



# Domestic Biogas Newsletter

# SNV

Connecting People's Capacities

Issue 5 – September 2011

Dear reader,

**It is our pleasure to present the fifth issue of the SNV Domestic Biogas Newsletter - we hope you will enjoy reading these brief reports.**

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## Production rate of biogas plants in 2010 and first half of 2011

*Over 36,000 units constructed in the first half of 2011*

In the first half of 2011, more than 36,000 biogas plants have been installed through the country programmes supported by SNV. The table below provides an overview of the unofficial numbers for this period. The largest numbers were realised by the Biogas Support Programme (BSP) in Nepal and the Biogas Programme (BPII) in Vietnam. The National Domestic Biogas and Manure Programme (NDBMP) in Bangladesh ranks third, followed by the National Biodigester Programme (NBP) in Cambodia. The Indonesia Domestic Biogas Programme is gaining momentum, while some of the younger African programmes (Kenya, Uganda, Ethiopia and Burkina Faso) are progressing quickly. It is expected that the overall production rate of the programmes this year will surpass the rate achieved in 2010 (over 61,000 plants).



In 2010, China (as the largest biogas country) has installed an estimated 5 million units, arriving at a total of 40 million operational plants by the end of 2010. In India, about 150,000 units were constructed within the fiscal year 2010-11 under the National Biogas and Manure Management Programme (NBMMP), bringing the national total to 4.4 million biogas plants by March 2011.

The table also provides the total investment cost of an average-sized fixed-dome biogas plant in the countries. It is clear that these costs are much higher in Africa than in Asia. China and India also have low investments costs, USD 473 and 437 respectively. In Nicaragua, an estimate was made in the framework of a feasibility study, arriving at USD 702 for an average-sized digester. As a promotion tool, all country programmes offer subsidies ranging from 10% in Vietnam, to 26% in both Nepal and Bangladesh, to 69% in China.

Credit facilities are widely used in Bangladesh, with 86% of all biogas plants financed through a loan. Indonesia and Cambodia follow, with 84% and 54% of plants financed through credit respectively.

Country	Programme commenced	Installation in 2010 (official)	Cumulative up to 2010	Installation in 1 <sup>st</sup> half of 2011 (official)	Average investment costs (USD)
<b>Asia</b>					
Nepal	1992	20,753	225,356	16,551	663
Vietnam	2003	24,511	100,342	8,464	621
Bangladesh	2006	5,688	15,707	3,022	488
Cambodia	2006	3,744	10,146	2,854	430
Lao PDR	2007	937	1,966	227	448
Pakistan	2009	520	587	420	505
Indonesia	2009	1,581	1,643	1,500	660
<b>Africa</b>					
Rwanda	2007	627	1,061	395	1,339
Ethiopia	2008	731	859	605	800
Tanzania	2008	1,021	1,127	546	710
Kenya	2009	837	840	1,044	947
Uganda	2009	583	626	560	741
Burkina Faso	2009	112	112	208	808
Cameroon	2009	49	72	16	858
Benin	2010	22	22	0	1,211
Senegal	2010	14	14	127	898
<b>Total</b>		<b>61,729</b>	<b>360,480</b>	<b>36,539</b>	

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## International workshop on domestic biogas programmes in Asia: transformation towards commercial sectors and development of effective financing facilities

*22-24 November 2011, Bandung, Indonesia*

More than fifty different organisations cooperate in the Working Group on Domestic Biogas convened by SNV under the Energy for All Partnership (E4ALL) initiated by the Asian Development Bank (ADB). The objective of this group is the innovative dissemination of one million domestic biogas plants in 15 Asian countries by 2016, providing access to sustainable energy to five million people.

Whereas for the giant biogas countries China and India the focus will be solely on innovation, scaling-up is targeted in eight Asian countries with existing national programmes, while the launch of feasible programmes is targeted for new countries. To cater for the external financing needs of the programmes, an Asian Rural Biogas Facility is under development and is planned to be operational by the end of 2012. This facility will consist of two separate funds: a regional structured debt fund and a regional basket grant fund.

Against this background, SNV and Hivos/Indonesia Domestic Biogas Programme, in cooperation with the ADB/E4ALL, are organising an International Workshop in Bandung, Indonesia, from 22-24 November 2011. The workshop will address issues such as how to further commercialise the national programmes, how to increase local ownership, investments by farmers and financial contributions by national and local governments, which resources need to be mobilised up to 2016, how feasible the proposed regional structured debt fund is, what the opportunities to establish a regional basket fund are vis-à-vis bilateral funding, and how to maximise carbon financing. A total of 120 people are expected to participate in the workshop.

