Abstract

Applicant: Montana State University-Great Falls College of Technology (MSU-Great Falls)

Title: *Wind Montana: Developing a Wind Energy Workforce*

Industry focus: Energy, specifically Wind Power

Requested funding level: $1,972,519.14

Targeted group: Underemployed, unemployed workers and high school students interested in wind energy field.

Partnership members: Montana State Workforce Investment Board, Montana Department of Labor and Industry Job Service Region 3; regional One-Stop Centers in Great Falls, Cut Bank, Havre, and Shelby. MSU-Great Falls College of Technology (COT), Montana State University-Northern, MSU-Billings COT, Montana Tech COT, Centralia (Washington) College, Invenergy, Western Community Energy, Great Falls Development Authority, Great Falls Public Schools, Office of the Commissioner of Higher Education, Montana State University Wind Application Center, Energy Systems Technology and Education Training Center (ESTEC), Gov. Brian Schweitzer, Opportunity Link, Rural Dynamics Inc.

Training and capacity building activities: The partners will develop a state-wide curriculum for training programs in Wind Energy Technology; establish those programs at MSU-Great Falls and the three partner institutions; enroll students and track their progress; prepare curriculum materials and expertise for exportation; and integrate the development of an early college program in wind energy technology with area high schools.

Statement of Need: Renewable energy will continue to be a priority for national and state energy policies. Montana ranks fifth in potential wind power capacity. The Idaho National Laboratory estimates Montana's wind potential at 116,438 megawatts (MW) – a potential for more than a thousand new wind technician jobs in the state alone. Serendipitously, many rural Montana communities with the greatest potential for wind energy development are experiencing population and economic decreases. Wind energy may very well be a catalyst for their revitalization.

Linkages to Key Partners: This project includes partners from all required categories. Community and technical colleges are represented by the four primary education partners. MSU-Great Falls will direct the project and lead development of the Wind Energy Technician program. MSU-Billings College of Technology will lead the implementation of statewide curriculum modeled after its successful Community Based Job Training Grant (CBJTG) Building Industry Labor Training (BILT) project. Montana Tech College of Technology and MSU-Northern will utilize their expertise in mechanical and electrical programming to implement a career ladder curriculum from electrical and mechanical programs, to general electrical/mechanical certificate, to wind energy technician associate of applied science. All four institutions will implement the Wind Energy Technician program. Industry will be represented by, Invenergy and Western Community Energy, who will contribute Wind Technician expertise; and Great Falls Development Authority, which is a One-Stop partner as well as the economic development agency for the region, and will provide key business/education liaison. The Workforce Investment System is represented by the state Workforce Investment Board, which will contribute resources for training and area One-Stop Centers in Great Falls, Shelby, Havre and Cut Bank. They will disseminate information to clients and provide access to Individual

Training Accounts (ITAs). The continuum of education is represented by the Great Falls Public Schools, which will lend teachers and support for establishing a pilot early college program in wind energy for high school students; Montana State University's Wind Application Center, which will offer policy and technical guidance; and the state Commissioner of Higher Education, which will coordinate between the campuses. The Community Organization sector is represented by Opportunity Link and Rural Dynamics, which will recruit and offer support and services to students from underprivileged populations.

Training and Capacity Building Plan: Currently, Montana and the Montana University System lack training opportunities, and thus the capacity for addressing wind energy workforce needs. This project will address both. With a state-wide curriculum, MSU-Great Falls and its partners will implement an industry-driven and system-designed training program centered on common needs of wind energy workers. Common programs with distributed delivery will allow for multiple entry and exit points for students and graduates as they enter the workforce. Simply put, this project will create one collaboratively developed program, while increasing the capacity of multiple institutions of higher education across Montana. It also will serve as a model for other states and institutions.

Outcomes, Benefits and Impact:

- In fall semester 2010, 50 students will enroll in a one-year electrical/mechanical certificate programs at the four campuses; 40 will complete by spring 2011; 35 will be employed in Summer 2011.
- In fall semester 2011, 40 students will enroll in Wind Energy Technician programs offered on four campuses, with 30 completing an Associate of Applied Science by spring 2012.
- In fall semester 2011, 60 more students will enroll in the certificate program; with 50 completing by spring 2012; 45 will be employed in Summer 2012.

