

Learning through Innovation

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## Fort Worth Museum of Science and History Presents Innovative, Multi-sensory Energy Exhibition

Energy Blast Tells The Story Of Energy Resources In North Texas

FORT WORTH, TEXAS – An innovative new energy exhibition within the Fort Worth Museum of Science and History (FWMSH) tells the dynamic story of energy resources in North Texas through a unique combination of science and history. *Energy Blast* brings physics, technology, and innovative thinking to life as guests are asked to explore geophysical formations, calculate drilling depths and directions, and to experiment with new resources.

Through interactive exhibits, multimedia, dioramas, and learning stations, *Energy Blast* immerses guests of all ages into the world of regional energy and alternative energy resources, and highlights the innovative pioneers who continue to make energy a leading industry in the region.

"Energy Blast culminates with alternative energy sources, where guests are invited to 'power' a model city using various forms of energy including geothermal, solar, hydroelectricity, and wind," said FWMSH President Van A. Romans. "The experience's primary message is that new strategies will be needed to meet our long-term, sustainable energy future; we will need a multitude of energy ideas and innovation to maintain our standard of living."

The story of energy was developed by a team of academic and industry advisors who are recognized experts in the field including:

Bonnie F. Jacobs, Ph.D., Director, Environmental Science and Studies Programs and Roy M. Huffington, Associate Professor, Department of Earth Sciences, Southern Methodist University, Dallas;

Ken Morgan, Ph.D., Director, Texas Christian University Energy Institute, Fort Worth;

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Eric C. Potter, Associate Director, Bureau of Economic Geology, John A. and Katherine G. Jackson School of Geosciences, The University of Texas at Austin; and

Andrée Griffin, Manager of Geology, Fort Worth Basin, XTO Energy, Inc., Fort Worth.

Housed in the Museum's new XTO Energy Gallery, *Energy Blast* is geared for individuals age 11 and older. "When we looked at the story of energy in North Texas, the Barnett Shale became the natural story to tell," Romans said. "It is one example of how innovative energy explorers in our region have used science and technology to mine the energy we need out of the ground. But, it's only one way.

"It is estimated that in the future, in the next 25 years, we are going to need 50 percent more energy," Romans added. "This whole exhibition is about posing a question to everybody – saying, 'These are the challenges and how are you going to respond?"

"Energy Blast is designed in such a way that guests will have multi-sensory experiences throughout the exhibit," said Randall Webster, vice president of Emerald Palms Design Group, who was designated Director of Design for the Museum. "It is important that each of the areas within the exhibit is designed to be visually appealing, extraordinary in form, and scientifically and historically correct."

Guests to *Energy Blast* enter through a multi-sensory prehistoric undersea environment similar to Fort Worth 300 million years ago into the 4-D theater where they embark on *Journey to the Center of the Barnett Shale*, a six-minute experience that tells the story of how natural gas formed within shale deposits of North Texas. This experience allows guests to see, feel and hear this exciting story in a thrilling new way.

"We chose to tell the story of the Barnett Shale because it is such an important, interesting and unique part of energy in this area," said Chick Russell, president of Chick Russell Communications who was designated Creative Director of the Museum's Energy Blast, Cattle Raisers Museum, and DinoLabs/DinoDig®.

The 4-D experience of the theater – which will be known as the Devon Energy Theater – invokes the senses of sight, sound and touch to bring the history and science of shale deposits to life as viewers don 3-D glasses and blast off aboard "TimeCraft," journeying back to prehistoric time. Passengers discover

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how the Barnett Shale was formed and how geoscientists and petroleum engineers are using science and advanced technologies to extract the natural gas modern society needs.

Returning back to the present, guests exit the 4-D theater and come face-to-face with a real 50,000-pound seismic vibroseis truck. Interactive stations placed around the truck mimic the methodology behind this vibrating truck, which sends sound waves a mile-and-a-half underground. "The science is similar to an ultrasound," said Russell. "The sound waves bounce off of the rock strata a mile and a half underground. Geologists input that seismic data into powerful computers to create 3-D images, which allow them to see underground formations so they know exactly where gas deposits are located."

Guests are given the opportunity to play an interactive game around the truck. "When they drive their truck to a vibe location and lower the truck's vibe pad, they will actually feel the ground underneath them vibrate," Russell said. "Guests will also be able to conduct interactive seismic sound experiments in this area as well."

A 30-foot model of a drilling apparatus is located in the exploration and production section of the exhibition. Large windows in this cantilevered gallery bring the outside in as guests experience a well in a full-sized rig command center "doghouse." "Museum visitors can walk into what's called a 'doghouse' and have a real technician demonstrate how a well is drilled. Out the window, guests will see roughnecks working on the rig floor. Most people won't realize the illusion is magically created with projection," Russell added.

Another component of *Energy Blast* allows guests to experiment with various energy sources – both renewable and nonrenewable – to "power" a model city.

"We're asking participants to use their critical thinking skills to determine the appropriate mix of energy sources needed to bring power to a large city," Russell said. "Our goal is to allow people to take what they've learned in the energy exhibition and apply it to 'real life.'

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"Our hope is that as guests go through an exhibition like this they will understand that we are putting science in context for them," Russell said. "It is not an abstract science when they interact with the physics and technologies used to power their lives."

The final element within *Energy Blast* is "Energy Pioneers" where guests can research industry innovators via computer. "For example, guests can discover how local energy explorer George Mitchell persevered by experimenting for 18 years before discovering how to extract gas from the strata," Russell said.

"This specific component of *Energy Blast* is a fine illustration of the impetus behind our new environment of learning," Romans said. "It gives examples of how innovative thinking in science – in Mitchell's case, physics – and experimentation lead to an important discovery that changed the world.

"It is important for young people to understand and to learn about this because we need their help and their creativity to explore and discover how to meet energy needs for the future." Romans added. "Our goal is to inspire every person that experiences this exhibition to be a part of the energy solution."

## **About The Museum**

The Fort Worth Museum of Science and History is open from 10 a.m. to 5 p.m., every day except Thanksgiving, Christmas Eve, and Christmas Days. For more information about the Museum visit www.fortworthmuseum.org or call 817-255-9300.

In 1939, the Fort Worth Council of Administrative Women in Education presented a successful proposal to the City Council for the creation of a children's museum in Fort Worth. Chartered with the State of Texas in 1941 as the "Fort Worth Children's Museum," the new \$80 million FWMSH campus marks the culmination of an extensive multi-year fund-raising campaign following a comprehensive planning effort. Dedicated to life-long learning and anchored by its rich collections, the Museum engages school children and adult visitors through creative, vibrant programs and exhibits interpreting science and the history of Texas and the Southwest. For more than six decades, the FWMSH has provided learning opportunities for tens of thousands of area children annually among its million visitors each year, making it one of the most popular cultural attractions in North Texas.

The new Museum building, created by internationally acclaimed architects Legorreta + Legorreta with Gideon Toal, is located in the heart of Fort Worth's Cultural District. The world-class, 166,000 square-foot facility features a collection of new, interactive exhibits and programs developed by the Museum's staff and a team of nationally recognized designers in support of the Museum's dedication to informal, discovery-based learning for all.

The new Museum's environment of learning comprises state-of-the-art interactive exhibitions and components including: Energy Blast; the Fort Worth Children's Museum; the Cattle Raisers Museum; the Noble Planetarium; Omni IMAX® Theater; DinoLabs/DinoDig® – featuring the State Dinosaur of Texas, *Paluxysaurus jonesi*; Innovation Studios/Innovation Gallery; and the 60-year-old Museum School.