

# EEP to build wind farms worth \$ 3.6bln

By our staff reporter

Détente Group LLC with its Pan African Partner Tristar Group LLC (TSG) last week signed a contract with the Ethiopian Electric Power (EEP) for the construction of four wind farms - Iteya I, Iteya II, Weldiya, and one among micro-scale sites and for the construction of 36 future bankable sites "the Microscale Project" worth USD 3.6 billion.

According to Paul Delkaso, President and CEO of Tristar & Tritente Global Energy Group, the four sites combined will generate 1200MW and the project will be program based not project based. Most importantly Delkaso added, the advantages of the Government of Ethiopia adopting wind power, power generation diversification and continuation of the government's zero carbon footprint, as well as green power revolution is well thought, admirable and should be commended as a pilot program for most countries in the world.

Ethiopia's power generation mix is predominately hydro power based, for the obvious reason that hydro has the lowest renewable power generation cost. Given the undo risk associated with periodic droughts on a predominately hydro based power supply, the government's decisive steps toward taking a very long-term planning view and definitive steps towards introducing alternative renewable energy power generation should be commended, said Delkaso. An example of a country that failed to diversify its power generation base is Pakistan. The extended drought that they have experienced has much of their hydro plants operating at run-of-the-river water levels, resulting in frequent brownouts which have crippled the economy.

## Financing

According to Brien Morgan, Managing Partner Détente Group, all project contracts are fully funded by US Ex-Im Bank's Loan Guarantee Program or GOV- GOV program. Morgan also added that the bulk of the financing associated with the contractor's PMO (Project Management Office) Contract shall be obtained through the US Ex-Im Bank's Loan Guarantee Program or GOV-GOV program. At the direction of the Ministry of Finance and Economic Development (MoFED), the contract price and quarterly invoice payment schedule will be modified downward in order to arrive at the maximum Ex-Im Bank loan guarantee amount of 85% for all projects.

## Wind Farm and Power Evacuation Contract Financing

In addition to financing the Contractor's PMO Contract, the contractor is also proffering to arrange the financing of the four Wind Farm and Power Evacuation system irrespective of the vendor's country of origin. If EEP decides to select a US Vendor, the US Ex-Im bank would be the export credit agency with whom the contractor would work with to finance the purchase and construction of the four Wind Farms. Although the

contractor's services are financed by the US Ex-Im Bank, in no way is the contractor or EEP obligated to select US Vendors.

Education, training programs and knowledge transfer

An effective partnership among U.S. and Ethiopian universities, governments, and the private sector can play a key role in energy sector technical capacity-building. According to Morgan and Delkaso, this project will include and build a successful technical exchange program needed to successfully develop energy resources and best practices technology transfer.

Education and training programs for wind energy will be developed through collaboration between George Mason University (GMU) and Addis Ababa University (AAU), and Symposia and workshops will be organized to support sustainable wind energy development in Ethiopia.

Demitu Hambisa, Minister of Science and Technology in a letter to the Prime Minister office credited the project saying that it will help the Universities in their scientific advancement.

The GMU/AAU capacity building educational services will provide comprehensive educational support for next generation scientists and engineers in wind energy technology and applications, said Morgan.

Educational, certificate and programs will complement ongoing vocational training with a synergistic approach to sustainable wind energy development (SWED), focusing on collaborative, multi-



The contract was signed between Azeb Asnake CEO of EEP and Paul Delkaso President and CEO of Tristar and Tritente Global Energy Group LLC

disciplinary education, training and best-practices knowledge transfer for practical applications, he said.

## The Joint Center of Excellence for Energy Sustainability (J-CEES)

J-CESS, a collaborative effort between GMU's Global Environment and Natural Resources Institute (GENRI) and AAU's Ethiopia Wind Energy Center of Excellence will offer a comprehensive blend of technology and appropriate indigenous knowledge to ensure success for sustainable and adaptive management solutions to AAU as well as two other Ethiopian Technical Universities. J-CEES will develop and implement a holistic academic program that offers certificates of training for specialization, and computer-based training programs. This collaborative effort will ensure a holistic approach to implement best-practices knowledge transfer through the specialized center, he explained.

