REQUEST FOR INFORMATION

DEVELOPMENT AND IMPLEMENTATION OF AN ENERGY EFFICIENCY AND SUSTAINABILITY MASTER PLAN (EESMP) FOR THE STATE OF HAWAII DEPARTMENT OF EDUCATION

The Department of Education (DOE) is issuing this request for information from professional engineering firms to solicit input on the Department of Education's (DOE) plan to create, articulate and implement an Energy Efficiency and Sustainability Master Plan (EESMP) (See attachment 1).

The EESMP builds upon the demonstrative aspects of the Lead By Example clean energy requirements (as detailed in Act 96) to seek a broader and deeper transformation.

BACKGROUND

Recent regional events have reminded Hawaii that there are no simple choices, when it comes to confronting our reliance on diesel and low sulfur fuel oil (LSFO), both foreign and domestic. The background volatility of fuel oil prices has been compounded by disruption from events such as natural disasters, which have been shown to significantly influence the State's liquid fuel costs.

These circumstances underscore the reality that technology choices present risks to society, as well as to the environment. The choices made on supply and demand-side resources must be thoroughly examined, as the DOE develops a diverse and cost-effective portfolio of energy technologies that will meet its economic, environmental and sustainability objectives. The high, but variable, cost of electricity in Hawaii, coupled with the DOE's current fiscal challenges emphasize, that the methods for achieving the required power savings target should be flexible, not rigid or absolute. The DOE must aim to take advantage of the incentives that promote the renewable energy portfolio at the State and Federal levels, while making the most of its existing facilities and geographical assets.

The DOE already has policy initiatives that incorporate both supply and demand- side resources for energy efficiency, water conservation, and renewable electricity production. The need for these has been driven by the DOE's current dependence on fossil fuel sources of energy; their urgency is reflected in the adoption, by the DOE, of the aggressive Sustainability Policy 6710. This policy represents a bold and visionary set of goals to reduce the DOE's reliance on fossil fuel based energy by 90% by 2040. This is more progressive than the State RPS, and ranks as among the most demanding goals of any private or public entity. By 2040, this could possibly see the DOE endowed with a unique opportunity transform its position in the energy market – from power consumer to power producer.

It is in that context that the DOE's EESMP is being set. The DOE is committed to leading by example, and taking a transformational role in embracing the Hawaii Clean Energy Initiative (HCEI). It will do so in a manner that saves money, and stimulates new revenue and efficiencies, while creating jobs and advancing clean energy education. The emphasis going forward is to focus on increasing on-site energy production, partnering with the electric utility in improving distribution grid reliability, and recognizing the significant economic and environmental benefits of energy efficiency, electricity and water conservation, and renewable energy sources.

PURPOSE

The purpose of this EESMP program is to develop and act on long-range energy efficiency and energy revenue opportunities for the DOE. The plan links energy efficiency, water conservation, heating and cooling systems, renewable generation, building management systems, and other existing activities with future strategic geographic initiatives to take advantage of net energy metering, feed in tariff, demand response, and virtual power plant capability. Integrated into all aspects of the implementation of this EESMP is the creation of content to be used in future education programs by the DOE in order to train students on the means and methods of large scale energy planning, engineering, construction and operations.

The program will develop and implement changes in the next five (5) years that look out over the next twenty (20) years, to strengthen student achievement in energy efficiency, renewable energy, science, technology, engineering and math while enhancing the financial strength of the DOE.

The DOE needs to create and articulate a vision of what its supply and demand-side energy infrastructure will consist of in the first half of the 21st century. The purpose of the DOE’s EESMP is to communicate the strategic initiatives and goals that will guide facility consumption, control, and creation of energy over the next decade.

This EESMP is meant to communicate long-term intentions, as well as provisional measures consistent with and necessary to attaining those goals. At each step, informed decision-making requires a rigorous assessment of the program options and goals set forth in the 2012 EESMP.

The DOE’s seven overarching initiatives for the EESMP are as follows:

1. Reduce the cost of energy at all facilities.
2. Inspire a diverse portfolio of new, clean, on-site generation for the benefit of current and future generations.
3. Harness the State's diverse energy portfolio to local electric grid needs.
4. Aggressively implement energy efficiency and conservation measures including

demand response.

5. Engage dynamically with emerging clean transport and power technologies.

6. Support the goals of the State's Renewable Energy Portfolio Plan (including the HCEI) of 40% of energy from renewable sources by 2030 and the DOE's goal of 90% clean energy by 2040.

