

Dear Senators, Colleagues, and Residents of the United States Virgin Islands:

The past seven years have been challenging on various levels for the Board, Management, and Staff of the Virgin Islands Waste Management Authority (Authority). After years of study, the Authority is putting forth a sustainable and environmentally sound integrated solid waste management system. The core of this system is the closing of our two non-compliant landfills and the addition of a modern, state-of-the-art, resource recovery project (the Alpine Project).

The proposed Alpine Project achieves two critical goals: long term safe and reliable waste management and stable, diverse renewable energy.

We have been acutely and adeptly focused on improving our services, programs, operations and infrastructure, and achieving regulatory compliance with numerous Administrative Orders, decrees and court orders. To this end and as it relates to solid waste management, environmental programs have been implemented and improved upon and capital improvement projects have been completed or are in progress.

I have previously communicated many of these successes in letters, reports, and written testimony before the Legislature. However, today, I want to focus on sharing with you why it is important to support and approve the lease agreement and credit support legislation for the Alpine Project.

1. The Alpine project will enable the Authority to recover and recycle tons of materials and, together with WAPA, to generate renewable energy. The reduction of methane gas emissions from the landfills, and reduction in emissions from burning oil will provide a significant and long term environmental benefit to the Virgin Islands.

A new landfill in the Territory is the only alternative to the Alpine project for long term solid waste management. However, landfills represent the lowest use and least environmentally preferred management strategy for solid waste as stated in the USEPA hierarchy of Municipal Solid Waste ("MSW") management. Unchecked methane emissions from landfills are more harmful and represent the largest (22%) contribution to greenhouse gas (GHG) emissions generated by humans. By contrast, the U.S. EPA has stated that, Nation-wide, "Waste-to-energy recovery systems that combusted 31.4 million tons of MSW resulted in the avoidance of 17 million metric tons of carbon dioxide equivalent GHG emissions in 2006".¹

Should the Alpine project not be approved, new landfills must be designed and constructed to minimize migration (spilling) of waste and other pollutants through emissions, storm water runoff, and leachate (water becoming contaminated and passing through landfills to ground water and surface water). To build new landfills, we must find suitable alternate sites- on both St. Thomas and St. Croix that are large enough to manage the respective Island's (including St.

John's) solid waste long term. It will be very difficult, if not impossible, to find sites which meet all of the requirements for landfill siting, which include: geology, seismic, and hydrology and other factors such as public acceptance, permitting, and funding. Funding must include the cost of closure and post-closure care for 30 more years. A new landfill would likely take 5-8 years to design, permit and construct. In the meantime, waste would have to be taken to Puerto Rico or the mainland for disposal.

Alpine Energy Group will construct and operate two facilities to recover a clean waste fuel stream for processing to refuse-derived-fuel pellets (RDF) and to remove all non-combustible and all unacceptable waste that has not been source separated. The Authority will market the diverted recyclable materials and properly dispose of unacceptable waste.

2. Alpine's Waste-To-Energy technology is proven to be safe for humans and the environment.

In the planned waste-to-energy plant, the best available combustion and emissions control technology is included in the design so that the facility will meet the most stringent permitting process and air emissions limits set by the EPA on a national basis to protect the public health. Further, the displacement of fossil fuel energy (in this instance-oil) by refuse-derived fuel for energy production will significantly reduce emissions and associated environmental and health impacts. An additional benefit to the proposed system is the final closure of the Territory's existing non-compliant landfills.

The energy recovery function of the project is performed by what will be the Authority's Waste-To-Energy Facility (WTE). Some residents have expressed concern about the health risks of living near a WTE facility. Modern WTE facilities have been designed to operate in urban centers, close to residents and businesses. These facilities have run for over 50 years in major European cities, in the middle of dense urban development, with no evidence of elevated health risks. Examples of these locations are Paris, France; London, England; Copenhagen, Denmark; and Vienna, Austria.

In Denmark alone, there are 29 WTE facilities serving 98 municipalities. The same is true for the more than 85 operating WTE facilities in the U.S. which include Baltimore, Md., Saugus (Boston area) Ma., Syracuse, N.Y., Islip, N.Y., and Commerce, California.

Health risk assessments in the U.S. and Europe have demonstrated that there are no elevated health risks to residents living in close proximity to modern WTE facilities. For example, Montgomery County, Maryland conducted health risk assessments prior to a WTE facility opening in the county and after several years of operation. There were no statistically significant increases in patterns post- vs. pre-operation. The County reported that "In fact, the modeled ambient air concentrations attributable to the Resource Recovery Facility (RRF) are so low that any changes in concentration of these metals or dioxins/furans from the RRF at the levels predicted by the modeling would be within the normal variability of the sampling and

analysis methods available, and therefore not detectable. “ⁱⁱ In reviewing the Montgomery County assessment, the U.S. EPA stated that “If the reference dose is not exceeded, then the conclusion is made that the daily and chronic exposure to the contaminant is likely to be without an appreciable risk of harmful effects during a lifetime.”

3. The proposed Alpine Project is the best combination of materials recovery and energy recovery which meets the specific unique needs of the Virgin Islands.

