



Netherlands Enterprise Agency



Netherlands Programmes for Sustainable Biomass (NPSB)

Sharing results:
sustainability in practice



The Netherlands Programmes for Sustainable Biomass

Aiming at:

- Stimulating the sustainable production of bio-energy and biomass
 - Guarantee sustainability through certification
 - Counteract indirect effects
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- Both export and local biomass for energy chains
 - Two Dutch ministries: Ministry of Economic Affairs and Foreign Affairs.
 - Netherlands Enterprise Agency (formerly: NL Agency)



40 projects in 20 countries



[Watch our movie](#)



The NPSB project portfolio

Unprecedented portfolio in terms of variation in biomass projects:

- 20 countries
- 10 types of biomass
- Different business models: from outgrowers to large scale plantation types
- Import chains and local use of biomass
- Developing biomass production chains
- Use of various certification schemes
- Consortia include business, NGO's, researchers

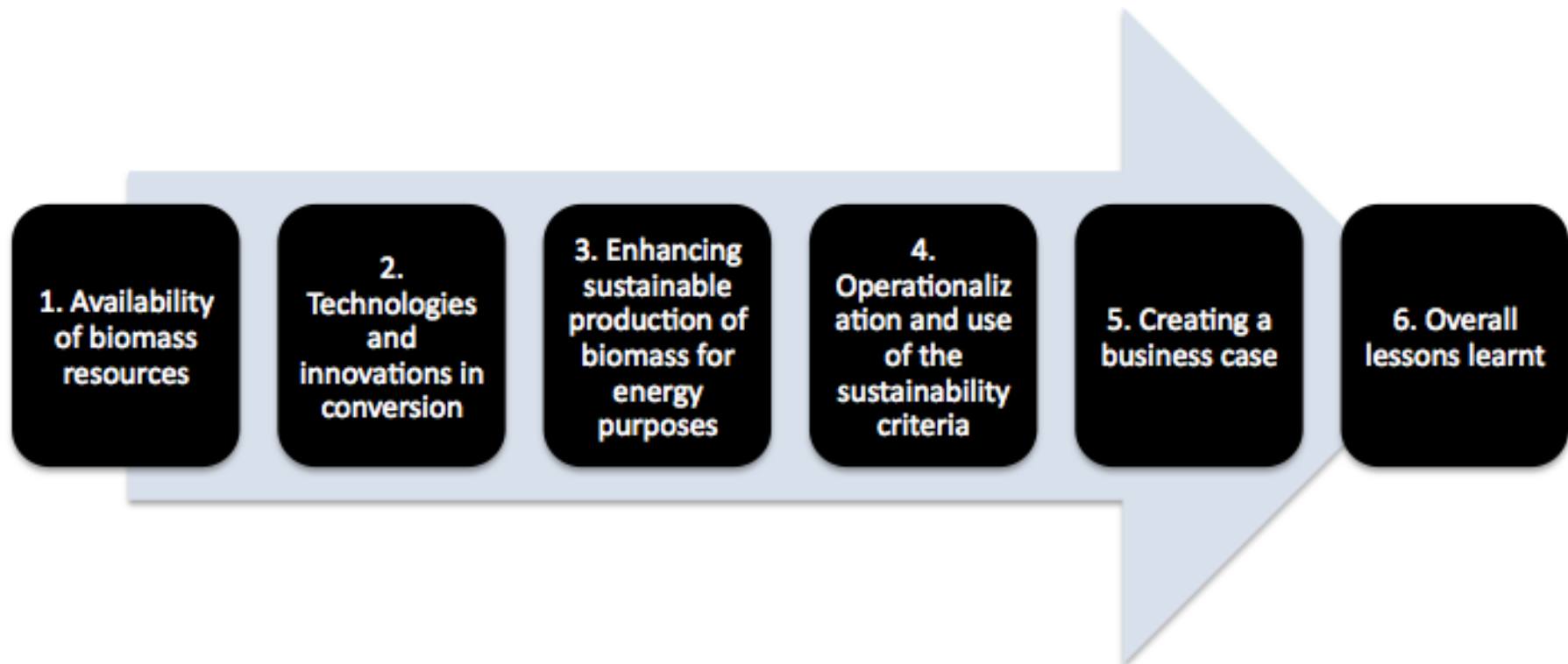


Valuable lessons learned!

