

MITIGATION IN THE AGRICULTURAL SECTOR

*Striving for a low carbon economy and
low input agricultural sector*

Addressing our energy needs and
finding adaptation synergies

Solid Waste Coconut Biomass

to replace Fossil Fuels

Mitigation Technology Case Study - SAMOA

- Coconut Biomass Gasification - syngas
- Private Sector and Government partnership
- An identified source of biomass fuel that would otherwise largely be wasted - coconut shells
- Replacing 50% or more of 20Million litres of diesel imported annually
- Proven technology used in past 60 years
(e.g. Rice Husk Gasification – Philippines)
- Dual fuel systems in Australian coal industry



Requires Major Re-think

- EPC interested in gasification, but about to buy US\$35M diesel generators, hoping to use 5-20% coconut oil in fuel mix
- Using coconut oil has NEGATIVE food security implications
- In this proposal coconut millers/farmers asked to use waste shells and husks as BIOMASS
- Farmers can now see their coconut plantations as energy crops AND improve food security
- Private sector and farmers to cooperate as IPPs (Independent Power Producers)

A need to be innovative

Win:Win

- 15 Million litres diesel displaced annually
- Replaced by locally sourced biomass
- Agriculture sector adopting RE technologies
- Food security safeguarded
- Increased socio-economic development
- Increased poverty reduction through job creation
- Adaptation benefits - Sustainable Land Management
- Valuable bi-products for export

Creative use of Technologies

Facts and figures in support of case study

- If we meet 50% of our power needs (12.5MW per hr) = \$SAT210,000/d or \$76.5 M per yr
- Potential retail income from coconut waste

Samoa has twice the solid coconut waste biomass needed to replace its diesel power



URGENCY TO ACT

- Good Global Leadership by developing countries
- Good Synergies (Agriculture & Energy & Women & Biodiversity Conservation)
- Sustainable development benefits, job creation, poverty reduction, food security, energy security

- Adaptation through SLM

South-South technology transfer and cooperation

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IMPROVED SUSTAINABLE DEVELOPMENT

- Energy Sector
- Agricultural Sector
- Biodiversity Sector
- Tourism Sector

Affordable sustainable energy

underpins all sectors