This program will also support, the Ethiopia Wind Energy Information Service (EWEIS) and will provide a web portal information technology and communication (ITC) hub for all educational training and outreach resources to ensure effective communication and transfer of knowledge-based technology, tools and resources between J-CEES. EWEIS will provide a mechanism for exchange of instructional design strategy, methods to assess training effectiveness, and online Computer-Based Training (CBT) Modules and Best Practices Training Manuals (BPTM). The comprehensive academic training program will focus on improving skills to strengthen long-term sustainability of EWEP.

The ultimate goal of J-CEES is to build a center of excellence that offers cutting-edge information technology in sustainable wind energy development.

## Academic Wind Energy Demonstration Project (AWEDP)

AWEDP, a continued collaborative effort between GMU's Global Environment and Natural Resources

Institute (GENRI) and AAU and two other Ethiopian Technical Universities, will entail the installation on Ethiopian university provided research sites a dedicated 80 meter Met Mast in order to provide a full range of environmental data for research and operational applications.

Through AWEDP, the Met Masts and LiDAR systems will be sufficient to prove out the wind resources at each of the Ethiopian Universities' research site allowing AWEDP to implement, as an integral part of the Iteya I, Iteya II and Weldiya PMO Projects, one full size wind turbine demonstration units, and requisite power evacuation system during their respective implementation schedules. To facilitate AWEDP achieving its wind turbine operational goal, EEP allowed the Contractor to include the provision of demonstration unit wind turbine and sundry equipment and services within the Iteya I, Iteya II and Weldiya PMO Project wind farm procurement as a weighted and graded, immediately due, trade offset credit requirement. The opportunity also exists for the AWEDP to both self-fund and fund J-CEES by way of potentially creating a revenue stream through the sale of power to EEP.

The company also signed an agreement with the Ministry of Water, Irrigation and Energy (MoWIE) for developing an atlas of Ethiopia's national wind energy resources. The two year project which will determine the potential of the country's wind energy will cost about USD 5.8 million. The study was presented to MoWIE free of charge as part of the company's corporate social responsibility funded by the company and the World Bank.

The DÉTENTE GROUP, LLC incorporated in the United States of America, provides investment banking and strategic consulting services to governments and corporations ranging from middle market companies to Fortune 500 corporations.

Tristar Group LLC (TSG), Tritente global energy group (TGEG) is specialized in managing and developing urban communities, developing green energy projects (EPC CO.) and bridge transfer of technology specifically generation of power from alternative sources such as wind, solar, and geothermal between companies and investors in the United States with government entities and private companies in Africa.

Recently other two companies based in the US state of Maryland; Global Trade and Development Consulting and Energy Ventures, agreed with the ministry to develop solar energy in the eastern part of the country with a capacity of 300mw. Another US and Icelandic joint venture, Reykjavik Geothermal (RG), also has plans to generate electricity from geothermal energy. These are not the first US based companies that have proposed investing in renewable energy in the country.

Terra Global Energy Developers, LLC (Terra), a San Francisco based firm is working to generate 400 mw of electric power from a wind farm that it plans to build near Debre Birhan town, 130 km north east of Addis Ababa in Amhara national regional state.

## WIND FARM PROJECT

### PROJECT #1:

Atlas Of Ethiopia's National Wind Energy Resources (the "Mesoscale Project");

### PROJECT #2:

Microscale Wind Farm Bankable Resource Assessments, Power Evacuation Studies and Sale of Related Meteorological Masts, separated into an initial Phase I of twelve (12) Client-provided sites and options for a follow-on Phase II of twelve (12) sites and Phase III of an additional twelve (12) sites (the "Microscale Project"); Which will create 36 future bankable sites (program based) if more power needed.

### PROJECT #3:

PMO Services for the Iteya 300MW, Rated Capacity Wind Farm construction, Power Collector System and Power Evacuation to the National Power Grid Point of Interconnection (the "Iteya I PMO Project");

### PROJECT #4:

PMO Services for the Iteya II 300MW, Rated Capacity Wind Farm construction, Power Collector System and Power Evacuation to the National Power Grid Point of Interconnection (the "Iteya II PMO Project").

### PROJECT #5:

PMO Services for the Weldiya 300MW, Rated Capacity Wind Farm, construction Power Collector System and Power Evacuation to the National Power Grid Point of Interconnection (the "Weldiya PMO Project"); and

### PROJECT #6:

PMO Services for one (1) Candidate 300MW, Rated Capacity Wind Farm, Power Collector System and Power Evacuation to the National Power Grid Point of Interconnection, to be developed from among the Microscale Sites (the "PMO Project IV")