*For more information, please see the workshop announcement [here](#).*

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## Interlocking Stabilized Soil Blocks (ISSB) for domestic biogas installations

For households considering investing in a domestic biogas installation, the construction costs play an important role. This holds even truer in Africa, where high investment costs are combined with low disposable incomes. To a large extent the high construction costs result from the high costs of cement –one of the main biogas plant construction materials - on the continent. Stabilised soil blocks use local soil in a mix with about 5% cement and are, after compression in a press, often of better quality than burned bricks. Innovative in this area is the use of interlocking, curved blocks, initially developed for the construction of water tanks.



Last year, the Uganda Domestic Biogas Programme piloted constructing a modified Camartec biogas plant using ISSB. The very promising results of the pilot – up to 30% cost reduction including two to three days gain on construction time, not to mention reduced firewood consumption for burning bricks (up to four tonnes per 1000 bricks) warranted further discussion. To this end, the Africa Biogas Partnership Programme, in cooperation with UDBP and Dr. Musaazi, organized an ISSB workshop for biogas programmes in Uganda from 4 to 8 July. Participants witnessed the production of blocks and the construction of installations using ISSB. In addition, plant designs were adjusted to accommodate ISSB and preliminary cost-reduction calculations were made. Meanwhile participating biogas programmes have all acquired the necessary equipment and are implementing their own pilots.

A report on the workshop is available, please contact Mr. Felix ter Heegde on [fterheegde@snvworld.org](mailto:fterheegde@snvworld.org) for further details.

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## Upcoming biogas training opportunity in Asia (31 October – 4 November 2011)

The Asian Institute of Technology (AIT) in Bangkok, Thailand, is offering a one-week (5-day) training on domestic biogas from 31 October to 4 November, 2011. The training course will be conducted in cooperation with the Asian Development Bank (ADB), the Energy Environment Partnership for Mekong (EEP Mekong) and SNV. Some of the topics that will be addressed include: technology, benefits, sustainable development, programme design, monitoring, (carbon) finance, fermentation processes and stoves. The target groups for the training are national and international policy makers, project staff, managers, consultants and students. The training will be provided in English by experienced biogas practitioners. If you are interested in participating and would like to receive more information, please contact Dr. Abdul Salam of AIT before 30 September 2011 on [sky@ait.ac.th](mailto:sky@ait.ac.th) or [chaon@ait.ac.th](mailto:chaon@ait.ac.th).

[Click here for the AIT flyer of the training course.](#)

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## Blue flames for Bhutan

*Asian Development Bank supports renewable energy in rural areas*

With financial support from the Asian Development Bank (ADB), the Bhutan Biogas Programme (BBP) will build capacity in the public and private sectors to install 1,600 domestic biogas plants up to 2014 in four districts - Samtse, Chhukha, Tsirang and Sarpang.

The programme is part of the Rural Renewable Energy Development Project in Bhutan. Besides biogas development, this project hosts three other components (rural electrification, solar home systems and wind power). SNV was appointed through a single source selection because of its "unique expertise and qualification for creating the biogas market". The Bhutanese Department of Energy (DOE) is the Executing Agency for BBP. The Department of Livestock (DOL) in the Ministry of Agriculture and Forests, and the Bhutan Development Finance Corporation, Ltd (BDFC) are the main Implementing Agencies for BPP. The DOE is responsible for overall planning and renewable energy policy support. SNV is providing capacity building and training to the executing and implementing agencies. Key functions for the set up of a biogas sector in Bhutan are promotion and awareness raising, and private sector development, including financial and after sales services and strong quality controls. This pilot is intended to enable local Bhutanese organisations to run a larger-scale biogas programme in the subsequent phase.



[For reports of the preparatory biogas studies on Bhutan, please click here.](#)

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## Study underpins potential for biogas in Sri Lanka

*Outline prepared for a national biogas programme*

Biogas technology was introduced to Sri Lanka in 1975, and since then many initiatives have been conducted in the country. Unfortunately, these initiatives have not resulted in wide-scale dissemination of domestic biogas. To identify the factors constraining the wider adoption of biogas in Sri Lanka, People in Need (PIN) and Practical Action (PA) commissioned a feasibility study on a national biogas programme in February 2011, co-executed by SNV.

