



**“Mr. Gorbachev –
Tear down this wall”**

June 12, 1987

**Twenty-nine months
later**

**... the wall came
down ...**



**Ronald Reagan at the Berlin Wall,
June 12, 1987: “Tear down this
wall”**

Clean Energy Park



**“President Obama,
build this park!”**

April 7, 2010

...September 2011 ...

**“to promote the sustainable
supply and use of energy for the
greatest benefit of all.”**



And this one ...

Clean Energy Park #2



“to promote the sustainable supply and use of energy for the greatest benefit of all.”

And this one ...

Clean Energy Park #3



**“to promote the sustainable supply and use of energy
for the greatest benefit of all.”**

And this one ...

Clean Energy Park #4

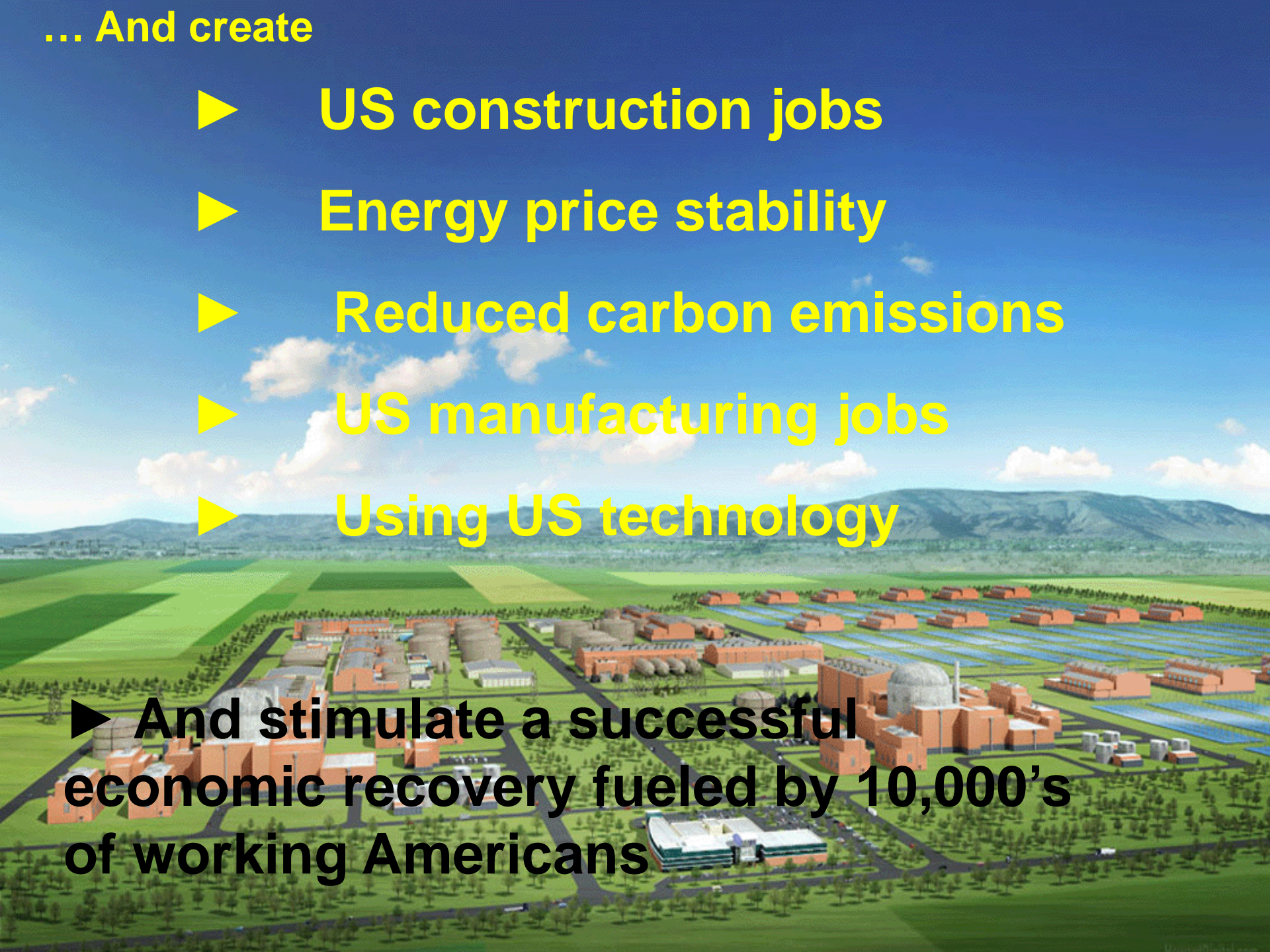


“to promote the sustainable supply and use of energy for the greatest benefit of all.”