*» Focus on sustainability,
innovation and international*



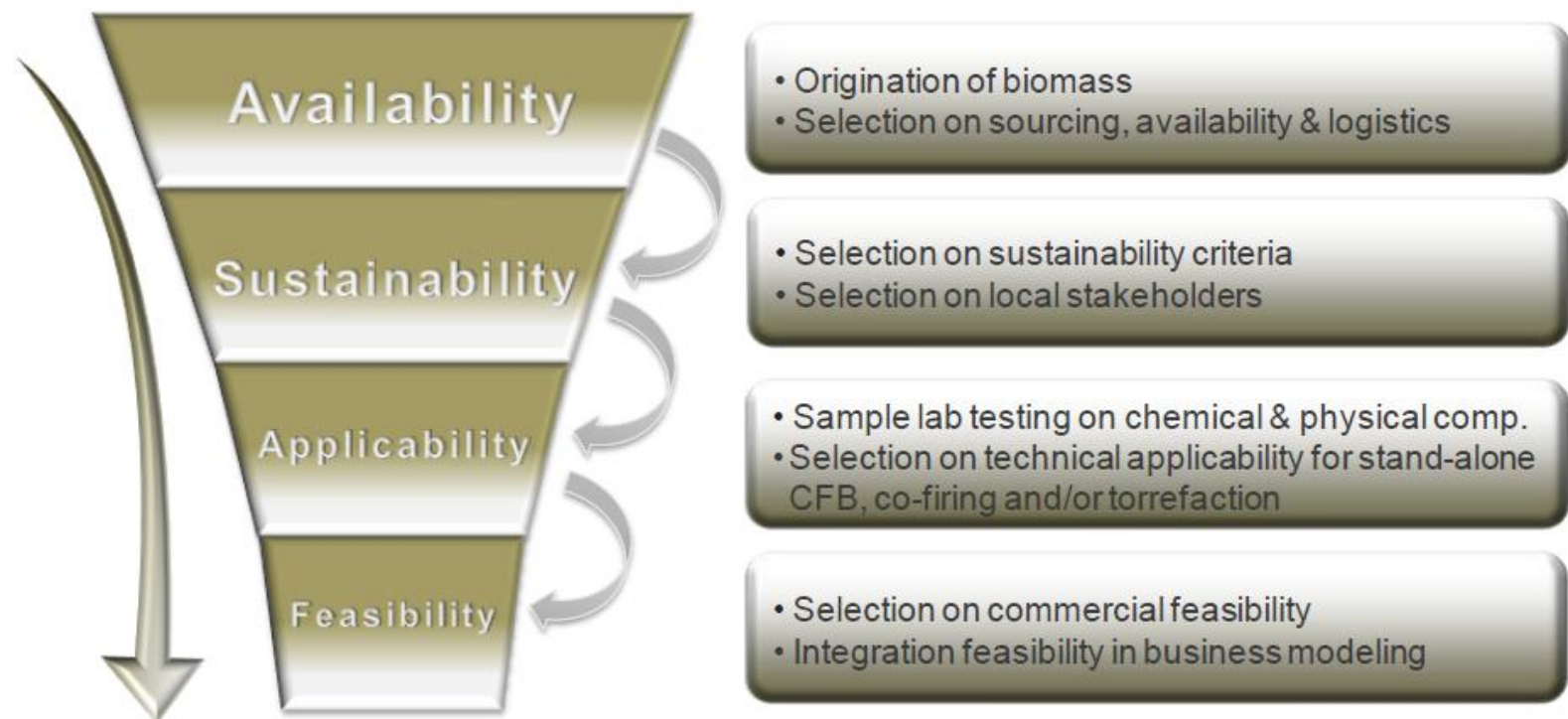
Lessons learned on various aspects





1. Biomass mobilisation

1. Availability in theory does not match availability in practice



» Focus on sustainability,
innovation and international



1. Biomass mobilisation (2)

1. Innovative biomass resources need time: (varieties selection, growing)
2. Abundant availability of residues
3. Start locally and scale up to international chains
4. Need for multiple market outlets