This steady supply of trained workers will help the industry by reducing the on-the-job training time they must invest in unskilled workers. Workers will be more competitive hires for the Industrial Trades industries and will be able to move into higher paying jobs faster. Wind Technicians will be able to secure the higher paying jobs in the wind industry.

Integration with Regional Economic and Talent Development Strategies: The Sweetgrass Region in Northcentral Montana is involved in strategic road mapping funded by the Office of Economic Adjustment to identify areas of economic opportunity. Preliminary findings show considerable potential for Wind Energy Development, but also indicate a pressing need for a trained workforce with industry specific skills. This will hold true for a larger region of Northcentral Montana and further demonstrates the need to develop consistent training across institutions in the regions. In addition, the Great Falls Development authority has identified energy as one of its top priorities for regional economic development.

Partnerships with Faith-Based and Community Organizations: *Wind Montana* has partnerships with two community organizations: Rural Dynamics Inc. and Opportunity Link. Both have missions to assist individuals in improving their economic condition and have targeted education as a useful strategy.

Attachment
144-2851+R0809

Proposed Common Curriculum for Energy Technology CAS

	MT Tech COT Equivalencies for AY 2009 ONLY			MSU-Northern Equivalencies for AY 2009 ONLY			MSU-Billings COT Target for Fall 2010		
	urse mber	*Course Name*	*Credits*	*Course Number*	*Course Name*	*Credits*	*Course Number*	*Course Name*	*Credits*
Related Instruction	PSYX 100	Intro Psychology	3	M 121	College Algebra	3	M 121	College Algebra	3
	WRIT 101	College Writing I	3	SPCH 142	Interpersonal Communication	3	COMT 109	Human Relations	3
	M 121	College Algebra	3	WRIT 108	Elem Technical Writing	3	WRIT 104	Workplace Communications	3
Electricity	SET 110	Introduction to Electricity	3	EET 110	Electronics Survey	3	EET XXX	Introduction to Electricity	3
	SET 130	Advanced Electrical Applications	4	EET 103	Electronics Fund I	3	EET XXX	Advanced Electricity	3
	EET XXX	Electric Meters and Motors	3	ELEC 131	Meters & Motors	3	EET XXX	Electric Meters and Motors	3
Mechanical	SET 140	Motors, Generators & Transmissions	3	AUTO 117	Manual Transmission	4	MECH XXX	Power and Transmission I	3
	MECH XXX	Power and Transmission II	3	SET XXX	Power & Transmission	2	MECH XXX	Power and Transmission II	3
Safety	IT XXX	Industrial Site Safety	3	IT 111	Industrial Safety/Waste Mgmt	2	IT XXX	Industrial Site Safety	3
				IT 135	Basic Rigging	1			
Sustainable Energy	SET XXX	Introduction to Sustainable Energy	3	SET XXX	Intro to Sustainable Energy	3	SET XXX	Introduction to Sustainable Energy	3
Computers	CAPP 131	Basic MS Office	3	CAPP 120	Introduction to Computers	3	CAPP 120	Introduction to Computers	3
		Total Credits	***34***		***Total Credits***	***33***		***Total Credits***	***33***

MSU-Great Falls COT Target for Fall 2010			***COMMON AT ALL PARTNER SCHOOLS BY FALL 2010 Energy Technology CAS***		
Course Number	*Course Name*	*Credits*	*Course Number*	*Course Name*	*Credits*
M 121	College Algebra	3	M 121	College Algebra	3
COMM 120	Interpersonal Skills in the Workplace	2	COMM 120	Interpersonal Skills in the Workplace	2
WRIT 104	Workplace Communications	3	WRIT 104	Workplace Communications	3
EET XXX	Introduction to Electricity	3	EET XXX	Introduction to Electricity	3
EET XXX	Advanced Electricity	3	EET XXX	Advanced Electricity	3
EET XXX	Electric Meters and Motors	3	EET XXX	Electric Meters and Motors	3
MECH XXX	Power and Transmission I	3	MECH XXX	Power and Transmission I	3
MECH XXX	Power and Transmission II	3	MECH XXX	Power and Transmission II	3
IT XXX	Industrial Site Safety	3	IT XXX	Industrial Site Safety	3
SET XXX	Introduction to Sustainable Energy	3	SET XXX	Introduction to Sustainable Energy	3
CAPP 120	Introduction to Computers	3	CAPP 120	Introduction to Computers	3
	Total Credits	***32***		***Total Credits***	***32***