... And create

- ▶ **US construction jobs**
- ▶ **Energy price stability**
- ▶ **Reduced carbon emissions**
- ▶ **US manufacturing jobs**
- ▶ **Using US technology**

▶ **And stimulate a successful economic recovery fueled by 10,000's of working Americans**



President Obama



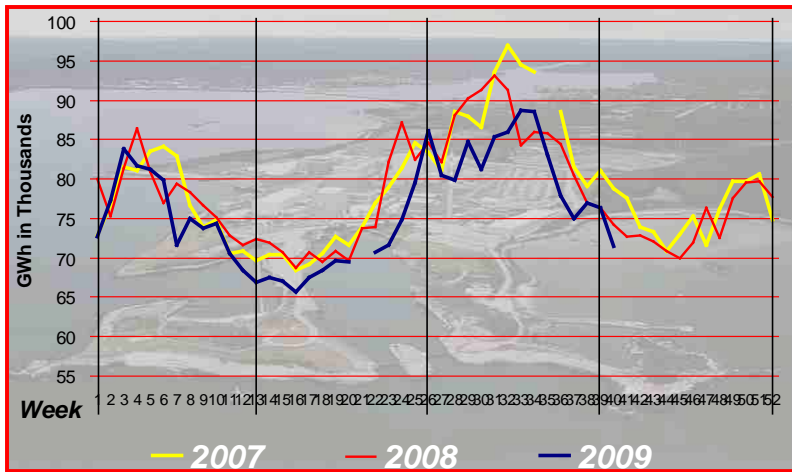
**We welcome change and openness;
for we believe that freedom, energy, economic
growth and security go together,
and that the advance of human liberty through the
availability of energy can only strengthen the cause
of world peace.**

**There is one sign your administration can make that
would be unmistakable, that would advance
dramatically the cause of freedom, economic
recovery, and peace.**

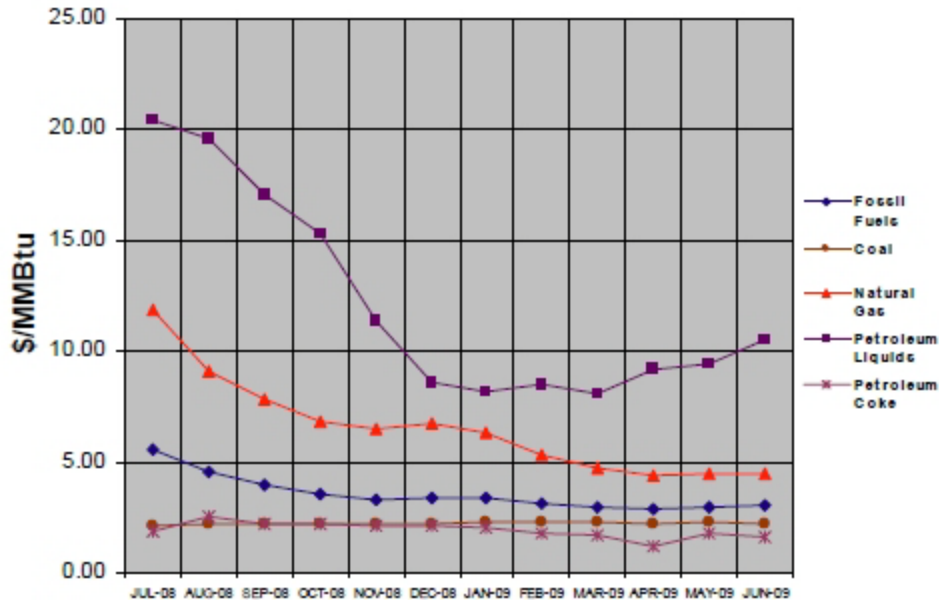
**President Obama, if you seek change, if you seek
prosperity for the United States and the world, if you
seek economic recovery, come here to this
conference. President Obama, open the restraining
gates of energy politics, regulation and finance.**