The study was based on the first-hand experiences of PA and the Lanka Biogas Association (LBA). Some of the constraints identified were the absence of after-sales services, the lack of reliable local technical capacities and appropriate financing mechanisms; and the lack of a coordinating mechanism at national level. An outline for a Sri Lanka Domestic Biogas Programme (SLDBP) was developed, targeting the installation of plants for 3,150 households through a market-based approach. The total budget required is estimated to be EUR 3.8 million, of which 36% will be realised through local financing (households), while ODA (still to be acquired) will cater for the remaining 64%.

[Click here for the concept note developed by PIN.](#)

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## New sources of finance for biogas in Cambodia and Laos

*People in Need, Voluntary Gold Standard, Polarstern, Blue Moon Fund and Fondation Ensemble*

The National Biodigester Programme (NBP) in Cambodia has entered into an agreement with Czech INGO People In Need (PIN) to provide investment subsidy for a number of provinces to establish biogas user networks and to support private sector development in selected provinces. PIN's total funding over a period of three years will amount to a total of about USD 807,000 USD, of which 87% will be contributed by the Czech Development Agency.

After considerable delay, the VER project under the NBP was registered by the Gold Standard Foundation on 24 May, 2011. This will hopefully result in more sustainable financing of the biogas sector in Cambodia.

An agreement was also reached with Polarstern, a German energy company. This company only supplies energy from sustainable sources and is seeking to link their approach in Germany with the NBP in Cambodia. Over the period July 2011 to June 2012, Polarstern intends to finance the investment subsidy of 1,000 biodigesters on a pilot basis.

In Laos, the Bleu Moon Fund provided an amount of USD 208,696 USD to the Biogas Pilot Programme (BPP) for a period of two years (2011 and 2012), covering the advisory services of SNV. Through this fund, the programme found a very strategic partner to bring energy poverty issues to high-level agendas and act as an advocate for to the programme.

In July 2011, the French NGO Fondation Ensemble, granted EUR 100,000 to BPP with the aim of supporting business development, promotion/marketing and the local manufacturing of biogas appliances over a period of two years.

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## Sixth Asia Clean Energy Forum held in Manila from 22-24 June 2011

*More than 600 participants from over 50 countries participated*

The Sixth Asia Clean Energy Forum 2011, titled "New Business Models and Policy Drivers - Building the Low-Carbon Future", took place from 22-24 June in Manila, the Philippines. The event was organized by the Asian Development Bank (ADB), the United States Agency for International Development (USAID), and the World Resources Institute (WRI), and aimed to promote best practices in clean energy policy and regulation, financing and investment, innovative business models, and energy access.

Energy access, in particular, played an important role during the conference and was presented in six breakout sessions covering topics on different technologies, business models, and the roles of various stakeholders in Asia and the Pacific. For more information on the Energy for All Partnership in Asia, see the website at [www.energyforall.info](http://www.energyforall.info).

[Click here for an overview of the sessions and write-up of the discussions at the 2011 Asia Clean Energy Forum related to Energy for All.](#)

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## ABPP bio-slurry training in Addis Ababa

Proper application of bio-slurry impacts the feasibility of domestic biogas installations to such an extent that some households value the bio-slurry, for its ability to increase agricultural production and reduce input-costs, of the plant even more than the energy aspects.

From July 25 to 29 the ABPP, in cooperation with Integrated Sustainable Development- Ethiopia and Dr. Fokhrul Islam from the National Domestic Biogas and Manure Programme in Bangladesh, organized its first bio-slurry workshop for its African programmes. Participants were offered detailed insight in bio-slurry characteristics, composting techniques and slurry and compost application methods. A field visit underlined the practical aspects of bio-slurry application and a bio-slurry monitoring methodology was developed in draft.



A workshop report will be available shortly. For more information, please contact Mr. Felix ter Heegde on [fterheegde@snvworld.org](mailto:fterheegde@snvworld.org).

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For more information on SNV and our activities in domestic biogas, please visit our website at [www.snvworld.org](http://www.snvworld.org) or contact Renewable Energy Sector Leader Mr. Wim J. van Nes on [wvannes@snvworld.org](mailto:wvannes@snvworld.org).

SNV is dedicated to a society in which all people enjoy the freedom to pursue their own sustainable development.  
We contribute to this by strengthening the capacity of local organisations.

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