Attachment
144-2851+R0809

From: Mel Lehman
To: John Meinecke (john.meinecke@ingeteam.com)
Cc: Jeri Pullum; Joe Schaffer; Heidi Pasek
Subject: Wind Technician Training
Date: Monday, June 29, 2009 5:27:40 PM
Attachments: WindMTProgAbstract062409.docx

John:

Thank you for contacting *Montana State University – Great Falls* (MSU-GF) concerning the status of our Wind Energy Technician Training Program.

We're sorry we can't immediately fill *Ingeteam's* need for a dozen trained technicians for your Glacier Wind Farm, but we may be able to help with specialized training support.

I discussed your call with folks here who work with specialized training on an as-needed basis. If we can provide additional safety training, or electrical-mechanical training for your Montana-based technicians let us know what your specific needs are.

As discussed, we are currently developing an energy technician training program. We are taking our proposed curriculum to our governing Board of Regents for approval in August. Our program is being developed on four campuses, including MSU-Great Falls, MSU-Northern in Havre, UM College of Technology – Butte, and MSU-Billings. Program classes may start in Butte and Havre as early as this fall. The Great Falls and Billings programs will start next fall.

I have attached a short abstract of information on our Wind Montana Program. We would like to include *Ingeteam* on the Industrial Advisory Group for our Program. Please consider this email as our initial invitation to join. We will be providing more information on our advisory group shortly.

Thanks again for your call. Let us know if we can help with specialized training.

Mel

Mel Lehman
Project Manager
Wind Montana Project
Montana State University – Great Falls

Direct (406)771-5143
Cellular (406)750-7711

Building Montana's WIND ENERGY workforce statewide:
- MSU–Great Falls COT
- MSU Billings COT
- MSU–Northern
- Montana Tech COT

Wind Montana Program Abstract

Montana State University-Great Falls College of Technology
Wind Montana: Developing a Wind Energy Workforce

A workforce development project funded by the Department of Labor's Community-Based Jobs Training Grant program and project partners.

Description of project
The partners will develop a state-wide curriculum for training programs in Industrial Technology and Wind Energy Technology; establish those programs at MSU-Great Falls College of Technology, MSU-Billings College of Technology, MSU-Northern and UM-Montana Tech College of Technology; enroll students and track their progress; prepare curriculum materials and expertise for exportation; and develop and integrate an early college program in industrial technology and wind energy technology with area high schools.

Targeted group
Underemployed and unemployed workers, secondary and post-secondary students interested in the wind energy field.

Partnership members
Montana State Workforce Investment Board, Montana Department of Labor and Industry Job Service Region 3; regional One-Stop Centers in Great Falls, Cut Bank, Havre, and Shelby; MSU-Great Falls College of Technology (COT), Montana State University-Northern, MSU-Billings COT, Montana Tech COT, Centralia (Washington) College, Invenergy, Western Community Energy, Great Falls Development Authority, Great Falls Public Schools, Office of the Commissioner of Higher Education, Montana State University Wind Application Center, Energy Systems Technology and Education Training Center (ESTEC), Gov. Brian Schweitzer, Opportunity Link, Rural Dynamics Inc.

Industry Advisory Group
Goal is to have state-wide coverage, and also to have good category (i.e. general industrial, conventional energy and alternative energy) representation. Some members of this group are also Partnership Members; other members to be determined.

Training

The first year of the project will be spent reviewing and adapting curricula. Students will begin enrolling in Year 2 and will require at least two years to complete. Therefore, students will not complete the program until Spring 2012. This project is projecting students will continue through both years. However, those students who complete the one-year certificate program will be well positioned to secure summer employment in a variety of industrial settings.

Projected Outcomes

Measure	Fall 10	Sp 11	Su 11	Fall 11	Sp 12	Su 12
Enrolled in Certificate Programs	50	40		60	50	
Enrolled in AAS Programs				40	30	
Certificate graduates employed			35			45
Participants beginning education	50			100		
Total participants completing		40			80	
Participants Completing and Employed (Common Measure)						135
Participants Completing and Employed in Training-Related Industry						130
Average Wage (Common Measure) $30,000						
Number of additional students per year: 100						

Capacity Building

- Increase in number of wind technician training programs in Montana from zero to four by 2010.
- Increase in number of wind technician faculty in state from none to four by 2010.
- Increase enrollment capacity of four campuses by100 students/year.
- Add equipment, increasing each campuses' capacity in delivering trades programming.