**President Obama, build
these parks!**

The Recession



Demand substantially lower in 2009

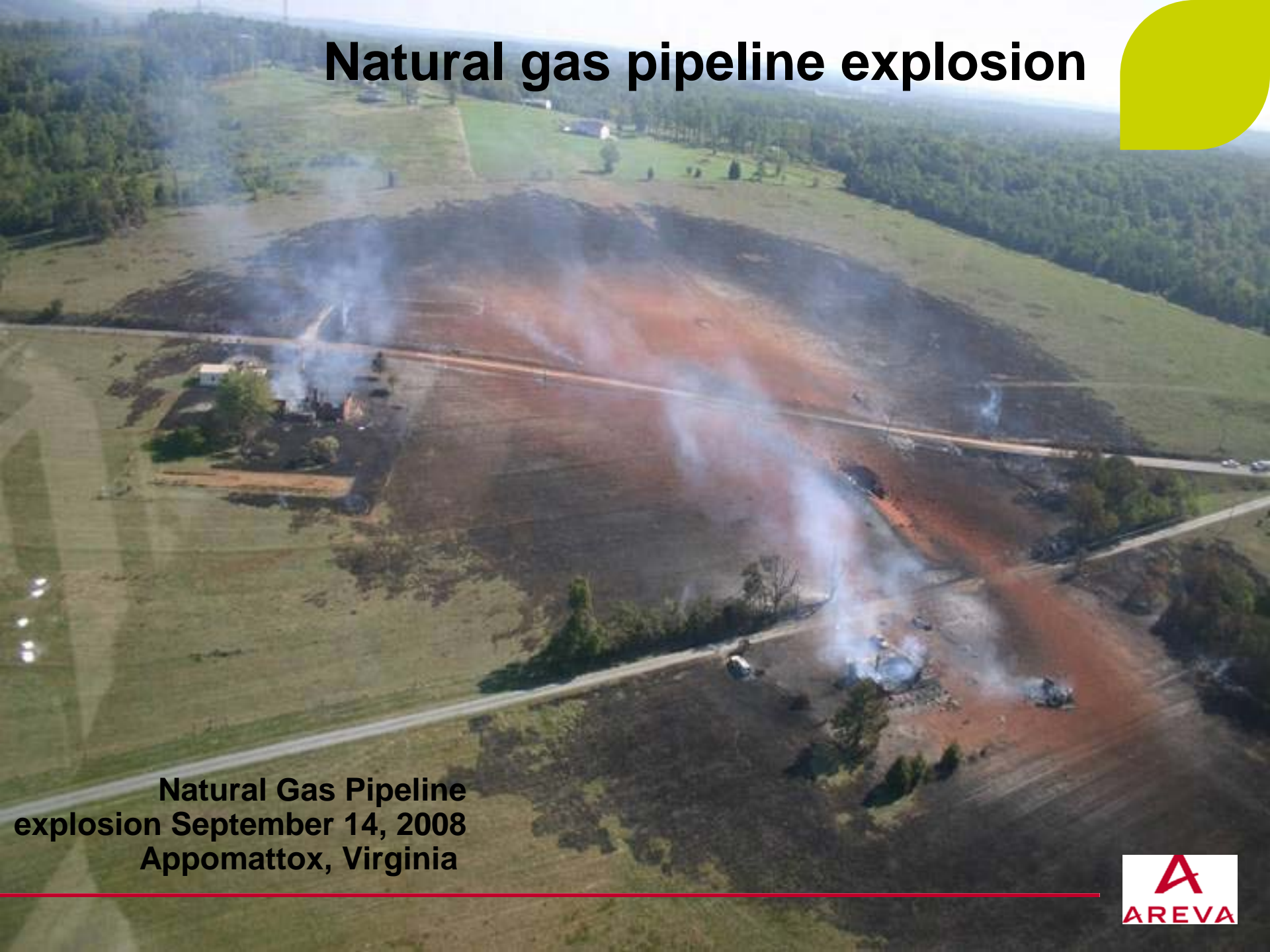


Fuel costs for last year

Source: EIA, EEI

- ▶ **Utilities retrenching**
- ▶ **Electric power demand down 4.2% Sept. 2008 –Sept. 2009**
- ▶ **Result: utilities revenue decline**
- ▶ **Utilities downsizing, offering early retirement**
- ▶ **Delaying new generation investments**
- ▶ **Turning (again) to natural gas**

