>2</sub>), methane (CH<sub>4</sub>), and nitrous oxide (N<sub>2</sub>O).

**Group of 77 and China:**

The G77 was founded in 1967 under the auspices of the United Nations Conference for Trade and Development (UNCTAD). It seeks to harmonise the

negotiating positions of its 132 developing country members. After including China the name was changed.

**Intergovernmental Negotiating Committee (INC):**

The INC met during five sessions between February 1991 and May 1992 to draft the Convention; it met six more times to prepare for COP.1 before completing its work in February 1995.

**Intergovernmental Panel on Climate Change (IPCC):**

The IPCC was established in 1988 by the World Meteorological Organisation and the UN Environment Programme. It conducts rigorous surveys of the world-wide technical and scientific literature and publishes assessment reports that are widely recognized as the most credible existing sources of information on climate change. The IPCC also works on methodologies and responds to specific requests from the Convention's subsidiary bodies.

**National communications:**

A central requirement of the Convention is that each Party must inform the others about its national climate change activities. Developed countries are starting to submit their second reports and developing countries are starting to submit their first.

**OECD:**

The original 24 members of the Organisation for Economic Co-operation and Development are members of the WEOG (Western Europe and Others) regional group and include Australia, Austria, Belgium, Canada, Denmark, Finland, France, Germany, Greece, Iceland, Ireland, Italy, Japan, Luxembourg, The Netherlands, New Zealand, Norway, Portugal, Spain, Sweden, Switzerland, Turkey, the UK, and the US. The more recent OECD members: the Czech Republic, Hungary, Korea, Mexico, and Poland: are not members of WEOG.

**Party:**

A state (or regional economic integration organisation) that ratifies or accedes to the Convention becomes a Party 90 days later and thus legally bound by its provisions.

**Protocol:**

The Berlin Mandate calls for the negotiation of a protocol or another legal instrument "to add new, specific commitments to the Convention. Unlike an amendment to the existing Convention text, a protocol is a separate and additional agreement, although it is linked to the original Convention. There is currently no agreement on voting procedures for a protocol should consensus not be possible, but voting is rarely used in environmental treaties.

**QELROs:**

Quantified Emissions Limitation and Reduction Objectives are targets and timetables.

**Ratification:**

After signing the Convention, a country's parliament or other designated body submits its instrument of ratification to the depository (the UN Secretary General) to start the 90-day countdown to becoming a Party.

**UNFCCC Secretariat:**

Staffed by international civil servants and responsible for servicing the COP and ensuring its smooth operation, the secretariat makes arrangements for meetings, compiles and prepares reports, and co-ordinates with other relevant international bodies. The Climate Change secretariat is administratively linked to the United Nations.

## Workshop participants

*Workshop two - 24 November 1997*

*Mineral and Energy Policy Centre, Johannesburg*

*Facilitators: Randall Fecher, Jessica Hirst*

<i>Name</i>	<i>Organisation</i>
Steve Lennon	Eskom (AIJ Working Group)
Hannelee Terblanche	Weather Bureau, DEAT (AIJ Working Group)
Joe Asamoah	DME (AIJ Working Group)
Andrew Parsons	Chamber of Mines (AIJ Working Group)
Lloyd Wright	International Institute for Energy Conservation/Project developer
Cheri Wonfer	MIDTRAN/Project developer
M.W. Snyman	Iscor Steel/Project developer
Steve Thorne	Energy Transformations/Project developer
Velaphi Msimang	Peninsula Technikon
Richard Sherman	Environmental Justice Networking Forum
Michelle Smith	Environmental Justice Networking Forum
Rest Kanju	EDRC

## APPENDIX

- 
- South Africa's Position on Activities Implemented Jointly
- AIJ/JI Working Group Terms of Reference
- Workshop participants: Workshop One
- Workshop participants: Workshop Two
- AIJ/JI: The Road from Rio to Kyoto
- UNFCCC-CC:INFO/AIJ - List of AIJ Projects
- Workshop participants

*Workshop One - 5 November 1997*

*Energy and Development Research Centre, Cape Town*

*Facilitators: Randall Fecher, Jessica Hirst*

<i>Name</i>	<i>Organisation</i>
Joe Asamoah	DME (AIJ Working Group)
Hannelee Terblanche	Weather Bureau, DEAT (AIJ Working Group)
Andrew Parsons	Chamber of Mines (AIJ Working Group)
M.W. Snyman	Iscor Steel/Project developer
G. Benadé	Iscor Steel/Project developer
Steve Thorne	Energy Transformations/Project developer
Eugene Cairncross	Peninsula Technikon
Velaphi Msimang	Peninsula Technikon
Roben Penny	Environmental Monitoring Group (NCCC)
Jabulani Mjwara	National Botanical Institute
Wendy Annecke	EDRC
Gillian Simmonds	EDRC
Barbara Praetorius	DIW/EDRC
Rest Kanju	EDRC