Attachment
144-2851+R0809

Butte Local Development Corporation

June 24, 2009

Dr. John M. Garic, Dean
Montana Tech College of Technology
25 Basin Creek Road
Butte, Montana 59701

Dear Dr. Garic:

On behalf of the Butte Local Development Corporation (BLDC), I would like to voice our support for the Sustainable Energy Technology degree. This new two-year degree program is extremely relevant to the new emphasis being placed on energy development in Montana and nationwide.

In recent years Montana has seen numerous wind farm developments come on line with a long list of additional projects currently in the evaluation, permitting and contracting phase. In addition, Chafin-Fuhrlander LLC has announced they will be locating a wind turbine manufacturing site west of Butte. All of these new renewable energy developments will create employment opportunities in the areas of turbine assembly and maintenance. The new Sustainable Energy Technology degree provides an excellent educational platform for those individuals working in the manufacturing plant or maintaining the machines in the field.

During meets with Chafin-Fuhrlander LLC they indicated that they would be very interested in cooperating with the Montana Tech College of Technology in providing input for curriculum development and equipment for hands-on laboratory work. This partnership will insure that the degree program will graduate students who are "industry-ready."

Once again the BLDC greatly appreciates the hard work that the Montana Tech College of Technology has done in taking the lead on this new degree. Their cooperative working relationship with other two-year institutions throughout the state will help provide well educated workers for the new energy developments throughout Montana. We ask that you support this degree program and enact it as soon as possible.

If you have any questions regarding this letter, please feel free to contact me at 723-4349.

Sincerely,

Jim Smitham
Executive Director

480 East Park St. - PO Box 507 - Butte, Montana 59703
(406) 723-4349 - fax (406) 723-1539 - www.buttemontana.org

Attachment
144-2851+R0809

Chafin LLC

June 23, 2009

Dr. John M. Garic, Dean
College of Technology
Montana Tech
25 Basin Creek Road
Butte, Montana 59701

Re: Letter of Support – Sustainable Energy Technology Program

Chafin LLC and Fuhrländer AG are in the process of building a wind turbine generator manufacturing facility at the Port of Montana in Butte, Montana.

I am writing to express the support of Chafin-Fuhrländer LLC for the proposed Sustainable Energy Technology Program at the College of Technology of Montana Tech of the University of Montana. We are pleased that the focus of this program will be on wind energy.

As you may know, Fuhrländer AG is a German-based company and is one of the world's leading wind turbine companies and has been making turbines for 20 years. As the world changes and evolves toward a more sustainable, renewable and clean energy world, it will be vital to have a trained workforce willing and able to meet the new demands of the sustainable energy industry.

We have plans to invest a significant amount of money to build a manufacturing facility in Butte. We look forward to having Montana Tech assist us with our wind energy workforce needs; and we also look forward to helping Montana Tech with potential internships, adjunct instructors and other needs.

With kind regards, I am

Very truly yours,

Chafin LLC
Jon N. Chafin
Chairman, President, & CEO

Chafin-Fuhrländer LLC
Chief Executive Officer

PO Box 1651 • Addison, TX 75001
Telephone: +1 (817) 756-2115
Facsimile: +1 (817) 796-1141
Email: jon@chafin.at

wind.ow

www.fuhrlaender.de

The customer magazine from Fuhrländer AG

PREVIEW

Manufacturing site in the USA

more on page 2

First wind park in South Africa joins the grid

more on page 3

Giving young people a chance

more on page 4

Production Facility in China

A Further Technology Partnership with Chinese Enterprise Signed and Sealed

Fuhrländer AG, in cooperation with its licence partner Liaoning GaoKe Energy Group, is currently setting up wind turbines production facilities for the latest type FL 2500 in Eastern China. GaoKe will be marketing these modern multi-megawatt systems in China. This will facilitate the speedier expansion of a components market and provide Fuhrländer with its own local production site.