Natural gas pipeline explosion

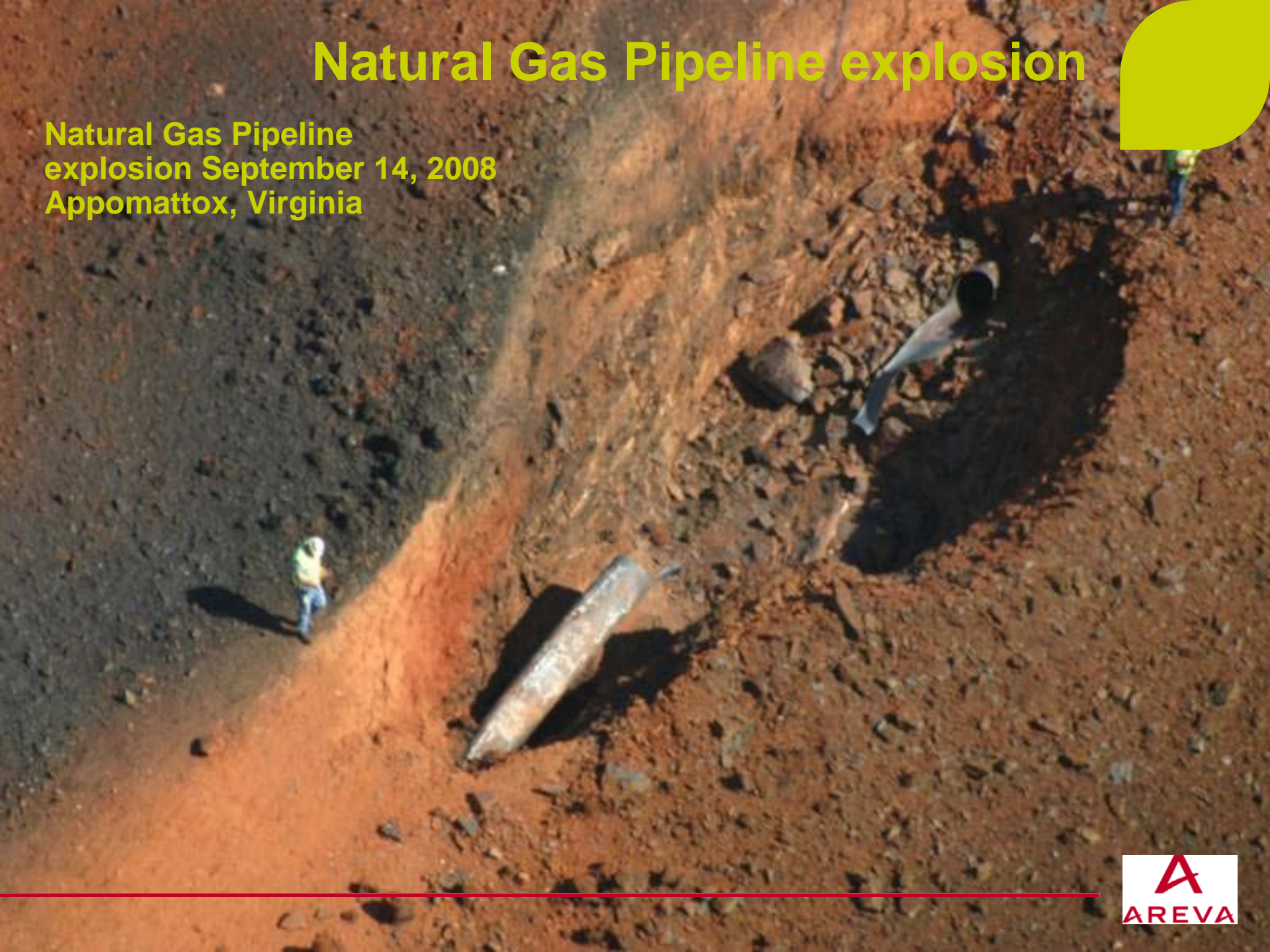


**Natural Gas Pipeline
explosion September 14, 2008
Appomattox, Virginia**



Natural Gas Pipeline explosion

Natural Gas Pipeline
explosion September 14, 2008
Appomattox, Virginia



February 7, 2010, Connecticut Gas Turbine explosion kills 5, injures 27



Propane Tanker Fire in Indianapolis



Intersection of I-69 and I465 on October 22, 2009
East side of overpass “blown out” and 2 steel girders damaged

Results of Mountaintop Removal Coal Mining in Southern West Virginia, May 2003



Not Only Does Mining Destroy the Mountain, it Destroys the Forest Which Absorbs CO₂

