



ASIA PRO ECO II

CASE STUDY  
**VOLUNTARY AGREEMENTS – SUPPORTING THE  
REALISATION OF INDUSTRIAL ENERGY SAVINGS  
AND ENVIRONMENTAL ENFORCEMENT**  
EXPERIENCES FROM AN EC ASIA PRO ECO  
PROJECT IN CHINA



# THE BACKGROUND



## Project period

2004 – 2009

## Funding stream

EuropeAid, EC Asia Pro Eco, VA1: 334.139 EUR, VA2: 467.865 EUR

## Partners:

- SenterNovem, Netherlands' Agency for Innovation and Sustainability – the Netherlands
- Wageningen University and Research Centre, (WU) Netherlands – the Netherlands
- Wuppertal Institute for Climate, Environment and Energy (WI) – Germany
- Nanjing Environmental Protection Bureau (NJE PB) – P.R. China
- Xian Environmental Protection Bureau (XAEPB) – P.R. China
- Kelamayi Environmental Protection Bureau, (KMEPB) – P.R. China
- Research Institute of Environmental Protection of Nanjing City (NJRIEP) – P.R. China
- Environmental Management College of China (EMCC) – P.R. China

**Negotiated Voluntary Agreements (VAs) or Long-Term Agreements (LTAs) have proven to be flexible and cost-effective policy implementation instruments for realising ambitious improvements of energy efficiency and environmental management in Europe.**

Pressing environmental concerns and the ineffectiveness of top-down policy approaches to tackle complex environmental problems at the local level in China lead to the idea of transferring good practice with cooperative policy VA approaches from Europe to Chinese urban areas.

The project was initiated in 2004 by two Chinese experts from Nanjing Environmental Protection Bureau and Wageningen University respectively, who had studied in the Netherlands. They identified the Dutch negotiated LTAs as a policy instrument with a large potential for industrial environmental management in China and approached SenterNovem (the former NOVEM, Dutch Agency for Energy and Environment), to set-up an EU-China cooperation project. With the experience of SenterNovem, who developed and managed the Dutch Long-Term-Agreements, a partnership was established, bringing in additional institutions with the relevant background

**For more information visit our project website**

[www.va-china.com](http://www.va-china.com)

**or contact SenterNovem project coordinator**

Mr. Erik ter Avest

(NL Agency of Ministry of Economic Affairs)