To this purpose, the contract provides for a technology transfer. Fuhrländer AG will support its licence partner in the planning, construction and equipment of the production facilities covering an enclosed space of more than 11,000 m2. The order of magnitude will equal that of the existing production facility at Weitgendshain and the new Fuhrländer works at the Siegerland airport (where the three federal states of Rhineland Palatinate, North-Rhine Westphalia, Hessen meet). Simultaneously, the Chinese technicians will be trained for their new installation and service tasks in complementary seminars. In the first phase, the factory in China will be designed for an annual production of 240 wind turbines of type FL 2500. Completion of the construction work at the Shenyang site in the province of Liaoning is scheduled for the middle of the year.

GaoKe CEO Lv Linxiang and Joachim Fuhrländer (middle) after the signing of the contract.

Fuhrländer Works at the Siegerland Airport

Production is scheduled to start next summer

The new Fuhrländer works are beginning to take shape: Due to the use of prefabricated concrete components, the over 200 m long and 25 m wide hall was erected on the 30,000 m2+ site in just a few weeks. For an optimised material flow, additional work is progressing on a pre-assembly and storage zone which is arranged parallel to the large central bay of the new hall.

Several 100-tonne and 50-tonne cranes will traverse the hall bays and provide the logistical options for the simultaneous assembly of 15 type FL 2500 multi megawatt systems.

A large service hall and a 3-storey office building are also under construction. Overall, the new factory is designed for more than 500 staff and apprentices. Energy and heat are to be provided by the nearby biomass power station.

EDITORIAL

Dear prospective customers, and friends!

An idea goes around the world! On the one hand, this statement refers to the worldwide demand for wind turbines. A steadily increasing number of nations – Fuhrländer AG is currently active in more than 40 countries – rely on wind energy as the currently most economic and reliable renewable energy source. At present, there are emerging markets in South Africa, Vietnam and Eastern Europe.

An idea which we are happy to take to these countries is to complement the creation of future-oriented workplaces with building schools and training centres where young people receive education and vocational training. That's what we call the sustainable development of regions.

We also regard these activities as peace promoting because education gives people a perspective and future and enables them to take charge of their own lives.

In this comprehensive sense, and also in view of population development, Friendly Energy is an active and positive contribution to the improvement of life on our planet.

Let's work together for a friendlier world in which people have a meaningful future!

Joachim Fuhrländer
Chairman of the board

Fuhrländer

employment | education | chances | perspectives

Manufacturing site in the USA

The factory in Montana is to produce wind turbines for the whole of North America

Fuhrländer AG and governor Brian Schweitzer announced at a press conference that the construction of a production facility in the US state of Montana is to start as soon as this year. In the first phase 150 jobs are to be created in the former mining town of Butte. Governor Brian Schweitzer and Joachim Fuhrländer, head of the company, intend to bring training and qualification to the state.

"The establishment of this future-oriented energy generation technology with its opportunities for economic growth will bring progress to our state", said Governor Schweitzer. "Wind conditions are optimal and the production of the multi-megawatt wind turbines from Germany offers great potential for giving people work and perspective." Governor Schweitzer and Fuhrländer AG plan a total investment of 25 million US $ in the production of the FL 2500 machine housings. The innovative Fuhrländer system enjoys increasing international popularity resulting in several hundred machines already having been entered into the order books for the new factory at the Siegerland airport too.

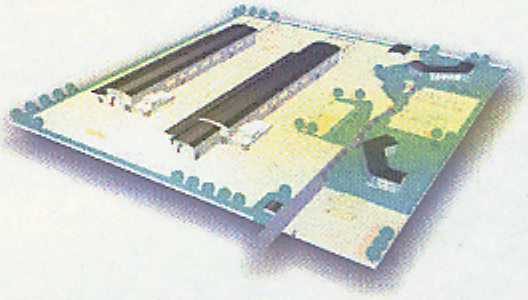
Fuhrländer intends to supply the entire North American market with wind turbines from the factory in Butte, Montana. "Our central location provides ideal preconditions for this enterprise", added Governor Schweitzer. Montana was chosen from a number of possible locations because the political support and will to establish future-proof technology was clearly evident. "Montana gives us the best possible preconditions for the construction of wind parks in the States", the governor remarked confidently. "A further 600 jobs could be created with the establishment of a rotor blade production facility", said Joachim Fuhrländer, offering a further insight into the development opportunities.

