

25 March 2002

ENGLISH ONLY

UNITED NATIONS FRAMEWORK CONVENTION ON CLIMATE CHANGE

SUBSIDIARY BODY FOR SCIENTIFIC AND TECHNOLOGICAL ADVICE

Sixteenth session

Bonn, 5-14 June 2002

Item 4 (c) of the provisional agenda

## METHODOLOGICAL ISSUES

### ACTIVITIES IMPLEMENTED JOINTLY UNDER THE PILOT PHASE: UNIFORM REPORTING FORMAT

#### Submissions from Parties on their experience with the pilot phase

1. At its fifteenth session, the Subsidiary Body for Scientific and Technological Advice (SBSTA) took note of the fifth synthesis report on activities implemented jointly under the pilot phase (FCCC/SBSTA/2001/7). The SBSTA invited Parties (FCCC/SBSTA/2001/8) to submit, by 15 February 2002, their views on experience gained with the pilot phase of activities implemented jointly, for inclusion in a miscellaneous document to be made available to participants in the workshop on activities implemented jointly under the pilot phase referred to in decision 8/CP.7 (FCCC/CP/2001/13/Add.1).
2. The secretariat has received five such submissions.\* In accordance with the procedure for miscellaneous documents, these submissions are reproduced in the language in which they were received and without formal editing.

---

\* These submissions have been electronically imported in order to make them available on electronic systems, including the World Wide Web. The secretariat has made every effort to ensure the correct reproduction of the texts as submitted.

**FCCC/SBSTA/2002/MISC.2**

GE.02-61004

## CONTENTS

<b>Paper No.</b>		<b>Page</b>
1.	ARGENTINA (Submission received 18 February 2002)	3
2.	CHINA (Submission received 10 February 2002)	5
3.	NETHERLANDS (Submission received 21 February 2002)	7
4.	SWITZERLAND (Submission received 18 February 2002)	13
5.	UNITED STATES OF AMERICA (Submission received 21 February 2002)	20

PAPER NO. 1: ARGENTINA

Buenos Aires, February 15, 2002  
Via E-mail

The Secretariat  
United Nations Framework Convention on Climate Change  
Haus Carstanjen  
Martin-Luther-King-Strasse 8  
D-53175 Bonn  
Germany

To Whom it may Concern,

This is in response to request for comments on the Activities Implemented Jointly under the pilot phase. On behalf of the Argentine Government, I would like to address the importance of continuing the Activities Implemented Jointly (AIJ). We strongly believe the continuation of the AIJ program as one of the most effective mechanisms of the UNFCCC. The Argentine Government as well as the Private sector has devoted significant resources to support projects under this program and we strongly believe that if the pilot phase is terminated we shall lose a good opportunity to obtain further experience.

The AIJ program is an excellent example of our nation's engagements and commitment to mitigate the impacts of greenhouse gases. The program allows that companies belonging to industrialized and developing countries—as part of the global multi-billion dollar energy generation and distributions markets—share initiatives and experiences useful for the future development of the Clean Development Mechanism and, at the same time, obtain significant GHG emission reductions independently certified by both the host governments.

Undoubtedly, important progress has been made in addressing the threat of global warming through the implementation of the AIJ program. We believe that it is important that we work together to build on what we have constructed and to further this process. Listed below are the benefits in the continuation of this program:

- *Reduction in GHG emissions* - Emissions of GHG are projected to grow on a global basis. AIJ offers a cost-effective solution to reducing or sequestering emissions of these gases.
- *Investment facilitation* - By reducing transaction costs, AIJ facilitates investments in technologies and projects that reduce GHG emissions while contributing to overall host country development objectives.
- *Promotion of sustainable development* - AIJ projects encourage additional private sector investment in the development and dissemination of technologies and practices that contribute to sustainable development while sequestering GHGs.
- *Public recognition* - AIJ participants receive public recognition for their efforts to reduce the threat of climate change and contribute to sustainable development.
- *International credibility* - Participation in AIJ helps establish a track record in international markets by facilitating relationships with governments, businesses, and organizations in foreign countries.

- *Technology transfer* - The AIJ pilot program encourages the private sector to invest additional resources in the dissemination of innovative technologies that can help meet development priorities while reducing or sequestering GHG emissions.
- *Local environmental and health benefits* - Measures that reduce or sequester greenhouse gases often generate other local environmental and human health benefits by preventing or reducing air, water, or soil pollution and/or by contributing to more sustainable use of natural resources.
- *Local economic benefits* - AIJ projects generate local economic benefits through training, construction of new or improved facilities, public participation in projects, and provision of new energy services.
- *Opportunity to influence the future of AIJ*- Participation in AIJ activities affords the host county an opportunity to influence the direction and structure of AIJ beyond the pilot phase by demonstrating the potential for international collaboration to resolve environmental problems.

Undoubtedly, important progress has been made in addressing the threat of global warming through the implementation of the AIJ program with hundreds of millions of tons already booked and hundreds of millions of tons identified in future projects. If the goal of the program was to encourage partnerships and complete projects, the pilot phase must be considered a success.

We are hopeful that the AIJ program will be continued, and that responsible participants will benefit from their participation, so that current and future participants will continue to put tons of GHG emissions reductions on the table. The AIJ program has proven its effectiveness with very real CO<sub>2</sub> emissions reductions. These activities should be continued and participants should be encouraged by further support and not discouraged by actions to discontinue the program or take action to nullify the value of current and ongoing AIJ projects.

Again, thank you for the opportunity to present comments on this important issue.

With my very best regards, I am

Cordially yours,

Ing. Carlos E. Merenson  
Secretario de Desarrollo  
Sustentable  
y Política Ambiental  
República Argentina

PAPER NO. 2: CHINA

**Views on Experience with  
the Pilot Phase of Activities Implemented Jointly  
Submitted by China  
February 10, 2002**

In accordance with FCCC/SBSTA/2001/L.15, China submits its views on experience with the pilot phase of Activities Implemented Jointly (AIJ) under UNFCCC.

