

Large Scale Wind Energy Solutions for Distributed Generation Applications at Federal Facilities

Prepared for:

**WEATS for FEDS Workshop 2008
Mass Military Reservation – Otis AFB**

May 22, 2008

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First a little about us:

Fuhrländer AG is a German Wind turbine Manufacturer founded in 1960 and has been supplying high quality wind turbines to the wind power industry since 1982.

- 400 employees and 100 trainee apprentices
- 3 fabrication facilities in Germany
- 1 fabrication facility under construction in Butte, Montana
- > 550 MW installed capacity (>300 MW >1MW turbines)
- Projects in 40 countries and on 5 continents
- One of the few large turbine manufacturers who will still entertain one or more wind turbines for DG applications

Philosophy



Friendly Energy.

We put our focus on the human being and with „Friendly Energy“, we offer a trustful cooperation for a future in partnership.

We would like to act jointly for making life liveable and to preserve it.



MMR Wind Workshop

*Support instead
of dominance*



The world is our home and we are thankful to learn from our international partners.

It is our concept to create local production facilities in cooperation with native partners. Thus we have an important contribution at the added value in foreign countries and have a share in creating new jobs.



Lorax Energy Systems, LLC

*Opportunities for
the future*

Fuhrländer provides qualified apprenticeships in the industrial profession fields of metal and electric as well as in the commercial field, because it belongs to Fuhrländers social mission to give young people chances and perspectives for the future.

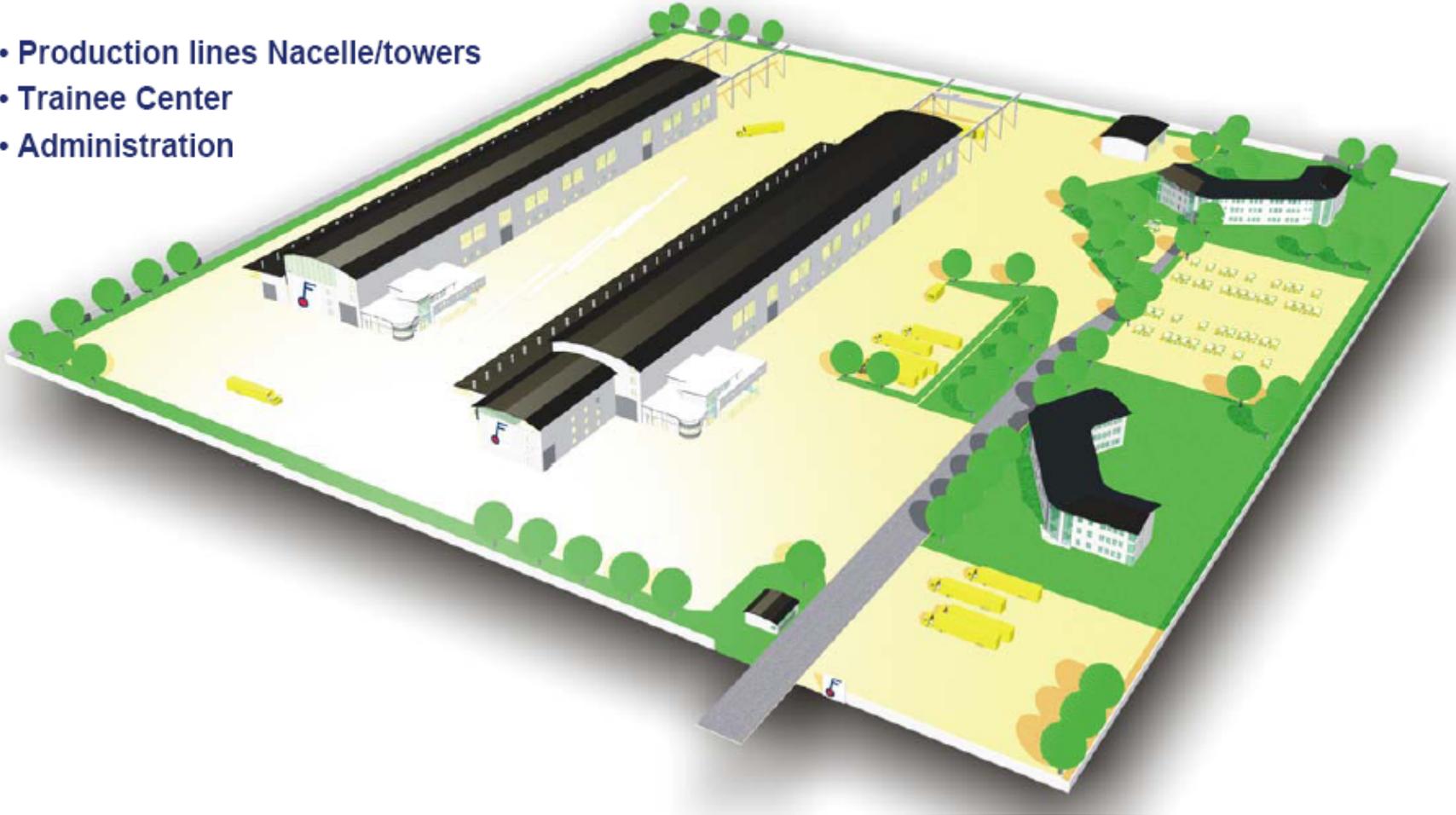
And thus Fuhrländer provides qualified manpower for the future, too.