With around 30,000 inhabitants, Montana's 5th largest town provides the right environment for recruiting and qualifying employees. Since the closure of the gold and silver mines the region has been suffering from a shortage of job opportunities causing many qualified workers to migrate to other federal states.

In addition to the large production facilities Fuhrländer also plans an education and training centre which will offer young people a career perspective in Montana. "Because what works in Germany with our 100 apprentices will also be viable internationally", Fuhrländer is certain.

The decision for Montana was also taken because of the very good traffic links with other federal states and Canada – a prerequisite for the optimum transport of the components weighing several tonnes.

Joachim Fuhrländer in discussion with the Governor of Montana, Brian Schweitzer (r.).



TRADE FAIR SCHEDULE '08

Hannover Messe
21.04. - 25.04.2008
Hanover, Germany
Hall 13, Stall C78

Windpower 2008
01.06. - 04.06.2008
Houston/Texas, USA
Stall 1425

Husum-Wind
09.09. - 13.09.2008
Husum, Germany
Hall 3, Stall C13

Eolica Expo
01.10. - 04.10.2008
Rome, Italy
E16, F15

Fuhrländer AG signs first contract with energy provider

Vietnam launches wind energy exploitation with 30 MW

Vietnam launches the exploitation of wind energy with the signatures of Ly Hong Khanh, REVN, and Thomas Galler, Fuhrländer chairman

Fuhrländer has entered into a first contract for the delivery of 20 1.5 MW-class systems with REVN, a subsidiary of the state-run Vietnamese energy provider. The dynamic Asiatic country, with its more than 2500 km of coastline, intends to make wind energy one of the main pillars of its electricity supply. Given mean annual wind speeds of 7 to 9 m/s, excellent returns are expected.

"The first Vietnamese wind park is to be built on the peninsula in the Binh Thuan region where it will supply a new industrial zone with clean electricity", explained Fuhrländer chairman, Thomas Galler, when the contract was signed in Hanoi. Wind measurements had already been carried out so that a speedy transition to the detailed planning stage of the wind park is now possible. This is where the Vietnamese count on the German manufacturer's experience in view of Fuhrländer's successful international knowledge transfer programmes.

The Vietnamese energy provider intends to gather initial experiences of the internationally proven 1.5 MW

systems. The 77 m rotors will rotate on 85 m tall tubular steel towers which will be manufactured by a steel engineering firm on location. "The Vietnamese take a very professional and strategic approach to the development of the wind power projects", Thomas Galler praised his contract partners.

Of course, the intention in Vietnam is again to create jobs and training opportunities on the back of the wind energy project. "Here too the Vietnamese can count on Fuhrländer." The next step planned by REVN and Fuhrländer AG is to expand the wind park to 90 MW. Further contract negotiations are already in progress.

www.fuhrlaender.de
wind.ow

Optimally tuned to the Wind Conditions at the Cape of Good Hope

First South African Wind Park joins the grid

The first Fuhrländer type FL 1250 turbines were erected in South Africa this spring. Following intensive planning with the investor and a staff training programme, the launch took place without a hitch.

Fuhrländer has tuned its proven 1 MW turbine to the wind conditions in South Africa. The rotor grew from 54 to 62 m enabling a power rating of 1250 kW. Because the site is located near the coast, about 80 km north of Cape Town, the rotors will operate at a hub height of only 50 m. The basic principle of the stall-regulated system otherwise remains the same so that reliability and good operating results are guaranteed.

Following their initial positive experiences with wind energy, the South Africans plan to expand the site to over 30 Fuhrländer wind turbines in the course of the next few years. The Fuhrländer partner Darling Windfarm (Pty) Ltd. is convinced that this pilot wind park will be the starting signal for the exploitation of wind energy on the African continent.

With this FL 1250 wind park South Africa enters into the exploitation of modern wind energy technology

Nuno Sá, Dieter Lant, Jan Schumacher, Jochim Fuhrländer, Eduardo Merigó, Fermin Malcsanz and the Spanish Fuhrländer representative following the signing of the contract (left to right)

Friendly Energy in Spain

First FL 2500 Wind Park on the Iberian Peninsula

The first wind park in the northeast of Spain is to be implemented using the new FL 2500 machine type next year. These 2.5 MW systems with a hub height of 65 m and a rotor span of 100 m achieve a high degree of economy and, in addition, are an important contribution to the region's further development.