There are four AIJ pilot projects in China in cooperation with Japan (3 projects) and Norway (1 project). The pilot phase of AIJ provided a practical opportunity for addressing methodological issues, such as baseline setting, additionality, system boundary and leakage, etc., and building up AIJ project management experience. The experience gained based on the limited AIJ pilot projects is preliminary and beneficial.

1. Priority area of AIJ project selections. According to Decision 5/CP.1 (FCCC/CP/ 1995/7/Add.1) regarding the establishment of pilot phase for AIJ, the AIJ pilot projects should be selected in priority areas that are compatible with and supportive of host country environment and sustainable development needs, priorities and strategies. Generally the AIJ projects implemented in China were selected according to those criteria.
2. Capacity building through “learning by doing”. The experience with the pilot phase of AIJ in China shows that capacity building should be enhanced through the exercises of “learning by doing” with regard to, *inter alia*, the complexities in setting baselines, the management of AIJ project activities and national institutional processes. Therefore, the majority of the experts involved in the AIJ projects should be from the hosting developing countries.
3. Project specific baseline proves useful and operational. The baselines for the four AIJ projects were precisely determined by applying project specific baseline approach, selected from alternative baseline approaches. This approach has been proven useful and operational, because it could help us get better understanding on the insight of the baseline issue, and establish baseline on the basis of the specific case of each AIJ project in an operational manner. Especially it is necessary for AIJ in the learning stage of the pilot phase.
4. A guideline is needed on how to adjust a baseline over time. Given the fact that technological advance or energy efficiency improvements are certainly taking place in the absence of an AIJ project activity in China, it is needed to develop a guideline regarding how to adjust baseline over the lifetime of the activity.
5. Financial additionality shall be ensured. It should be stressed that funding for AIJ project shall be additional to the current ODA and the financial commitment taken by the Annex II Parties to the UNFCCC, when public funds are provided for AIJ pilot phase.
6. Testing of environmental additionality. The issue whether AIJ projects can bring about environmental additionality, could be primarily measured by project’s technology additionality and investment additionality.
7. The way of system boundary determination. The system boundary should be determined in such a way to ensure that all direct, real and measurable emissions could be included for both AIJ project and baseline case, with a view to minimize the leakage.

8. Identification of the cost for emission reductions in AIJ projects. It is necessary to establish sound guidelines on how to rationally identify the cost needed for an AIJ project related to GHG emission reductions.
9. Information on public financial resources from investing Developed Country Parties, especially the cost for the equipment provided, shall be made available in a transparent manner.
10. AIJ project type distribution still remain uneven between energy efficiency type project vs. renewable energy and fuel switching types. Further efforts are needed to improve the imbalance.

PAPER NO. 3: NETHERLANDS

**Submission by the Netherlands on experience with AIJ in developing countries, 21 February 2002**

The Netherlands welcome the opportunity to report on its experience with Activities Implemented Jointly, as requested in decision FCCC/SBSTA/2001/L.15. Reports on the Netherlands Pilot Project Programme on Activities Implemented Jointly have been sent to the UNFCCC on a yearly basis. In 1999 the Netherlands have submitted their views on experience gained and lessons learned with Activities Implemented Jointly in developing countries and in Central and Eastern Europe, including comments of countries hosting these projects (FCCC/SB/1999/MISC.1, pages 32-74).

The Netherlands' programme on AIJ for Central and Eastern Europe ended in 1999. The Netherlands' programme on AIJ for developing countries was closed for new applications in September 2000. This report focuses on the project results enabling both the Netherlands and developing countries to gain project experience.

Started effectively in August 1996, the AIJ programme of the Netherlands provides in this submission a first general overview of relevant facts and figures. Earlier reporting had to be less detailed because of long lead times for project identification, assessment, and implementation. Even now out of the 26 projects included in the programme, only 3 projects have been fully completed.

The numbers included in the overview table largely reflect the projections included in the various project documents. Though evaluated thoroughly by experts the figures thus need to be interpreted with some caution as many projects are still in the execution stage. Nevertheless the Dutch AIJ portfolio provides the best available - and we believe fair - profile of the potential of the AIJ mechanism as developed by the Netherlands. It is characterized by explicit incorporation of development objectives, technology transfer through private sector involvement, and projects in a wide range of countries.

**79 proposals**

Between 1996 and when the programme closed its intake in September 2000, 79 project outlines were screened. The criteria used merged the sustainable development objectives of the Netherlands' Development Co-operation programme with the UNFCCC objectives. Slightly more than one out of three project outlines passed the first screening and subsequent project proposal appraisal stages. Of these initial 28 projects, 2 were not taken beyond the feasibility study / business plan phase: One floundered because the investors withdrew, and one met insuperable opposition from the EU because it conflicted with its competition rules and regulations.

**Status of 26 projects**

The overview table ("status" column) shows 26 projects in portfolio. Currently the programme has 21 ongoing projects in developing countries: 9 projects in the feasibility / business plan development phase; 5 in the contracting phase, and 7 in the business plan implementation phase. Three projects have been fully completed and two face rejecting investors.

**AIJ in 15 countries**

The original goals of the AIJ programme may be summarised by "achieving the widest possible coverage". That is to say in terms of geographical spread, technology range, sector coverage, and mix of project partners. In response the programme's 26 projects cover 15 countries, a wide range of technologies and sectors with partners from the private sector, NGOs, and government at various levels (and combinations thereof).

**Continental coverage: special focus on Africa**

Of the 26 projects, 9 are located in Africa (6 countries), 6 in Asia (4 countries), and 11 in Latin America (5 countries).

In response to the communication made at CoP3 in Kyoto by the Dutch delegation a special effort was made regarding the African continent. The programme achieved a good distribution of projects over countries and regions.

### **Sector distribution**

The overview table also shows (column 'Sector') 6 Rural Development projects, 6 projects in Building&Construction; 3 Solid Waste projects (of which 2 will probably not be implemented); 3 in Agriculture; 3 in Energy; 3 in Industry, and 2 in Transport. The sector spread developed satisfactorily without special consideration.