Best practice

Mozambique: Nuclues outgrower model merges short term available biomass with agro forestry





2. Conversion technologies

1. Social innovation: existing technologies in new countries
2. Adaption of technologies to enlarge applicability of feedstocks:
3. Need for quality standards for alternative feedstocks
4. In Developing Countries move from traditional to modern biomass use
5. NGO's can facilitate this transition

Best practices

Alternative pellets from reed and bamboo

Charcoal: most efficient technology is not always the best choice

Vietnam: pilot testing of algae in shrimp ponds.



3. Sustainability impacts

Projects all worked on lowering sustainability impacts and enhancing benefits, by e.g.:

- Use of residues
- New crops and multiple outlets and end use
- Crops on unused or under utilised lands
- Increasing the socio-economic benefits
- Good examples of integrated food/fuel production

Best practice

Think in production systems which do 'more good' by combining energy security, food security and job creation.

South Africa: job creation in agriculture

Mozambique: agroforestry



4. Tools for certification

In many projects, tools for certification were developed:

- Operationalisation of criteria, with a focus on socio-economic criteria
- Contribution to the development of certification systems (RTRS, UTZ, NTA 8080, RSB)
- Self assessment tools: e.g. producer support and loyalty tool; spider diagrams
- Development of policy frameworks in various countries (Mozambique, Mali). Energy security and food security are key
- Certification of indirect effects is feasible (developed and tested, embraced by RSB)

Lusanda Moletsana, South Africa: *"When I look at certification systems, I see a business management system. It highlights continuous improvements, production efficiency and legal compliance. Farmers directly benefit from this"*

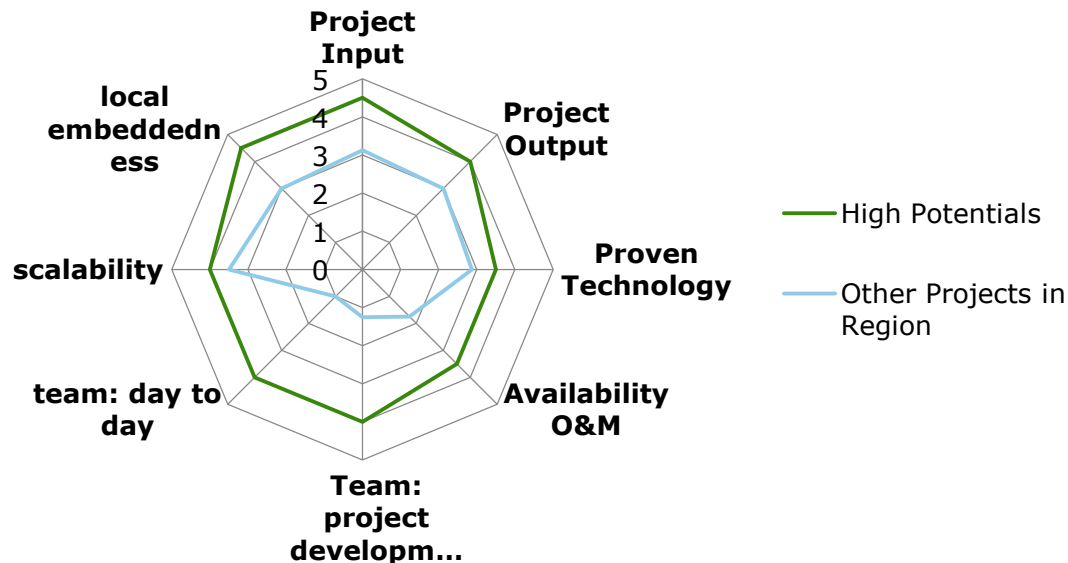


5. Business case development

Development of methodology to formulate the business case:

- Structures projects based on risk factors
- Helps to get finance and to steer projects

Latin America



» Focus on sustainability,
innovation and international



5. Business case development (2)

People are important to make a good business case!