7. Leverage these transformational activities to create educational opportunities and stimulate the local economy by requiring the use of 100% local small businesses for construction labor.

IMPLEMENTATION

The individual recommendations included in the EESMP focus on those initiatives, and the mechanisms that will transform the DOE's economic future, while building on its role as a cross-generational environmental steward.
To implement its EESMP, the DOE will act upon these overarching initiatives, as follows:

1. **Reduce the cost of energy at all facilities** – Hawaii's energy prices are the highest in the nation, and the DOE is the second largest governmental purchaser of electricity in the State. For the DOE to manage its energy costs, it must make immediate, transformational and permanent changes to bring costs across the portfolio much closer to U.S. averages, using an entrepreneurial approach and appropriately advanced commercially-available technology.

2. **Inspire a diverse portfolio of new, clean, on-site generation** – Developing widespread and efficient on-site generation, that can leverage on the DOE's preeminent position amongst State agencies of being deeply embedded across Hawaii (with more than 256 schools and other DOE facilities). Many of these locations are strategically positioned to take advantage of the outstanding local renewable energy resources. Once fully developed, these could both make the DOE energy self-sufficient, and potentially provide the DOE with a new revenue source – acting as an Independent Power Producer, integrated with the Public Utility at the distribution system level. This distributed generation infrastructure will help lessen the State and the Public Utility's dependence on imported oil, support environmental stewardship, underpin growth in the economy, create local clean energy jobs, lower energy costs and create educational opportunities for the workforce, students and teachers. Based upon proven and reliable technology, this program shall support both grid-interactive and standalone capability with energy storage as well as fault ride through, and local micro grid support with utility protection and control integration so as to support the individual school's responsibility as a center of refuge for the community and a participant in the local energy market as a independent power producer.

3. **Harness the State's diverse energy portfolio to meet local electric grid needs** – Energy diversity is crucial to finding the best fit between the DOE's facility locations, and the local electric grid's needs. The key to the EESMP success is concentrating the DOE's energy future on multiple forms of energy technology. It provides for the prospect of dovetailing to the Public Utility's unique local system needs, but will require long-term system planning. Looking at projects as small and large groups, as well as a portfolio across the State, this planning will foster the entry of the most appropriate conventional and renewable technologies to the local community.

4. **Aggressively implement energy efficiency and conservation measures including demand response** – The smartest way to lower individual facility energy bills, and collective energy costs, is to use less energy. This will be realized through full-scale programs in energy conservation, energy efficiency, and demand response, so as to lower the energy cost of the DOE's activities. Each facility should implement water conservation and gray water systems as far as practical, as well as energy efficiency. These actions will have a wider multiplier effect in the State, due to the DOE's value as major player in the State's power consumption, generation and delivery markets. This will also enhance the State's economic development, and advance the DOE's environmental goals.

5. **Engage dynamically with emerging clean power technologies** – The DOE should actively pursue new opportunities provided by developing clean generation technologies. The adoption of clean energy transport solutions is a critical aspect of the HCEI goals. In doing so, the DOE should take full advantage of State and Federal rebates to support these technologies.

6. **Actively support the renewable energy portfolio standard of 40% of energy from renewable sources by 2030** – The DOE has outlined, in the Board of Education's Sustainability Policy 6710, the setting of an ambitious requirement of 90% clean energy (onsite renewable generation) by 2040. The DOE is thereby committed to support, and to materially deliver upon, the State's legislated targets for renewable energy production. To that end, all facilities must fully harness the State's indigenous renewable resources, while still ensuring a flexible delivery through the most cost-effective channels.

7. **Leverage these transformational activities to create educational opportunities and encourage local small business** – Engage teachers, students and staff in the process of developing, designing, procuring, and constructing, operating and maintaining renewable energy systems. Connect education between industry, schools and all islands. Orchestrate and conduct virtual field trips (live field trips, recorded field trips and pre-recorded material) and

interviews with renewable energy industry partners. The DOE will seek partners that share in the vision of supporting the use of 100% local labor for construction of all projects, a desire to transfer knowledge through interactive demonstrations and passion for creating career connections for students.