### **Over 100 AIJ project partners**

AIJ has brought together a large number of partners as altogether over a hundred partners are involved in the programme's 26 projects. These come from the private sector, NGO's and government, ranging from local to national. Of the 26 projects in the programme's portfolio 6 projects involve local government and the private sector; national governments and the private sector are involved in 2 projects (both in the energy sector); in 4 projects national governments are the partners; in 2 projects the partners are NGO's (of which one has a private sector partner) and 1 project has two regional partners. The largest number of projects, namely 11, has private sector partners only.

### **Technologies**

The technology employed by the 26 AIJ projects ranges from various biomass technologies (8 in fact, ranging from anaerobic processing to gasification); the promotion of energy-saving lamps in different settings (3); energy efficiency improvements in buildings (2); energy efficiency improvements in housing, greenhouses, and the steel and brick industries (5); rural electrification (2); the introduction of LPG in transport sector (2), to 4 typical renewable energy projects covering wind, solar, hydro and PV. As the sometimes high emission reduction costs presented in the overview table show, the sustainable development goals played a prominent part in project selection.

### **Slow pace of AIJ programme**

The fact that most of the projects have not yet left the preparatory stages means that the search for appropriate projects and committed project partners - the two pillars on which the success of the AIJ instrument rests - has taken much more time than originally anticipated. When the initial AIJ pilot period time limit (the end of the decade) passed, only 1 or 2 projects had reached the stage of implementation of the business plan. Many factors contribute to the long lead times experienced. These range from time consuming in-house procedures, concerns on the part of host countries regarding the content of the project's required Memorandum of Understanding (or the use of the instrument itself), and concerns of the investing partners regarding the long gestation period and the effect this has on the soundness of the investment itself. It is expected that the majority of projects will come to full fruition over the coming period.

### **Total investment € 111 million**

Under the heading Investment the projected investments involved are presented. Of the ongoing 24 projects, more than half (14) need investments of up to 1 million € (10 of up to 3/4 of a million € and 4 of around 1 million €). Investments of around 10 million € are needed by 5 projects and investments in 5 projects would range from 3 to 9 million €. The investment in the remaining project (a wind farm in Costa Rica which will be completed in 2003) stands out at 23 million €. As mentioned earlier most of the projects have not yet reached the stage where actual investments need to be made but it is not expected that investors will back off when the time to decide comes. This would put total investment at 111 million € and the average at about 4 million € per project.



### **AIJ share in projects 15%, private sector investments multiplied by 6.6**

The AIJ share of the investments usually comprises the costs of planning (i.e. (pre)feasibility, business and financing plan), and - not rarely - a share of a project's 'hardware' costs for industry projects. To calculate the programme's hardware share the incremental cost principle was used.

The incremental costs comprise the difference in costs between an environmentally friendly technology and the cost-effective technology alternative. The AIJ share averaged a modest 15% over the ongoing 24 projects. As the overview table shows in 5 cases the programme absorbed all costs (100%). In these cases either the development factor was considered to be of paramount importance or the desired project partners clearly lacked the necessary financial means. AIJ investments show a multiplier of 6.6, in other words each Euro invested by the programme was matched by 6.6 € from other, mainly private, investors. This clearly will have a substantial developmental impact.

### **Total emission reduction 6.3 million tonnes CO<sub>2</sub>-eq**

Emission reduction is the 'raison d'être' of the AIJ mechanism. The numbers shown in the overview table are deemed to be reasonable estimates by a panel of experts. They show that the 24 ongoing projects would reduce emission levels by 6.3 million tonnes of CO<sub>2</sub> equivalent. The lions' share (5.2 million tonnes) would come from 5 projects. Only the estimated effects of the projects themselves have been included.

Wider dissemination would in some instances greatly multiply the effect. For instance large-scale replication of the model energy efficient houses in South Africa would lead to millions of tonnes of CO<sub>2</sub> emission reduction. The same can be said if energy efficient greenhouses take off in China.

Dissemination is a major goal in both cases.

### **(Incremental) AIJ costs of emission reduction**

The overview table presents the costs per tonne of emission reduction. Related both to the AIJ contribution (covering the incremental project costs) and to total investment the costs per tonne for the 24 ongoing projects average respectively 2.6 € and 18 € per tonne. Some of the constituent projects are rather expensive in terms of emission reduction costs as the table shows. Most importantly these figures indicate that the AIJ instrument can create a win-win situation: countries gain access to technologies of key importance to their sustainable development at manageable levels of emission reduction costs giving both developing and developed countries what they want.

### **Cost effectiveness of technologies**

How cost-effective are the technologies employed? The following cost ranges (in terms of AIJ investments) summarise the data presented in the table.

- Biomass. Projects range from methane recovery from solid waste at less than 0,2 € per tonne to charcoal production from babacu nuts at 0,1 € per tonne CO<sub>2</sub>. Methane recovery from waste water in the coffee industry costs 3.2 €, and gasification of wood and methane from animal dung between 25 € and 27 € per tonne CO<sub>2</sub>.
- CFL promotion leads to emission reduction costs between 8 € to 11 € per tonne.
- Energy efficiency improvement in buildings (lighting and air-conditioning) emission reduction costs range from 13 € to 28 € per tonne.
- The energy efficiency improvement (steel industry, brick industry, improvement of diesel pumpsets) numbers are lower ranging from 0,6 € to 10 €. Two demonstration projects focussed on large-scale adoption of these technologies show very high figures ranging from 342 € (Energy efficiency in houses) to € 391 (energy efficiency in greenhouses). These projects were selected for their immense potential for emission reduction.
- 'Rural electrification' contains two very different projects: diesel sets in Senegal with a small budget and minor impact and a 250 km rural electricity grid with gas-based generation costing 12 € per tonne of CO<sub>2</sub>.
- LPG introduction in the transport sector costs 6 to 17 € per tonne.

- The four renewable energy projects are very different: Both private industry projects are 0,6 € per tonne (6.4 MW hydro and 20 MW wind farm) while the PV and solar boiler projects range from 320 € to 365 €.

Based on the incremental costs criterion it is concluded that, in ascending order, Waste, Industrial Energy Efficiency, Wind and Hydro projects are most promising. LPG in Transport and the introduction of CFL are more costly, but have potential if taken up on a large scale. Energy efficiency measures in building and construction, PV and solar, and Rural electrification are the most costly and clearly need (financial) government support.