- Presence of strong, local partner is essential
- Consortia: bringing in own strengths (academics as “neutral” partner, NGOs as link to local communities)
- Align with existing partnerships and developments in country (e.g. Trade organizations, governmental programs) to facilitate uptake
- Participatory approach to involve local farmers, create support, socialization of project
- Day to day management: flexibility, experience in projects





Wrapping up

Program has run for 4 years: many lessons learnt on different topics.

- Moving towards a sustainable transition (innovative feedstocks, technologies, approaches) requires additional effort from projects in terms of time, cost, learning and creating acceptance
- This programme shows that practical experiences and tools are available to do this!
- Sustainability is crucial and provides opportunities for long term business

Lessons to be Implemented in H2Ow2Guide Bioenergy



Green Matter Meeting & Magazine

Read our magazine:

[www.rvo.nl/biomass/
greenmattermagazine](http://www.rvo.nl/biomass/greenmattermagazine)



WWW.rvo.nl/biomass

IMPLEMENTING A BIOGAS PROJECT IN SOUTH AFRICA

Lessons Learned

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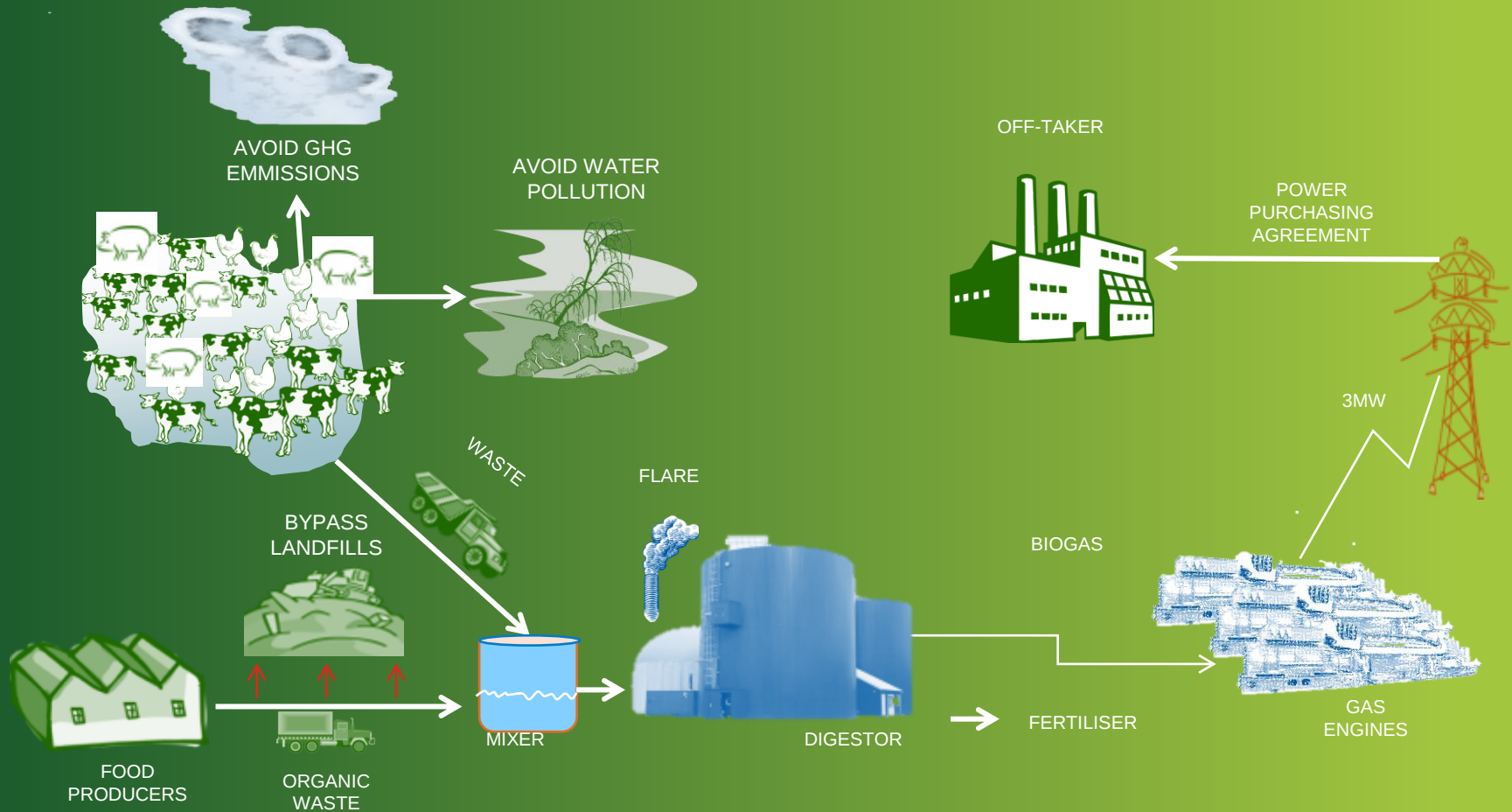
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PROJECT SUMMARY

