Global Alliance for Incinerator Alternatives
Global Anti-Incinerator Alliance

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DODGY DEALS – CDM incinerator case
GALFAD – Bali, Indonesia

Description:

The GALFAD (Gasification, Landfill gas, Anaerobic Digestion) project is at the center of a garbage controversy in Bali, Indonesia, a world-class tourist destination famed for its beaches.

The people of Bali have a long tradition of using indigenous and easily-composted materials in preparing and serving food. But the boom in tourism has resulted in a deluge of plastics and other non-compostable materials that is now overwhelming the ability and capacity of the Balinese to deal with the huge amounts of waste.

To deal with this crisis, the Indonesian government has turned to a waste-to-energy project. The GALFAD project is a multi-phase project that includes the collection of landfill gas (LFG) from an open dumpsite, a 2MW power generator using the recovered LFG, a pyrolysis gasification (incineration) plant to process the dry portion of the organic waste, and an anaerobic digester. Once completed, the project is touted to generate 9.6MW of electricity, and to reduce greenhouse gases (GHG) by 123, 423 $mtCO_2e$. GALFAD will receive carbon credits from the Clean Development Mechanism (CDM) of the Kyoto Protocol.

The original project proponent was Pt. Navigat Organics Energy (NOEl), in partnership with Mitsubishi UFJ Securities Co., Ltd, but the project was sold in 2009 to Pt. Manunggal Energy. Currently, this project is at a standstill. As of June 2010, only the first phase of the project, the LFG collection facility, has been completed.

On the opposite side and in direct contrast to the GALFAD project, is a community-based solid waste management program run by Balifokus, a local non-government organization (NGO). Balifokus' founder, Yuyun Ismawati, was awarded a Goldman Prize in 2009 for her contribution towards empowering the informal sector of waste workers by making them a valued partner in organized waste collection. Balifokus teaches villagers to separate their household waste and turn organic

waste into compost or pig feed. The organization has been successful in getting waste recognized as a valuable resource full of recyclable and compostable materials that are useful and can provide income to communities.

GALFAD seriously threatens Balifokus' work. GALFAD will claim CERs for "avoidance of methane emissions from decomposing landfill waste." But the existing practices of farmers feeding organic waste to pigs or turning it into compost do not create significant quantities of methane. GALFAD will instead throw organic waste into the dump to **purposefully create methane**, a global warming gas that is 72 times more potent than carbon dioxide over a 20-year time frame.[1] Some portion of these emissions will be captured and burned to claim carbon credits as the rest escapes into the atmosphere.

Landfills rely on a constant stream of organic matter to produce methane. In the United States, they are the largest source of anthropogenic methane emissions. Landfill gas systems directly compete with local recycling and composting efforts that offer better use for organic materials.

Landfill air emissions are toxic and can increase the risk of certain types of cancer. Escaping gases will typically carry toxic chemicals such as paint thinner, solvents, pesticides, and other hazardous volatile organic compounds. Not surprisingly, studies link living near landfills with cancer.[2] Women living near solid waste landfills where gas is escaping, for example, have been found to have a four-fold increased chance of bladder cancer and leukemia.

No matter how technologically advanced a landfill is claimed to be, it will eventually leak and contaminate ground water supply.[3] It is a terrible waste of land, especially in poor countries where millions live in slum areas, unable to afford decent living spaces.

To make matters worse, the GALFAD project will contaminate its surrounding communities not only through its landfill but additionally, through the operation of a gasification plant. Gasification is a staged incineration technology that proponents claim do not have toxic consequences for the

1 Given current concerns about a climatic "tipping point," a 20 year time frame gives a more appropriate metric than the conventional 100 year timeframe (under which methane has a Global Warming Potential of 25). See the Intergovernmental Panel on Climate Change, "Table 2.14", p. 212, Forster, P., et. al., 2007: Changes in Atmospheric Constituents and in Radiative Forcing, **Climate Change 2007: The Physical Science Basis**.

2 G. Fred Lee, PhD, PE, DEE, and Anne Jones-Lere, PhD, Three R's Managed Garbage Protects Groundwater Quality, (El Macero, California: G. Fred & Associates, May 1997); "Landfills are Dangerous," Rachel's Environment & Health Weekly #617 (September 24, 1998); Lynton Baker, Renne Capouya, Carole Cenci, Renaldo Crooks, and Roland Hwang, The Landfill Testing Program: Data Analysis and Evaluation Guidelines (Sacramento, California: California Air Resources Board, September 1990) as cited in "Landfills are Dangerous," Rachel's Environment & Health Weekly; State of New York Department of Health, Investigation of Cancer Incidence and Residence Near 38 Landfills with Soil Gas Migration Conditions, New York State, 1980-1989 (Atlanta, Georgia: Agency for Toxic Substances and Disease Registry, June 1998) as cited in "Landfills are Dangerous," Rachel's Environment & Health Weekly #617 (September 24, 1998). The New York landfills were tested for VOCs in the escaping gases. Dry cleaning fluid (tetrachloroethylene or PERC), trichloroethylene (TCE), toluene, l,l,l-trichloroethane, benzene, vinyl chloride, 1,2-dichloroethylene, and chloroform were found. M.S. Goldberg and others, "Incidence of cancer among persons living near a municipal solid waste landfill site in Montreal, Quebec," Archives of Environmental Health Vol. 50, No. 6 (November 1995), pp. 416-424 as cited in "Landfills are Dangerous," Rachel's Environment & Health Weekly; J. Griffith and others, "Cancer mortality in U.S. counties with hazardous waste sites and ground water pollution," Archives of Environmental Health Vol. 48, No. 2 (March 1989), pp. 69- 74 as cited in "Landfills are Dangerous," Rachel's Environment & Health Weekly.

3 U.S. EPA, "Solid Waste Disposal Facility Criteria; Proposed Rule," Federal Register 53(168), 40 CFR Parts 257 and 258 (Washington, DC: U.S. EPA, August 30, 1988), pp. 33314-33422; and U.S. EPA, "Criteria for Municipal Solid Waste Landfills," U.S. EPA, Washington, DC, July 1988.

environment and communities. In truth, staged incinerators emit comparable levels of toxic emissions when compared with conventional mass burn incinerators. Studies show that dioxins, an extremely toxic class of pollutants, are created in gasification incinerators.[4] Dioxins cause a wide range of health problems including cancer, immune system damage, reproductive and developmental problems.

The project will not only increase greenhouse gas emissions and pollution, it will also destroy a successful and internationally-recognized, locally-managed waste program that has empowered a vulnerable and often unrecognized sector of workers, the informal waste workers.

Funding being given by the CDM to incineration and landfill projects represents a lost opportunity to reduce pollution and help improve the standards of living and welfare of some of the poorest people in the world. Also, funding waste disposal technologies incentivizes further waste disposal – i.e., the destruction of valuable resources that would otherwise have been recovered with significant climate benefits.

4 Press release from the district administration of Karlsruhe (Regierungspräsidium Karlsruhe), November 5, 1999.