#### **Development goals of AIJ summarised**

It should be stressed that the AIJ instrument was never meant to be a vehicle to purchase cheap emission reductions. Development goals featured prominently from the start. Technology transfer in itself is a useful development tool. The programme tried to further strengthen the development aspect by focusing on the type of intervention that, with some initial assistance, would become viable in a sustained way. In the column IRR/PBP (Internal Rate of Return and Pay Back Period) the economic feasibility of some of the projects is summarised. This is generally positive as the AIJ contribution often made the projects economically and/or financially feasible. New technologies create new employment. The magnitude (additionality) is often hard to establish. Some projects do create new economic sub sectors with substantial impact on employment. Other benefits also reflect Netherlands Development Cooperation objectives. Many projects contribute to poverty alleviation through increasing spending power because of savings made in electricity or heating costs. Some projects improve the quality of life for women and children by reducing the time needed to acquire fuel. Energy efficient housing improves the quality of indoor life and thus health conditions as well as the overall quality of life.

#### **Baseline and monitoring**

Baseline and monitoring studies establish the actual emission reduction of projects. They are very much part of the AIJ learning process. For each technology a baseline and monitoring study will be carried out.

Although the deadline of September 2000 has been passed, the Netherlands' Development Co-operation will fulfil the obligations assumed under the present AIJ programme, provided that project partners are committed to invest and that host country governments formalise the projects in the required MoU's.

## AIJ project list

	Current status	Activity number	Country	Sector	Partners	Technology	Dates		Investment		Emission reduction			
							Start	End	€1.000	% JI	Ktonne Co <sub>2</sub> eq.	Period years	per ktonne JI €	Total €
1	B	BO015601	Bolivia	Transport	Private	LPG	Oct-98		10.227	12%	72	12	17	142
2	B	BO018401	Bolivia	Waste	Local + private	Biomass	Apr-98		6.866	4%	1.400	10	0,2	4,9
3	B	BR004702	Brazil	Rural development	NGO + private	Biomass	Oct-99		12.909	0,86%	1.075	4	0,1	12
4	B	GH010502	Ghana	Building & construction	National	DSM / EE	Aug-00		420	30%	10	7	13	42
5	B	IN039601	India	Agriculture	Private	EE	Jul-98		600	100%	60		10	10
6	B	ZA012502	South Africa	Energy	Local + private	RE / Hydro	Jan-00		9.348	9%	1.280	20	0,66	7
7	B	UG009701	Uganda	Agriculture	Private	Biomass	Apr-00		5.000	20%				
8	B	VN018505	Vietnam	Transport	Local + private	LPG	Feb-99		909	10%	15	12	6	61
9	B	ZM013502	Zambia	Industry	Private	EE	Oct-99		14.205	2%	225	15	1,3	63
10	C	BO019601	Bolivia	Building & construction	Private	DSM / CFL	Oct-98	Oct-03	1.251	23%	26	6	11	48
11	C	BR004701	Brazil	Building & construction	NGO	RE / Solar	Aug-99		688	53%	1	8	365	688
12	C	GM002601	Gambia	Building & construction	Private	DSM / CFL	Nov-99		105	88%	11	6	8	10
13	C	PE018501	Peru	Rural development	National	RE / PV	Jul-99	May-00	477	67%	1	10	320	477
14	C	SN008601	Senegal	Building & construction	National	DSM / EE	Jun-00		485	100%	18		28	28
15	I	CN011101	China	Agriculture	Regional	EE	Oct-97		681	77%	2	10	262	341
16	I	CR014602	Costa Rica	Energy	Nat. + private	RE / Wind	Feb-99		23.974	2%	800	20	0,6	30
17	I	HN004601	Honduras	Rural development	Private	DSM / CFL	Oct-96		5.389	28%	144	6	10	37
18	I	IN033501	India	Rural development	Private	Biomass	May-97		761	100%	28		27	27
19	I	SN008401	Senegal	Rural development	National	Electrification	Feb-00	Feb-02	57	100%				
20	I	ZA010601	South Africa	Building & construction	Local + private	EE	Jan-97	Mar-02	1.027	100%	3	30	342	342
21	I	VN018504	Vietnam	Energy	Nat. + private	Biomass	Jan-99		3.160	72%	92	15	25	34
22	R	BO017601	Bolivia	Rural development	Private	Electrification	Nov-96	Apr-00	11.503	20%	26	12	88	442
23	R	CR011101	Costa Rica	Industry	Private	Biomass	Jan-97	Jun-01	1.170	35%	127	10	3,2	9
24	R	ZA010701	South Africa	Industry	Private	EE	Sep-97	May-00	550	95%	896	7	0,58	0,61
25	T	BD016401	Bangladesh	Waste	Local + private	Biomass	Jul-97	Oct-00	9.205	1%	3.593	12	0,03	3
26	T	PE016101	Peru	Waste	Local + private	Biomass	Oct-96	Jan-98	431	6%	353	10	0,1	1,2
		Totals							111.762	15%	6.312		2,6	18

**AIJ project list – continued**

	Current status	Activity number	Country	Other benefits	Employment m/yr	IRR PBP	Baseline planned	Monitoring planned	Remarks
1	B	BO015601	Bolivia	Local environment	68	140%			Find oils sector investor
2	B	BO018401	Bolivia	Health					
3	B	BR004702	Brazil	Income	>1000	3%			MoU pending
4	B	GH010502	Ghana	Income		3 years			
5	B	IN039601	India	Income, local environment		<1 season			
6	B	ZA012502	South Africa	Economic development	10	9 years			MoU offered
7	B	UG	Uganda						
8	B	VN018505	Vietnam	Local environment, health	25				MoU offered
9	B	ZM013502	Zambia	Economic development	3				MoU to be offered
10	C	BO019601	Bolivia	Income	14	140%			Delay: economic decline
11	C	BR004701	Brazil	Health, income	1	?			MoU pending
12	C	GM002601	Gambia	Income		<1 year			MoU to be signed
13	C	PE018501	Peru	Local environment, health	1				MoU to be offered
14	C	SN008601	Senegal	Income					
15	I	CN011101	China	Health, income					MoU to be signed
16	I	CR014602	Costa Rica	Local environment	8	13%			
17	I	HN004601	Honduras	Income			X		
18	I	IN033501	India	Income, local environment	200	NA			Review
19	I	SN008401	Senegal	Economic development					
20	I	ZA010601	South Africa	Quality of life, health	1		X		
21	I	VN018504	Vietnam	Women, income	70	27%			MoU offered
22	R	BO017601	Bolivia	Economic development	20		X		> 250 km net
23	R	CR011101	Costa Rica	Local environment	16		X	X	
24	R	ZA010701	South Africa	Economic development	4		X		
25	T	BD016401	Bangladesh	Soil pollution, employment		8-14 years			No implementation
26	T	PE016101	Peru	Local environment, health	4	36%			No implementation