SUBMITTING INFORMATION

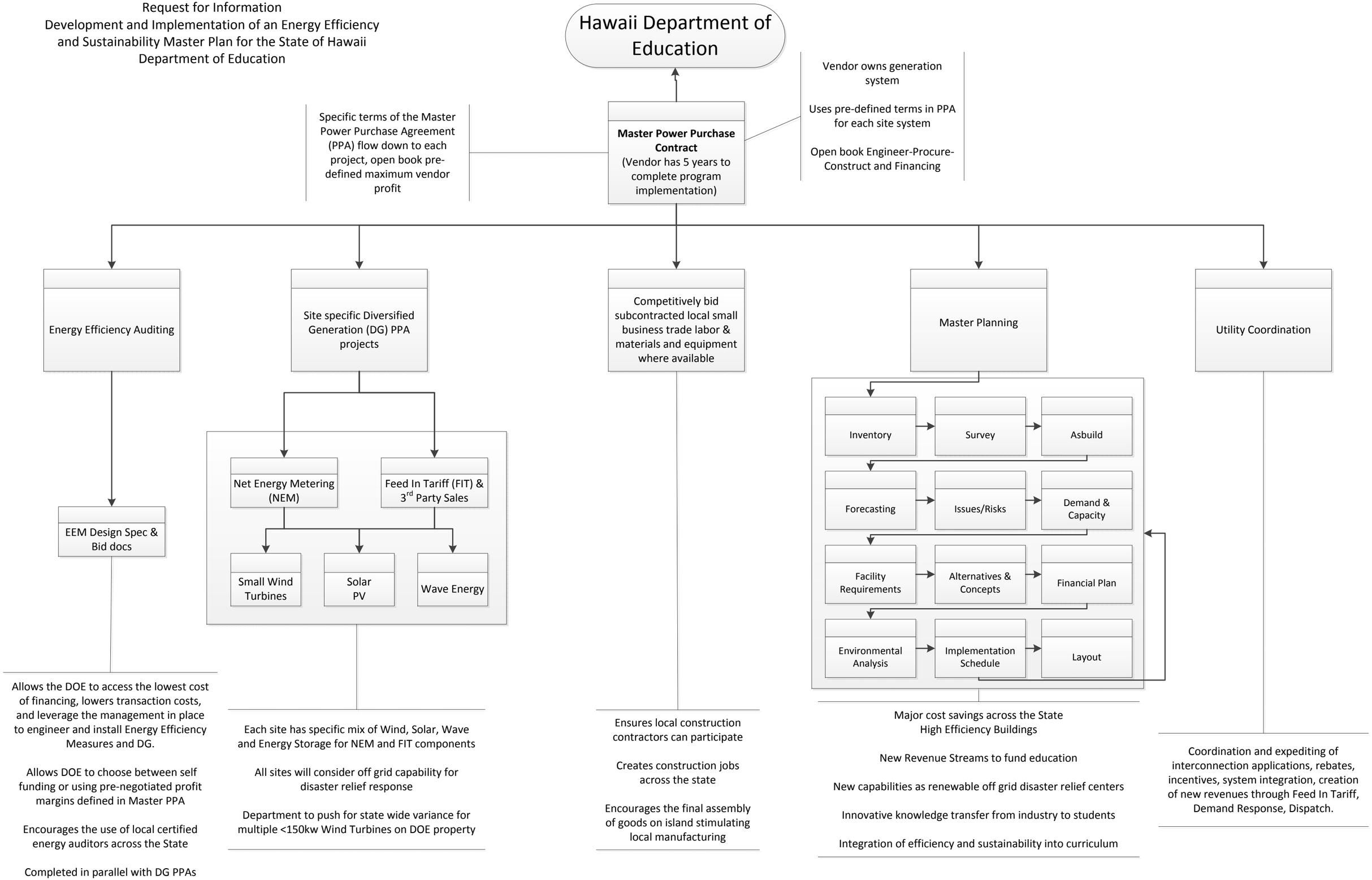
Interested parties may submit information on specific portions of the DOE's planned EEMSP as described above. Information submitted should identify the specific portion of the DOE's EESMP it is addressing.

The purpose for this Request for Information (RFI) is strictly for data gathering to enable the DOE to review all information available. Any information submitted shall be treated as confidential and will not be shared.

All information must be received no later than **4:00 PM August 3, 2012**. Information should be mailed or delivered to:

Gilbert Chun
c/o Department of Education
Auxiliary Services Branch
1037 South Beretania Street
Honolulu Hawaii 96814

CONTACT INFORMATION

Any inquiries regarding the above should be directed to Mr. Duane Kashiwai, Facilities Development Branch Public Works Administrator, at (808) 586-0535 or via email at Duane_Kashiwai@notes.k12.hi.us.

Attachment 1
Request for Information
Development and Implementation of an Energy Efficiency and Sustainability Master Plan for the State of Hawaii Department of Education