## South Africa's position on activities implemented jointly

South Africa faces unique challenges in the reconstruction and development of its society and economy. To correct the inequalities of the past, major projects need to be executed very quickly. These include, amongst others, mass housing, electrification, water provision and education programmes. This reconstruction and development also creates significant opportunities for the joint implementation of initiatives.

South Africa supports the concept of Activities Implemented Jointly (AIJ) and is willing to participate in the AIJ pilot phase. Participation within the AIJ pilot phase is acceptable and considered beneficial for the following reasons:

1. Valuable experience can be gained from taking part in this defined, finite, voluntary pilot phase.
2. Experience gained during the AIJ phase may be used in the formulation of our policy on Joint Implementation (JI).
3. Most countries within the Africa Group, G77 & China, SADC and Valdivia, of which South Africa is a member, now support participation in AIJ projects.
4. It is apparent from the project proposals already received by the South African Government, that AIJ projects could assist in the achievement of national development priorities.

In South Africa's support of participation in the AIJ phase, the following conditions apply:

5. AIJ projects can be considered only if they contribute to national development programmes, and need to be synchronised with such programmes.
6. Transparency is essential in the evaluation of AIJ projects, the reporting of agreements reached, and in performance monitoring.
7. AIJ projects must contribute to the achievement of the objective of the UNFCCC by aiming to bring about in a cost effective manner real, measurable and long-term environmental benefits related to the mitigation of climate change that would not have occurred in the absence of such activities.
8. Methodologies used for the evaluation of AIJ projects must be carefully selected so as to ensure the effective measurement of global benefits and total and incremental costs.
9. Funding for AIJ projects should be additional to all existing funding and technology transfer provided for under the UNFCCC.
10. South Africa supports AIJ as a defined, finite phase and notes that the ending or continuation of AIJ will be evaluated by the year 2000. The terms of participation during the subsequent JI phase will be based upon a national position on JI or any alternative; such a national policy will be formulated in due course.
11. The AIJ pilot phase must be used to develop capacity in South Africa so that full local understanding of issues relating to the implementation of the UNFCCC is achieved. This enhanced understanding will improve South Africa's ability to judge the potential positive or negative impacts of foreseen crediting mechanisms and future resource requirements.

No position currently exists on Joint Implementation due to the divergent views and uncertainties surrounding the issue of credit allocation. It is hoped that experience gained during the AIJ phase will reduce the uncertainties and inform the current debate.

## Activities Implemented Jointly/ Joint Implementation Working Group

### Terms of reference

The Working Group on Activities Implemented Jointly (AIJ) and Joint Implementation (JI) is a substructure of the NCCC and represents the interim clearing house for AIJ/JI issues and proposals pending the formulation of a national position on AIJ/JI as part of the development of a national climate change policy.

The main aim of the AIJ/JI Working Group is to facilitate the information dissemination, capacity building, and opportunity for discussion needed to enable the formulation of a national position on AIJ and JI.

The AIJ/JI Working Group is responsible for:

- Dissemination of information on AIJ and JI to the NCCC and other interested and affected parties.
- Creation of opportunities for national and sectoral discussions on AIJ and JI, including the organisation of national information workshops and seminars and the promotion of discussion on AIJ and JI at NCCC meeting.
- Structure and manage the process of formulating a national position on AIJ/JI, including continual evaluation of further steps to be taken with regard to capacity building and information dissemination.
- Act as a national and international contact point for all AIJ/JI issues.
- Act as an advisory group to the NCCC, and national and provincial government with regard to AIJ and JI issues and proposals.
- Draft a list of criteria for the evaluation of proposed AIJ and JI projects.
- Pre-screen potential AIJ and JI projects and make recommendations to the NCCC in this regard.

Draft an interim position statement on AIJ/JI for discussion by the NCCC.

EDRC REPORT SERIES

# Developing AIJ criteria and institutions for South Africa

---

Jessica Hirst  
Randall Fecher

ENERGY & DEVELOPMENT RESEARCH CENTRE  
University of Cape Town