PAPER NO. 4: SWITZERLAND

**Report to UNFCCC**  
**AIJ Phase - Activities and Experience of Switzerland**  
February 2002

---

## **1 Introduction**

At COP-2 in July 1996, the Swiss Government announced its intention to participate in the pilot phase for activities implemented jointly (AIJ). In April 1997, the secretariat of the Swiss AIJ Pilot Program (SWAPP) took up its work.

This report summarizes the activities of SWAPP and experience gained in the AIJ pilot phase. Chapter 0 outlines the SWAPP strategy and institutional framework. Chapter 0 describes the registered and planned Swiss AIJ projects. Chapter 0 describes further SWAPP activities, including methodological studies. Chapter 0 summarizes the benefits and lessons learnt from SWAPP. Chapter 0 provides an outlook on future SWAPP activities.

For additional information please visit the SWAPP website, <http://www.admin.ch/swissaij> or contact the program manager:

Martin Enderlin  
Swiss AIJ Pilot Program  
Effingerstrasse 1  
CH - 3003 Berne  
Tel.: (+41 31) 323 08 85 Fax: (+41 31) 324 09 58  
E-mail: [swapp@seco.admin.ch](mailto:swapp@seco.admin.ch)

## **2 SWAPP Institutional Framework and Objectives**

Swiss State Secretariat for Economic Affairs (seco) funds the SWAPP. An interdepartmental committee in which all concerned ministries of the Swiss Government are represented (IDA-AIJ; since 2001: IDA-Swissflex) oversees its activities. The main objectives of SWAPP were formulated as follows:

- ultimately, to contribute to reducing greenhouse gas (GHG) emissions and implementing the UNFCCC;
- to assess the potential for and the cost-effectiveness of the AIJ/JI instrument within the context of Swiss climate policy;
- to demonstrate best practice AIJ projects;
- to promote the transfer of technologies to limit GHG emissions;
- to devise, evaluate and implement incentive mechanisms to encourage private sector AIJ transactions;
- to contribute to the development of credible methodologies for determining and verifying emissions reductions achieved via AIJ projects.

SWAPP adopted comprehensive selection criteria for its AIJ investment projects, with a focus on environmental additionality.<sup>†</sup> In addition, its investments are subject to seco criteria for financial assistance in Central and Eastern Europe, which restricts the geographic range and the scope of eligible technologies.

---

<sup>†</sup> See <http://www.admin.ch/swissaij/>, Program overview

### 3 Outline of Swiss AIJ Investment Projects

SWAPP analysed and developed four projects in detail. Two of them were registered as AIJ activities: the “Swiss-Romanian Thermal Energy Project” (STEP) and the “Bucina Energy Optimisation Project” in Slovakia (see [Table 1](#)).

	<b>Swiss-Romanian Thermal Energy Project (STEP)</b>	<b>Bucina Energy Optimisation Project, Slovakia</b>
Category	energy efficiency	energy efficiency
Project description	<b>reconstruction of 2 district heating systems:</b> <ul style="list-style-type: none"> <li>• new high-efficiency boilers, burners &amp; distribution networks</li> <li>• introduction of combined heat &amp; power generation (CHP engines)</li> </ul>	energetical optimisation of wood processing plant by installation of a gas turbine for wood drying and power generation
Technical lifetime	15 yrs (-30 yrs for long-lived components)	12-15 years
Crediting time	15 years	8 years
Reference scenario (baseline)	<ul style="list-style-type: none"> <li>• heat production and distribution first with existing, low-efficiency equipment (years 1-8), then with new medium-efficiency equipment (years 9-15)</li> <li>• central fossil-thermal power generation with a high share of coal (years 1-15)</li> </ul>	<ul style="list-style-type: none"> <li>• wood dried with exhausts from existing gas-fired burners</li> <li>• central coal-based power generation</li> </ul>
Project host	municipal utilities	wood processing enterprise (privately owned)
Investments (rounded)	million US dollars	million US dollars
• Swiss Government	3.9	2.3
• host funding	2.5	0.3
• total	6.4	2.3
Emission reduction over project life (cumulative, rounded)	140'000 t CO <sub>2</sub>	100'000 t CO <sub>2</sub>
Cost of CO <sub>2</sub> abatement <sup>‡</sup>	8 USD/t CO <sub>2</sub>	-9 USD/t CO <sub>2</sub>
Project status February 2002	<ul style="list-style-type: none"> <li>• project design and baseline validated by independent party</li> <li>• district heating in service since winter 2001/02</li> <li>• CHF engines installed, operative by approx. spring 2002</li> </ul>	terminated in design phase (2001) due to technical risks

**Table 1:** Outline and status of the two registered Swiss AIJ projects.

<sup>‡</sup> Abatement costs include investments, fuel and O&M costs with discount rates of 8% (STEP) and 12% (Bucina).

STEP is the only Swiss AIJ project currently in operation. A Memorandum of Understanding (MoU) and a Project Agreement (PA) were concluded between Switzerland and Romania, stipulating the general framework for AIJ cooperation, and the details of the project, respectively. The agreements foresee that Romania will transfer ERUs in accordance with actual emissions reductions achieved by the project; by the time this should be allowed under the UNFCCC and its legal instruments.