These Spanish projects will enable Fuhrländer AG to generate further contacts and orders in Spanish speaking countries: For example, further wind parks are to be implemented in Mexico in the near future.

Fuhrländer group of companies expands

Competent: Logistics Partner and Engineering Office

The FL group of companies undergoes continuous growth: A total of 22 subsidiaries and nine share holdings around wind energy are complemented by the logistics specialist OFPLAN Projektierungs & Logistik GmbH (development and logistic) and the international operator LAVIS Engineering GmbH.

Wherever bulky system components weighing many tonnes need to be transported from Germany to all corners of the world, crane capacities at wind park construction sites need to be organised or trade show exhibits need to be delivered safely and on time, the experts from OFPLAN swing into action. With more than 10 years experience in the wind energy industry they have the requisite know-how in haulage services.

the planning of construction sites and the resource planning of transport and crane services. These activities necessitate the international exploration and monitoring of sites and roads, the planning of access routes and crane locations and the implementation of escort measures for the heavy haulage vehicles.

As an established engineering office, LAVIS is known for the execution of international construction projects such as the Transrapid maglev track in Shanghai, the Airbus production halls in Hamburg or the second Strelasund crossing in Scandinavia. Its tasks performed for Fuhrländer are, for example, project control and controlling for wind parks as well as production and quality control of suppliers. The LAVIS know-how also comprises road building and structural engineering, the construction of steel and compound steel bridges as well as steel system design and construction projects. Building inspections, overall construction management and project control are further key tasks of the engineering office.

Capacity utilisation secured until 2012

Wind energy is part of more and more countries' energy mix. This growing international demand also fills the order books of Fuhrländer. Multi-megawatt installations with a value of over half a billion Euros are scheduled to leave the factory halls in Germany, the USA and China by 2010.

The main revenue earners remain the reliable 1.5 MW class and the current 2.5 MW system. A new technological development will soon complement the range of turbine designs offered by Fuhrländer.

wind.ow
www.fuhrlaender.de

The Fuhrländer training concept is effective

Giving young people a chance – countering the shortage of qualified workers

Investing in the next generation with education and training is a special form of sustainability. Fuhrländer has been following this course for many years: 100 young people are currently being trained in new and interesting professional fields. From this summer, there are to be 130 of them.

Fuhrländer has been investing consistently in training young people for a number of years

"We don't just offer the new generation a perspective", says Joachim Fuhrländer. "The much-lamented shortage of qualified workers, too, does not manifest itself in this way in our group of companies because we train sufficient personnel in-house."

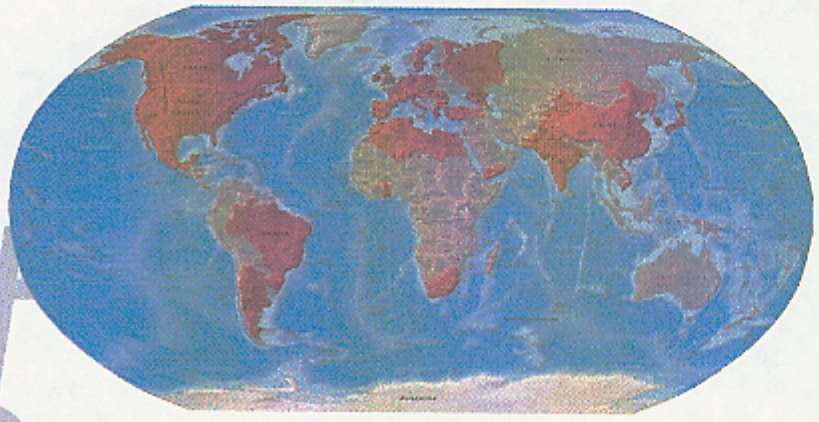
Not only the good students get a chance. About one quarter of the sought-after apprenticeships are reserved for youngsters who struggled at school. "They frequently show very good practical skills and develop splendidly at our facilities", knows trainer Ulrich Merten. A current example is the former special-needs pupil Sascha, who realised his opportunities at Fuhrländer and now successfully completed his apprenticeship as a metal worker. "Here I could develop my abilities to the full and show that I have something to offer", says the now 25-year-old, who is proud of his journeyman piece, a hot air oven which he designed himself and built with his own hands.