Erik.terAvest@agentschapnl.nl

Phone +31 88 602 2475

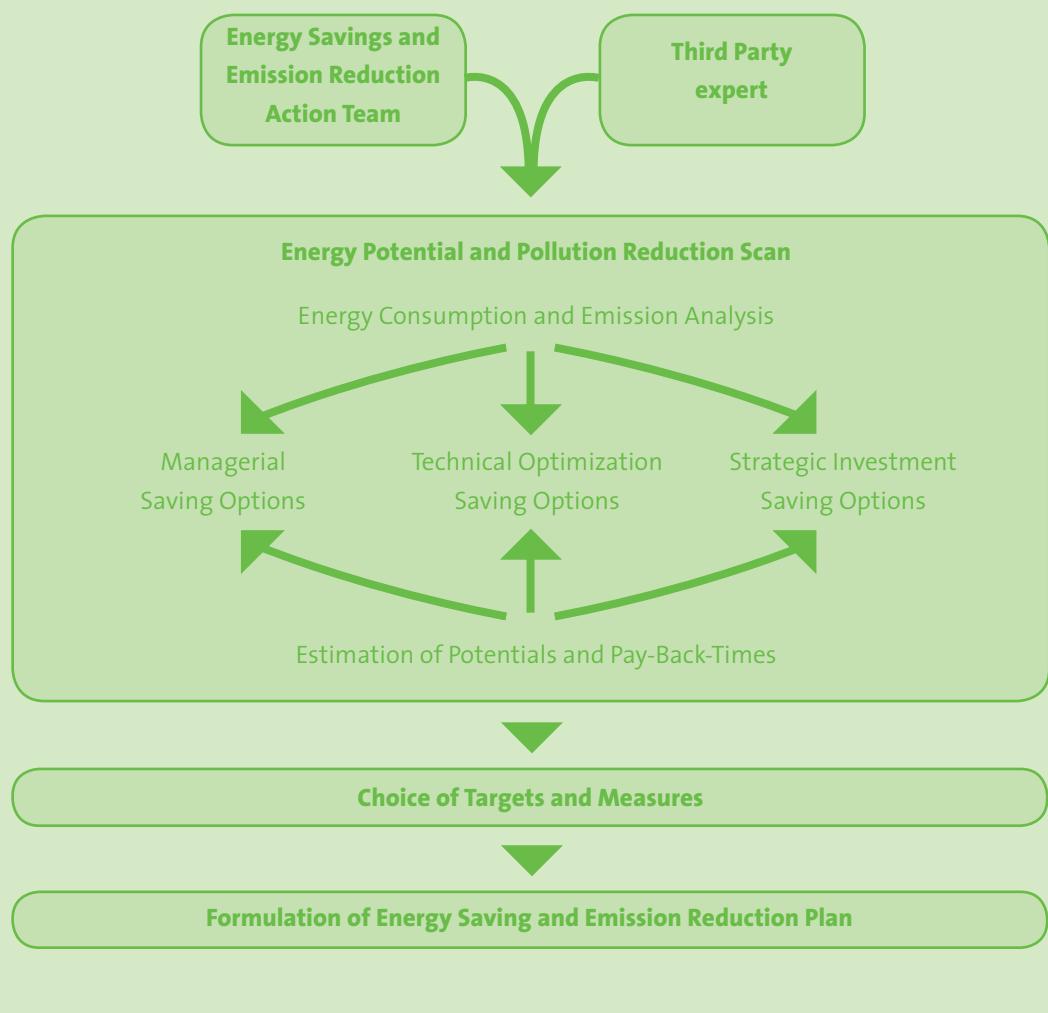
companies in Nanjing, Xi'an and Kelamayi (under Asia Pro Eco II). The agreements covered the steel, power generation, cement, refinery, brewery, car manufacturing and petrochemical sector – a mix of private and state-owned companies. Although the pilot agreements drew heavily

on the experiences with voluntary agreements in Europe, in particular the management aspects of the Dutch Long-Term-Agreements such as energy potential scans (see box below), they were adapted significantly to the Chinese circumstances as further explained in the next section.

### Process Management in the pilot voluntary agreements in China

*In the negotiated pilot agreements, much emphasis was put on process management applying a cooperative and participatory approach throughout. Each enterprise put together a so-called Energy Saving and Emission Reduction Action Team for voluntary agreement development and implementation. These LTA Action Teams were endorsed by the general management and chaired by an operation manager. They conducted Energy Potential and Pollution Reduction Scans in cooperation with energy and environment experts, as well as sales & marketing managers to identify potentials and*

*possible measures to realize them (see figure 1). In the pilots the planning phase also included a scan of pollution reduction options. During the scan both options for technical and management improvements are assessed. In addition, their energy saving or pollution reduction potential and associated costs and benefits are roughly estimated. On this basis, achievable targets were agreed and a detailed LTA action plan was developed for each individual pilot company. This procedural bottom-up innovation helped to create a sense of ownership in the companies and assigned clear responsibilities.*



# THE FRAMEWORK FOR VOLUNTARY APPROACHES IN CHINA



In contrast to many voluntary agreements in the EU, due to the different institutional and political setting in China, voluntary agreements in this project activity were not applied in order to avoid regulation but to facilitate implementation of existing national targets. Namely, those of the China National 11th Five-Year Plan (2006-2010), which foresees a nationwide reduction of energy intensity by 20%, and absolute pollution by 10% from 2006 until 2010.