The Bucina project was terminated during the design phase in 2001, due to technical difficulties related to fitting a new gas turbine to existing wood drying installations which would have resulted in excessive CO<sub>2</sub> abatement costs.

Fuel Switch Katowice: Based on the results of the feasibility study, the Swiss Government decided to implement the project in a conventional financial assistance framework, rather than as an AIJ activity. The project's specific costs of CO<sub>2</sub> abatement were considered too high to allow for replication of the project by the Swiss private sector, which is one of the objectives of SWAPP. In fact, abatement costs were estimated at 28 – 44 USD/t CO<sub>2</sub> if calculated from the micro perspective of the project owner. However, considerably lower abatement costs were found when calculated from the macro perspective of the host country, ranging at:

20 – 25 USD/t CO<sub>2</sub> with fuel prices adjusted for tax differentials and subsidies (coal);  
minus 19 to minus 21 USD/t CO<sub>2</sub> if, in addition, health costs from coal-based air pollution are taken into account.

In conclusion, the project was found to yield a clear economic benefit in a comprehensive consideration taking into account local air pollutants.

The Nizhny Novgorod feasibility study, in contrast, found attractive abatement costs (3.2 – 4 USD/t CO<sub>2</sub>-eq.), calculated from a micro perspective. This confirms the findings of other GHG abatement studies that reduction of methane (CH<sub>4</sub>) emissions is a cost-effective measure for mitigating climate change.

## **4 Methodological Studies and Capacity Building**

### **4.1 AIJ Simulations**

A Swiss-Czech financial assistance project was evaluated in an AIJ simulation study (see Brodmann & Lüchinger 1999). In the project, 80 small- to medium-sized heating centres in 7 Czech Cities were rehabilitated, including: increased energy efficiency, fuel switch from coal / oil to natural gas / wood, and installation of a combined heat & power (CHP) unit. The simulation study focused on the implications of different baseline methodologies and approaches to calculate GHG abatement costs. The authors concluded that:

- standardising baselines would be effective in reducing AIJ transaction costs;  
1.
- safeguards are required to ensure environmental integrity of standard baselines;
- CO<sub>2</sub> abatement costs depend strongly on the calculation method (e.g., micro- vs. macro perspective).

### **4.2 Determination of Baselines under the CDM**

This study explored baseline setting and additionality under the CDM, and their relation to the concept of Cleaner Production (CP; see Bürki & Grütter 2000).<sup>§</sup> Hypotheses were validated using empirical results from the cement, textile, food and transport sectors in Costa Rican. Based on their analysis, the authors recommended that:

---

<sup>§</sup> UNEP defines Cleaner Production as: '(...) the continuous application of an integrated preventive environmental strategy applied to processes, products and services to increase efficiency and reduce risks to humans and the environment.' In the GHG context, an important focus of Cleaner Production is to increase energy efficiency through optimized operation and maintenance of installations.

- appropriate operation and maintenance (O&M) of facilities should be considered business as usual. Emission reductions from optimized O&M should, consequently, be included in CDM project baselines and be considered non-additional;
- generally, measures reducing GHG emissions with a payback of less than 2 years should be considered business as usual, and not as additional.

Please note that the above conclusions and recommendations do not necessarily represent the Swiss Government's position.

### **4.3 Institution and Capacity Building**

One major capacity-building activity launched in September 1997 by seco / SWAPP is the Swiss-World Bank Collaborative Initiative on National AIJ/JI/CDM Strategy Studies (NSS). Up to today, the Czech Republic, the Slovak Republic, the Russian Federation, Uzbekistan, Zimbabwe, Columbia, Bolivia, South Africa, Egypt, Ukraine and China have received financial support by seco and access to Swiss consultancy services to consider potential benefits of participating in the AIJ pilot phase and the Kyoto mechanisms, to address relevant methodological and policy / institutional issues and to identify potential projects. Further studies are in the pipeline. For details, see <http://www-esd.worldbank.org/cc/>.

## **5 Benefits and Lessons Learnt**

The SWAPP activities have yielded a number of benefits, which can be summarized in a nutshell as:

- increased understanding and expertise related to AIJ, JI and CDM, for both host countries and Switzerland (public, government and private sector), resulting in know-how and support for flexible mechanisms.

### **5.1 Success Factors for AIJ Investment Projects**

- Host AIJ institutional capacity

Experienced staff, a clear division of responsibilities and efficient procedures are indispensable for keeping AIJ-related project delays and transaction costs at an acceptable level, particularly with a view to private-sector engagements. The SWAPP activities revealed serious shortcomings in this respect, but also contributed to improvements. This underlines the necessity of governmental pilot investment projects and dedicated capacity building initiatives in the field of the flexible mechanisms.

- Host co-financing capacity

The Swiss requirement for host co-financing helped to increase identification with and long-term support of the SWAPP investment projects. At the same time, it caused considerable delay in some instances. Consequently, early securing of co-financing is considered crucial for project success.

- Technical expertise

The importance of technical expertise should not be underestimated vis-à-vis the AIJ-specific barriers. SWAPP tries to focus on simple and proven technologies with, preferably, a track record of applications in the host country (e.g., in the context of EBRD activities).



- **Personal contacts**

Intensive personal contacts with government and project host's key persons proved essential to enable smooth and successful project development and implementation. Permanent local staff reporting to Swiss responsables – highly motivated and correctly paid – turned out to be very helpful.

## **5.2 Methodological Insights**

- **Transaction costs**

Standardisation of baselines, or baseline parameters, is required to reduce uncertainty and transaction costs for hosts and investors. Examples include emission factors for displaced grid electricity, and emission factors for small- and medium sized district-heating facilities.

- **Additionality**

The potential for non-additional projects (free riding) can be considerable for some project types. Adequate safeguards are required to ensure environmental integrity of these projects. Examples of safeguards include: Restricted crediting lifetimes or eligibility criteria, which can be based on financial parameters, increased stringency of baselines, and ensuring equivalence of service between project and baseline.

- **Leakage**

Different types of leakage were mostly found to have little impact on overall environmental performance of the SWAPP projects. In energy efficiency projects such as STEP, upstream emissions reductions from natural gas production and transport were excluded from the crediting arrangements, which contributed to offsetting potential negative leakage.