Individual sponsorships, complementary workshops, regular in-house training and quite a few more activities the team of 7 trainers conceive are also integral parts of the Fuhrländer training concept. Those who want to stay on and show motivated commitment are guaranteed a future-oriented workplace at Fuhrländer. The company's growth ensures it.

A total of 16 apprentices have successfully completed their journeyman examinations as mechatronics specialists or metal workers in the spring of 2008 alone.

Friendly Energy - Friendly World

Fuhrländer is active in over 40 countries



IMPRINT

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Editing/layout/production:
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Training – the key to development and peace

"Everyone has the right to education" – that is what the universal declaration of human rights stipulates. Education is an indispensable prerequisite of social development in the fight against poverty, crime, fanaticism and e.g. the spread of AIDS. Training and education provide the precondition that allows young people an autonomous organisation of their lives.

That is why Fuhrländer AG is internationally committed to the development of schools and training centres. We wish to make an active contribution to the United Nations "Education for All" campaign which demands the following:

- the number of illiterate adults (770 million around the world) should be cut in half by 2015;
- the provision of free primary education for all children;
- no child is to be disadvantaged because of gender;
- the global improvement of the quality of education.

The quality of education is not just measured by the fulfilment of performance standards alone. For Fuhrländer it is linked to values such as tolerance, solidarity, consideration of others – basic qualities for the peaceful coexistence on our planet.

This is how we put the UNESCO's four pillars model into practice already today:

- learning to live together
- learning to acquire knowledge
- learning to act
- learning for life

(UNESCO, Delors-Report, four pillars model)

Sustainability must become the central economic and educational model. Future generations should have the same opportunities for a fulfilled life as ourselves. Sustainable development combines economic progress with social justice and the protection of the natural environment. Fuhrländer is living this with FRIENDLY ENERGY – FRIENDLY WORLD. Whether in Cêrá/Brasile, in Montana/USA or Shenyang/China – in addition to production, Fuhrländer always has an eye on training and qualification.

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FL 1500
FL MD 70/77
FL 1250
FL 600
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Manufacturing site in the USA

The factory in Montana is to produce wind turbines for the whole of North America

Fuhrländer AG and governor Brian Schweitzer announced at a press conference that the construction of a production facility in the US state of Montana is to start as soon as this year. In the first phase 150 jobs are to be created in the former mining town of Butte. Governor Brian Schweitzer and Joachim Fuhrländer, head of the company, intend to bring training and qualification to the state.

Joachim Fuhrländer in discussion with the Governor of Montana, Brian Schweitzer (r.).

"The establishment of this future-oriented energy generation technology with its opportunities for economic growth will bring progress to our state", said Governor Schweitzer. "Wind conditions are optimal and the production of the multi-megawatt wind turbines from Germany offers great potential for giving people work and perspective." Governor Schweitzer and Fuhrländer AG plan a total investment of 25 million US $ in the production of the FL 2500 machine housings. The innovative Fuhrländer system enjoys increasing international popularity resulting in several hundred machines already having been entered into the order books for the new factory at the Siegerland airport too. Fuhrländer intends to supply the entire North American market with wind turbines from the factory in Butte, Montana. "Our central location provides ideal preconditions for this enterprise", added Governor

Schweitzer. Montana was chosen from a number of possible locations because the political support and will to establish future-proof technology was clearly evident. “Montana gives us the best possible preconditions for the construction of wind parks in the States”, the governor remarked confidently. “A further 600 jobs could be created with the establishment of a rotor blade production facility”, said Joachim Fuhrländer, offering a further insight into the development opportunities.

With around 30,000 inhabitants, Montana’s 5th largest town provides the right environment for recruiting and qualifying employees. Since the closure of the gold and silver mines the region has been suffering from a shortage of job opportunities causing many qualified workers to migrate to other federal states. In addition to the large production facilities Fuhrländer also plans an education and training centre which will offer young people a career perspective in Montana. “Because what works in Germany with our 100 apprentices will also be viable internationally”, Fuhrländer is certain. The decision for Montana was also taken because of the very good traffic links with other federal states and Canada – a prerequisite for the optimum transport of the components weighing several tonnes.

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