At the beginning of the first phase of the project – during the feasibility study in 2004 and 2005 – far more ambitious environmental protection than business-as-usual was the aim of the EPB in Nanjing. The introduction of the 11th Five-Year Plan, however, put ambitious mandatory targets in place. These targets were subsequently broken down to the provincial level, but also increased the pressure on energy-intensive state-owned industry to contribute to the target achievement. Furthermore, the recently amended Energy Conservation Law (2008), which introduced the achievement of energy intensity targets into annual performance evaluations of local cadres, poses a permanent threat of underperformance for local administrations. At the same time, national state-owned industries imposed stricter performance requirements on their branch companies to fulfil their national targets. Subsequently, voluntary agreements are now being used to ensure implementation of provincial and internal company targets rather than going beyond existing regulation. The comparison of tangible results on energy saving and emission reductions between LTA pilot companies and comparable Chinese reference groups clearly shows the added value and sustainable impact of voluntary LTAs.

This makes LTAs valuable for further replication throughout China and Asia. The project activity showed that these participatory agree-

*"The project activity showed that voluntary agreements can also function in China as an effective implementation tool"*

ments can function as an effective implementation tool: bridging the gap between national interests and regulatory requirements and their implementation at the local level.

The big advantage of the cooperative approach of voluntary agreements is that it both acknowledges bottom-up industry concerns – different to traditional top-down target setting – and actively supports enterprises in their implementation efforts. This increases industry's engagement in energy efficiency and environmental improvements at the local level.

## Support provided by Environmental Protection Bureaus to industrial companies

- Identification of energy saving and emission reduction potentials
- Technical training / Training on Process Management
- Preferential access to money in the local Environmental Funds
- Awarding the Environmentally Friendly Enterprise award
- Applying simplified procedures for issuing environmental permits, and
- Reducing emission fees.

Environmental Protection Bureaus have also provided additional incentives to participating companies. Companies have been offered prioritised access to local environmental funds and a better reputation through receiving a so-called Environmentally Friendly Company award, which showed to have a strong motivating power. Each Chinese city/municipality has its own Environmental Fund, which is financed via pollution fees collected by EPBs. Money from

the fund is reinvested in projects that improve environmental performance in industry. In the voluntary agreement pilots preferential access to these funds was provided to participating companies in order to encourage larger investments in energy saving or pollution reduction equipment. On average, subsidies from the Environmental Funds provided no more than 10% of the overall investments undertaken in the voluntary agreements. The subsidies cover feasibility studies, as well as technical and process design for implementing the measures identified in the voluntary agreement. They also con-

tribute part of the investment for purchasing new equipment. For example, the Nanjing branch of China Cement Factory received about 30,000 EUR (or 300,000 CNY) from the Nanjing Environmental Fund – enough for conducting feasibility studies and process design to prepare implementation of the measures listed in the agreement. The Environmental Fund thus showed to be an effective instrument to spur investments in environmental technologies. The remaining 90% of investment was usually financed through companies' private equity or bank loans.

## TOWARDS REPLICATION – HOW TO ADVANCE EFFECTIVE VOLUNTARY AGREEMENTS



This project activity showed that by engaging local authorities and industry to pursue an agreed goal together, negotiated voluntary agreements help to pool expertise from several actors and organisations with different backgrounds and skills, finally helping to solve complex problems faster. Building on the successful experiences made in the pilot implementation, Nanjing Environmental Protection Bureau is planning to extend its work on voluntary agreements to include an additional 26 companies from energy intensive and emission intensive sectors. At the same time, extending the scope from the current big companies to SMEs. Even at the national level, the Ministry of Environmental Protection is looking into transferring experiences from the pilot action to more Chinese cities. Similarly, the National Development and Reform Commission, China's central planning organ, is considering to include voluntary

*"Since the content of the agreements can be adjusted to local needs and circumstances [...] they hold great potential to be used in many areas of sustainable production and consumption"*

approaches into China's 12th National Five-Year Plan (2011-2015) to facilitate the achievement of energy saving and emission reduction targets. In this context, a good policy uptake and support is important to replicate voluntary agreements in other regions of China.