The Virgin Islands generate about 500 tons of waste per day. The Authority’s waste management plan is to recycle 100 tons per day, or 20% of the solid waste collected at curbside and in bins throughout the Territory through new, source separation, and recycling initiatives. Our minimum waste guarantee to Alpine of 400 tons per day represents 80% of the total waste stream. Additional separation will occur at the RDF facilities.

Overall, the Alpine project will result in increasing recycling rates as experienced in most communities with complementary recycling programs and waste-to-energy facilities.

Our strategy is based on the Municipal Solid Waste Decision Support Tool, which is an EPA-commissioned modeling program that evaluates environmental, economic and energy benefits to determine the highest and best use of waste materials for the Territory. Using this model, the EDIN project consultants at the National Renewable Energy Lab study results indicated that the environmental impacts of recyclable materials, including shipping off-island, resulted in net “positive” greenhouse gas generation while the waste-to-energy plants resulted in net “negative” greenhouse gas generation. From this perspective, we have weighed the appropriate mix of strategies that provide a balanced benefit profile specific and unique to the Territory. That is the Alpine Project.

Further, it should be noted that markets for recyclable materials fluctuate and often require stockpiling until there is a better economic value. Additionally, rising fuel costs will impact transportation costs further reducing the economic value to the Territory. None of these fluctuating costs for recycling are controlled by the Territory.

At the Alpine WTE facility, the solid waste volume will be reduced by 90% and the remaining 10% in ash residue can be reused beneficially for road and construction materials, creating yet another downstream industry. The responsibility for ash management and disposal remains with the Alpine Energy Group. In Bermuda, 100% of the WTE ash is beneficially reused to create blocks. ⁱⁱⁱThe total result of the planned strategy is effectively approaching zero waste

(no landfilling) by recovering both materials and energy in the percentages that make good environmental, economic, and energy sense.

4. To have a significant and meaningful impact on our energy production portfolio standards and the high cost of energy, the Territory needs energy that is stable, diverse, and renewable. The Alpine Project is all three – stable, diverse, and renewable.

The energy that is used to manufacture goods is stored or frozen in all goods until they reach the end of their useful life. Similar to the import of fossil fuel oil from Venezuela and elsewhere for energy production, we also import most of our goods from the mainland and other countries. At the end of their useful life for the purposes intended, we discard these materials for disposal in our landfills. While energy can also be recovered from existing landfills once they are closed, the maximum energy recovery from landfills is not sustainable and is ten times less than energy recovery by combustion in waste-to-energy plants. Instead of burying these materials or returning them to the mainland (or Puerto Rico) and losing the energy (economic) value, these materials should be used for energy production right here in the Territory.

The fees paid to Alpine for the processing, recyclables recovery, transportation, and disposal are reasonable and justified when considering the alternatives which are all far more costly or not rationally based. Alpine must meet all of the permit requirements and all expenses relating to the operations and maintenance of the facilities.

The Authority's cost per ton for the Project is based on extensively negotiated contract commitments and specific terms and conditions for twenty years. Over the same time period, the exact costs to send all waste off-island, if that were possible, are unknown, and subject to fluctuation in fuel cost and mainland landfill tipping fees. However, our estimates for the cost of transportation and mainland landfill disposal are \$150-\$300 per ton; potentially double the cost of the Alpine Project.

5. Your vote in favor of the lease and credit support legislation will achieve significant milestones in an era of self reliance and self sustainability.

Our unique island geography means that traditional mainland recycling programs must be customized to take into account our limited land mass, resources and markets. The mainland communities have the ability to concentrate large quantities of materials for more efficient recycling. In addition, over 70% of all paper collected in the Mid-Atlantic States is shipped to

China to be made into cardboard boxes. Is this the highest and best use of our resources? The high cost to produce electricity in the Virgin Islands must be part of the recycling equation.

The environmental and public health aspects of this project will be thoroughly vetted by our environmental agencies, interested community groups, individuals and the EPA before the project is built. Most importantly, the savings to WAPA (and our residents and businesses) in fuel oil cost for electricity, and the 20-25 year solution to our waste disposal challenges, makes the Alpine project the best option for the Virgin Islands, because we will as a result be recycling our waste into clean, stable, and reliable electricity for the long term benefit of Virgin Island residents and businesses.

Respectfully yours,



May Adams Cornwall
Executive Director

xc: Honorable Governor John P. deJongh, Jr.
VI Waste Management Authority Board of Directors

ⁱ Opportunities to Reduce Greenhouse Gas Emissions through Materials and Land Management Practices
U.S. Environmental Protection Agency, Office of Solid Waste and Emergency Response, September 2009

ⁱⁱ Report on the Third Operational Phase Air Media Sampling Program – Winter 2008 Final Report
AECOM, Inc. March 2010 Document No.: 04739-003-0300

http://www.montgomerycountymd.gov/swstmpl.asp?url=/content/dep/solidwaste/facilities/rrf_studies.asp

ⁱⁱⁱ Personal communication with Dr. Frank Roethel, Professor Emeritus, State University of New York