- **ERU / CER transfer**

No carbon credits were transferred under the SWAPP projects to date. As a result, very little experience could be gathered in this respect. Pro's and con's of different approaches, e.g. credit sharing between host and investor vs. payment on delivery based on emissions reductions purchase agreements, could not be explored. In addition, involvement of private sector entities, and associated contractual models for credit transfer, were not considered.

- **URF**

Practical experience in using the Uniform Reporting Format for AIJ allowed forwarding recommendations for an improved format to the UNFCCC Secretariat.

## **6 Outlook**

In 2001, seco decided to continue the SWAPP until 2005. Inter alia, some additional investment projects shall be implemented under the following provisions:

- only projects from the existing pipeline will be considered; no new projects shall be identified;
- as of January 2002, projects will be implemented under JI / CDM rather than AIJ, with transfer of credits for achieved emissions reductions;
- as a precondition for investment decisions, Memoranda of Understanding (MoU) and Project Agreements (PA) for credit transfers between the respective host countries and Switzerland will need to be in place. The deadlines are 2002 for MoU, and 2003 for PA, respectively.

With the aim to prepare the ground for private sector investments IDA-Swissflex expects these JI and CDM projects to result in significant additional gains of experience and benefits for all involved stakeholders. In parallel, SWAPP will support the Swiss Agency for the Environment, Forest and Landscape (SAEFL), which is in charge of implementing the provisions of the Kyoto Protocol primarily within the legal framework of the Swiss CO<sub>2</sub> law and continue to support institution and capacity building also through the NSS Program, with Swiss co-financed studies to be completed by summer 2003.

Last, but not least, SWAPP will assist the CDM Executive Board and the Interministerial Committee IDA-Swissflex in fulfilling their tasks.

## 7 References

- Brodmann Urs & Alexander Lüchinger, 1999. *Swiss-Czech Co-operation Project "Conversion of Heating Centres", Activities Implemented Jointly (AIJ) Simulation Study (on behalf of Swiss Federal Office for Foreign Economic Affairs)*. <http://www.admin.ch/swissaij/>
- Bürki Thomas & Jürg Grütter 2000. *Determination of Baselines under the CDM. Development of a Definition Including Cleaner Production Potentials and the Additionality Issue*. Final Report for State Secretariat for Economic Affairs. <http://www.admin.ch/swissaij/>
- Electrowatt Engineering, 2000. *2 AIJ / Fuel Switch Projects in the Katowice Region: detailed project appraisal on behalf of State Secretariat of Economic Affairs*. Zürich.
- Ernst Basler + Partners Ltd., 1998a. *Swiss Thermal Energy Project in Buzau and Pascani, Romania – Part A: Feasibility Study – Technical Proposal: feasibility study on behalf of Federal Office for Foreign Economic Affairs, Switzerland*. Zurich
- Ernst Basler + Partners Ltd., 1998b. *Swiss Thermal Energy Project in Buzau and Pascani, Romania – Part B: Proposal for Joint Implementation of STEP: feasibility study on behalf of Federal Office for Foreign Economic Affairs, Switzerland*. Zurich
- Ernst Basler + Partners Ltd., 1999. *Project Appraisal SK FH 42 "Bucina Zvolen" – Greenhouse Gas Emission Reduction in a Wood Processing Company in Slovakia: feasibility study on behalf of State Secretariat for Economic Affairs, Switzerland*. <http://www.admin.ch/swissaij/>
- Planair and RWB SA, 2000. *Nizhny Novgorod Aeration Station AIJ Project for Biogas Utilisation: project appraisal on behalf of State Secretariat of Economic Affairs*. La Sagne / Porrentruy.

In addition to the registered Swiss AIJ projects, two further investment projects were developed under the AIJ program. They are summarized in [Table 2](#).

	<b>Fuel Switch Katowice, Poland</b>	<b>Nizhny Novgorod Aeration Station, Russia</b>
Category	fuel switch	methane capture & utilisation
Project description	<p><b>modernisation of 2 heating systems in Polish cities (Chorzow and Pscyna)</b></p> <ul style="list-style-type: none"> <li>new high-efficiency boilers, burners &amp; part of distribution network</li> <li>fuel switch from coal to natural gas</li> <li>installation of gas engine</li> </ul>	<ul style="list-style-type: none"> <li>use of biogas from waste water treatment to produce heat and electricity (gas engine)</li> <li>increase energy efficiency of equipment in waste water treatment plant (new pumps)</li> </ul>
Technical lifetime	15 years	15 years
Crediting lifetime	15 years	15 years
Reference scenario (baseline)	<ul style="list-style-type: none"> <li>till 2005: heat production and distribution with existing systems</li> <li>exchange of old coal-fired boilers by new gas boilers between 2005-2015</li> </ul>	<ul style="list-style-type: none"> <li>no change of status quo till 2005</li> <li>2005: replacement of existing boiler by biogas boiler</li> <li>2011: installation of Combined Heat and Power (CHP) and heat recovery device</li> </ul>
Project host	Chorzow: Hospital Pscyna: Municipal Engineering Company	Nizhny Novgorod Aeration Station (waste water treatment plant))
Investments (rounded)	million US dollars	million US dollars
<ul style="list-style-type: none"> <li>Swiss Government</li> <li>host funding</li> <li>total</li> </ul>	<p>2.5</p> <p>1.3</p> <p>3.8</p>	<p>4.5</p> <p>1.7</p> <p>6.2</p>
Emission reduction over project life (cumulative, rounded)	Chorzow: 37'000 t CO <sub>2</sub> Pscyna: 142'900 t CO <sub>2</sub>	1.7 - 2.3 Mio t CO <sub>2</sub> equivalents (depending on chosen alternative)
Cost of CO <sub>2</sub> abatement**	Chorzow: -19 to +44 USD/t CO <sub>2</sub> Pscyna: -21 to +28 USD/t CO <sub>2</sub> (see details in text)	3.2 - 4 USD/t CO <sub>2</sub> -eq. (depending on technical alternative)
Status February 2002	<ul style="list-style-type: none"> <li>detailed project appraisal conducted</li> <li>project will not be implemented as AIJ</li> </ul>	<ul style="list-style-type: none"> <li>project appraisal conducted</li> <li>decision on implementation pending</li> </ul>