Since LTAs are flexible and the content of the agreements can be adjusted to local needs and circumstances, e.g. by extending the agreements to include pollution reduction on top of energy savings, they hold great potential to be used in many areas of sustainable production and consumption, where a multitude of actors are working towards a similar goal.

How to develop voluntary agreements step-by-step is explained in more detail in the Voluntary Agreement Toolbox, which will be available in English and Chinese at the Switch Asia Network Facility and this project's website (<http://www.va-china.com/>) from December 2009.



## KELAMAYI

### VOLUNTARY AGREEMENTS IN KELAMAYI

The region of Kelamayi is rich on oil and natural gasses. The first oil well started pumping in 1955, when the Kelamayi oil field was established. The city of Kelamayi was only established in 1958, but has since then undergone a rapid growth with the fast development of its petrochemical industries. The Kelamayi Environmental Protection adopted Voluntary Agreements as an instrument to coordinate pollution control and reduction with the petrochemical industry. As part of the VA2 project, three of the largest petrochemical companies in the region have been receiving support to introduce cleaner production techniques and better health & safety standards. The petrochemical industries have benefited from investments in recycling of wastewater, better handling and reuse of solid waste, reduction in SO<sub>2</sub> emissions, and energy savings. All the target companies have managed to decrease their pollution levels through voluntary agreements. Every year the Municipal Financial Bureau directs 10 million Yuan to a special foundation, which is used to award companies with outstanding environmental achievements. The funds are collected from sanctions of companies with environmental violations.

## NANJING

### VOLUNTARY AGREEMENTS IN NANJING

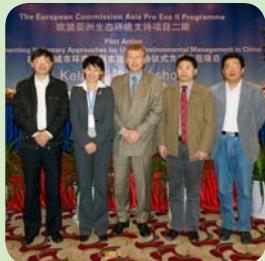


The current industry of the Nanjing region basically inherited the characteristics of the 1960s, with electronics, cars, petrochemical, iron and steel, and power as the “Five Pillar Industries”. The city of Nanjing has been one of the front-runners in adopting voluntary agreements, which has proven to be a successful way to address environmental problems, especially when cooperating with state-owned companies. Nanjing Environmental Protection Bureau has made a strong push for developing a stick-carrot mechanism, where companies open to initiate voluntary agreements get priority

access to the Government environmental funds, when they seek to invest in cleaner technologies. This showed to be a good incentive for the target companies, who all applied for funding from the Environmental Protection Bureau, even though the maximum support was only 10% of the full investment. The investments made so far have already achieved an energy saving of 17.8 PJ, a reduction in SO<sub>2</sub> of 9259 tonnes, and COD of 1567 tonnes. Nanjing has also introduced an award system for progressive companies, which they can use to achieve easier access to the environmental funds for further investments.

## XI'AN

### VOLUNTARY AGREEMENTS IN XI'AN



Xi'an has developed to a place of technical, educational, industrial and commercial centre in the Mid-Western Region of China and is rich in tourism resources. Compared with the other regions involved in the VA2 project, Xi'an has especially been successful in reaching out to private enterprises. Private sector participation is crucial for Xian's development as a National Environmental Protection Model City. Thus Xi'an Environmental Protection Bureau has intensified its co-operations with private companies by adopting voluntary environmental management approaches. Xi'an Environmental Protection Bureau has set up a special voluntary agreement fund available for pilot companies that are fulfilling the VA targets. In addition, Xi'an Environmental Protection Bureau has also set up simplified procedures for issuing environmental permits for the private companies, which are implementing VAs. As a result, more and more private companies are willing to participate in voluntary agreements in the follow-up to this action. The four pilot companies in Xi'an have also made great progress in improving their environmental performance. The average reduction of SO<sub>2</sub> for all companies in Xi'an is 4.34%, while the pilot companies have achieved an outstanding 8.7% - double the city average.