May 22, 2008

Example of Production Facilities

- Production lines Nacelle/towers
- Trainee Center
- Administration





MMR Wind Workshop

Lorax Energy Systems, LLC

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Our Products:

FL 600 / 50 Wind Turbine Generator



- 600 kW wind turbine generator 50 m rotor
- Available on 50 and 75 meter towers
- Variable Speed drive and power electronics
- Blade pitch with individual electric motors
- State-of-the-art drive train
- Two year warranty... additional warranty available
- two FL 600s delivered this fall for GS Canada
- Five FL 600s for projects in CA, MA, NY, and Canada in the Spring of 2010

Our Products:

FL 1250 / 62 Wind Turbine Generator



- 1250 kW wind turbine generator 62 m rotor
- Available on 50 and 70 meter towers
- Constant Speed drive asynchronous generator
- Stall regulated power control
- Plug and Play wiring concept
- Two year warranty... additional warranty available
- Based on the proven FL 1000 which has over 125 units in operation around the world
- First projects in South Africa and Brazil

Our Products:

FL 1500 / 70-77 Wind Turbine



- 1500 kW wind turbine with a 70, 77 m rotor
- Available on 65 and 80 meter towers
- Variable Speed drive and power electronics
- Blade pitch with individual electric motors
- State-of-the-art drive train
- Two year warranty... additional warranty available
- Two FL 1500 / 77 on 65 m towers for Princeton Municipal Light Dept to be delivered summer '09
- One FL 1500 / 77 on an 80 m tower to be delivered to MMR, Otis AFB summer '09
- Well suited for wind farms and DG applications

Our Products:

FL 2500 / 80, 90, 100 Wind Turbines



- 2500 kW wind turbine with a 80-100 m rotor
- Available on 80 and 100 meter towers
- Variable Speed drive and power electronics
- Blade pitch with individual electric motors
- State-of-the-art drive train
- Two year warranty... additional warranty available
- Two FL 2500 / 90 delivered to Cadillac Michigan 20 MW project July 2008
- Other projects in permitting/financing for this machine in Gloucester Mass, Ontario Canada, Texas, Minnesota, and Montana
- Suitable for wind farms and certain DG projects

Installing the FL 2500 / 100



Installing an FL 2500 / 100



Our Customers:



- Wind energy project developers
- Utilities
- Military facilities
- Water treatment plants
- Industrial facilities
- Mines
- Wind energy project contractors
- Farmers
- Anyone with a load, a good wind resource, and a suitable location for wind energy development

Special Considerations for utilizing wind energy at Federal Facilities

- Wind Turbine Availability
 - Few large manufacturers will sell and support just a few megawatt size turbines for DG applications
 - Some wind turbines on the market are not “factory fresh”
 - Some wind turbines are not factory supported
 - Some wind turbines do not use “licensed technology”.
 - Long lead times make it difficult to utilize state incentive programs
- Other Considerations
 - DOD procurement rules may conflict with best performance objectives (especially with utility contractor providers)

www.friendly-energy.de



Fuhrländer

AKTIENGESELLSCHAFT

fine turbines
from **600 kW** to **2.5 MW**

See us in **Houston,**
WINDPOWER 2008
Booth #1425

Lorax Energy Systems, LLC.