**Table 2:** *Outline and status of additional projects evaluated (not registered as AIJ)*

\*\* Abatement costs include investments, fuel and O&M costs with discount rates of 10% (Katowice) and 12% (N. Novgorod); 1 USD = 1.69 CHF (February 2002)

PAPER NO. 5: UNITED STATES OF AMERICA

**General U.S. Comments on AIJ and the Workshop**

The AIJ pilot phase has provided a useful learning experience in the design and implementation of project-based activities. Maintaining and improving the program will allow participants to continue to gain from these and other benefits. At this time, however, we do not have specific comments to share on our experiences with AIJ. We look forward to continuing the dialogue and sharing any further thoughts we may have in the future.

We look forward to the upcoming AIJ workshop. We believe that the workshop would benefit from including stakeholders that have been involved in the design and implementation of AIJ projects. Previous workshops, including those on Policies and Measures, have benefited from NGO participation. It is our sense that the issues to be covered in the workshop could be addressed in less than two days. We would suggest a one-day workshop that focuses on the Uniform Reporting Format.

**U.S. Comments on the Draft Revised Uniform Reporting Format**

**General**

We greatly appreciate the efforts made by the Secretariat to revise the Uniform Reporting Format (URF) for Activities Implemented Jointly (AIJ) under the Pilot Phase, as contained in FCCC/SB/2000/6/Add.1. We also appreciate the Secretariat's efforts to accommodate our suggestions.

Our principal recommendation is to change the format to minimize the burden on project developers. Comprehensive data is useful from an analytical perspective. Its value, however, must be weighed against the increased time and money required of developers who may receive few economic benefits from a project in the AIJ pilot phase. In compiling our annual AIJ reports, project developers have expressed frustration at the amount of information requested for a voluntary exercise, and the data we receive now is sometimes incomplete or "not available." We have found it is easier to ensure full reporting from project developers if it is clear why their data is being collected and what purpose it will serve. They realize, for example, that it is important to demonstrate greenhouse gas (GHG) accounting, but they may see only academic reasons for requesting extensive discussions of methodology, narratives on monitoring, and descriptions of social and cultural impacts.

**Specific**

**Section A (Governmental acceptance, approval or endorsement)**

We believe several questions currently in other sections would be more appropriately answered by the host country in its official letter. Specifically, the host country would be more qualified than the project developer to address the potential impacts of the project on its economy, society, and culture, and the project's compatibility with its national priorities and strategies in those areas. Also, the host country could better speak to the impacts of the project on capacity building and technology transfer. (See comments under Sections C, D, and G).

**Section B (Summary of AIJ project)**

No comment.

### **Section C (Compatibility with and supportiveness of national economic development and socio-economic and environment priorities and strategies)**

Although this section has not been changed in the revised version, we believe that acceptance of an AIJ project by the host country government and the other participating Parties establishes that the project is consistent with national priorities and strategies. Thus, we would advocate eliminating this section, and incorporating this information into the guidance under Section A and call upon the host country to note the activity's compatibility with its priorities and strategies in its official letter.

### **Section D (Environmental, economic, social and cultural impacts)**

Project developers are not in a good position to assess the social and cultural impacts on a host country of a particular project activity. Although we feel the section on environmental impacts should remain, the emphasis on providing quantitative information is unnecessary and burdensome. We suggest rewriting the second and third sentences of the chapeau to read, "Please provide qualitative information on the potential environmental impacts of this project, especially regarding transboundary impacts. To the extent it is available, please provide quantitative information." We suggest deleting sections D.2 and D.3, and allowing the host country to comment upon any economic, social, and cultural impacts it deems appropriate in its official letter in Section A.

### **Section E (Calculation of real, measurable and long-term benefits that would otherwise not have occurred)**

We acknowledge that the existing URF section on baselines is limited, often resulting in reporting that makes it difficult for analysts to replicate the calculations made by the project developers. The proposed revised guidelines, however, add a level of complexity that is beyond what we could reasonably expect from respondents. In E.2, the format is particularly onerous in requiring baseline projections and explanations corresponding to each scenario revision that may have taken place. We believe that it would be sufficient to ask for the most current one. We recommend deleting sections E.2.4 and E.5.2.

We also appreciate the Secretariat's attempts to clarify what cost data should be reported and the sensitivities shown toward what information could not be provided due to its confidential nature. However, we doubt that the information requested will be worthwhile. We believe that trying to establish financial additionality through the provision of extensive financial data is not a useful exercise for AIJ projects, and providing the necessary information is burdensome. If a decision were taken to retain section E.7, we would recommend modifying the table in E.7.2 that asks for considerably disaggregated data. Specifically, in order to simplify matters, we would suggest changing the title to "Project costs;" deleting the "Net Present Value" column; deleting the subcategories under "Project development costs," "Other costs," and "Transaction costs;" and deleting "Revenues." We suspect that even if the table remains as it is, the developers are likely to cite confidentiality concerns and not provide any cost data.

In short, we recommend deleting sections E.2.4, E.5.2, and modifying E.7.2.

### **Section F (Financing)**

To reiterate our comments in the "General" section above, determining financial additionality is very difficult, and asking project developers to provide extensive financial information is burdensome. Therefore, we recommend that the entire section be replaced by the questions: "Is this project funded with Official Development Assistance or Global Environment Facility funds? If yes, please explain how much came from each source and for what purpose it was used."

**Section G (Contribution to capacity building, transfer of environmentally sound technologies and know-how)**

We do not believe that developers are in a position to assess the contribution that their projects may have on host country capacity building. Host countries themselves are better suited to make that assessment. In addition, if a host country accepts a project, it is reasonable to assume that it has also accepted the technology involved. Therefore, we suggest deleting this section and inviting the host country to discuss the impact of the project on capacity building and transfer of technology in its letter in Section A.

**Section H (Additional comments)**

No Comments.

-----