- Bio2Watt, a Renewable Energy Project development Company which develops, owns and operates its projects, has started construction of the 1st commercially viable biogas project wheeled in South Africa – Bronkhorstspuit Biogas Project (Pty) Ltd (“BBP”), approximately 40kms east of Pretoria on a 20,000 cattle feedlot.
- BBP will operate for 10 years, with the opportunity to renew agreements for an additional 10 years.
- The 4MW of electrical power generated will be sold to an industrial off-taker via a power purchasing agreement (PPA).
- Total project costs are estimated to amount to R135m. The project is structured as a limited recourse finance transaction, with the IDC providing a commercial loan equal to 70% of total project costs.
- BBP has achieved financial close, we are currently in construction

THE BRONKHORSTSPRUIT BIOGAS PROJECT



WASTE
REDUCTION

LANDFILL
AVOIDANCE

JOB CREATION

CLEANER
ENVIRONMENT

PROVIDE
ENERGY SECURITY



01 January 2007

01 January 2008

31 December 2008

31 December 2009

31 December 2010

31 December 2011

30 December 2012

30 December 2013

2 years

Environmental Impact
Assessment

Supply Agreements

Negotiating and Finalising a
PPA

Interconnection Agreements
(Eskom & Tshwane)

Licenses and Permits

Term sheet to Loan
Agreement

EPC Wrap Agreement

O&M Agreement

Approaching Investors to
Investment

Feasibility Study

Environmental Escalations

- **Full EIA required whereas a Basic Assessment would have sufficed:**
 - Triggered by Air Emission License because of the plant being considered as “animal processing facility” because of the presence of abattoir waste
 - Also “” Water Use License: irrigation, storage of dirty water, use of water from Dams
- **Biogas is not properly understood by officials as a result it is added to listed activities: further specialist costs and time for assessment**
- **DWA officials had no set time frame within which to respond unlike other licensing departments**
- **The digestate from fertiliser is a high grade organic fertiliser in Europe and is used for crops such as Maize. Local regulations requires the project at great cost to get rid of valuable nutrients.**



LESSONS FOR DEVELOPERS:

- FUNDING:** Line up as much funding as you can from the start
- LEGAL ADVISORS:** Sign up project finance lawyers and aim for a fixed fee contract – only use one firm for the transaction
- FINANCIAL ADVISORS:** Unless you have done this before you need project finance advisors
- LONG AGREEMENTS:** Your agreement start date should provide you with flexibility.
- YOUR BANK:** Clarify all terms & conditions before you go out for tender.
- YOUR INVESTORS:** Seek patient investors with a vision.



LESSONS FOR REGULATORS:

- LICENSES:** Simplify and streamline the processes – one license for land use, water usage, waste management.
Application process could seriously be quicker.
- MUNICIPALITIES:** Provide clear directives and a wheeling protocol.
- DOE, NERSA & ESKOM:** Industry is best supported through strong supportive policy frameworks



More information?

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