Fuhrländer's NA Distribution Partner

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sales@lorax-energy.com



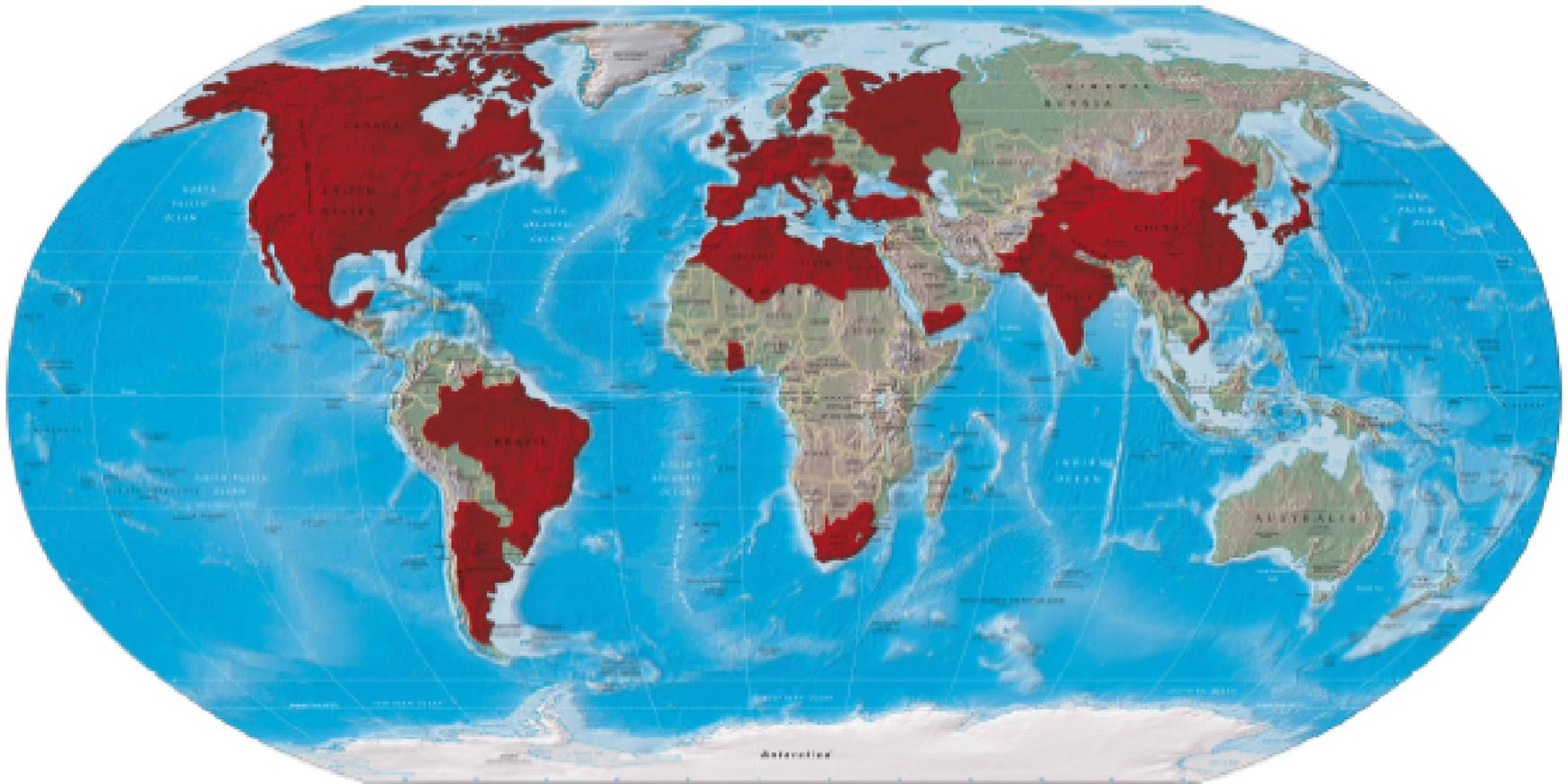
Meeting
Opportunities

See you in
Houston?

June 1-5

www.awea.org

Fuhrländer is active in over 40 countries



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