Mountaintop Removal Coal Mine in Southern West Virginia Encroaching on Small Community



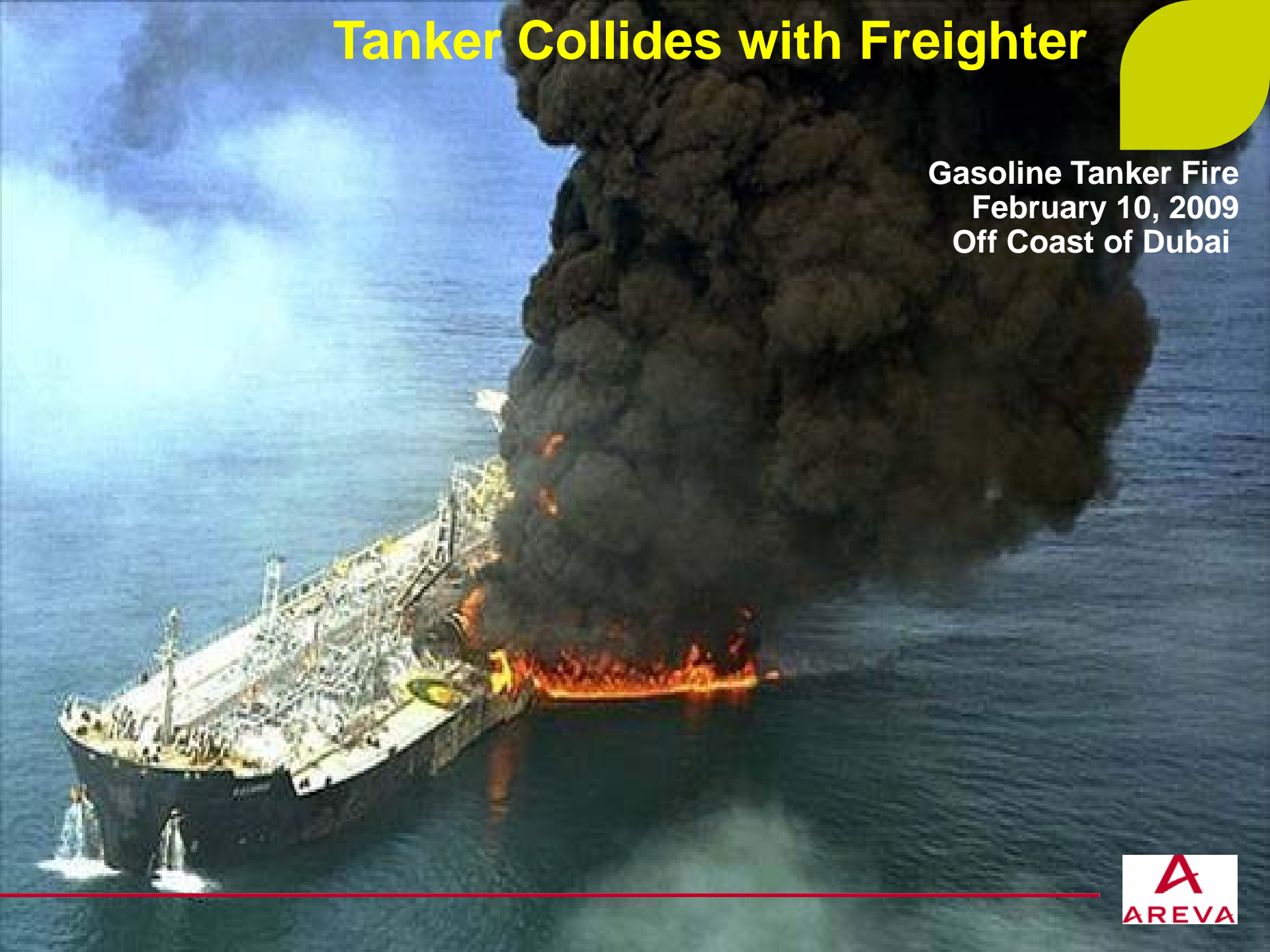
Whitesville, West Virginia



Coal Slurry Impoundment Will Hold 8 Billion Gallons of Coal Waste Sludge

Tanker Collides with Freighter

Gasoline Tanker Fire
February 10, 2009
Off Coast of Dubai



Tanker Collides with Freighter

**Gasoline Tanker Fire
February 10, 2009
Off Coast of Dubai**



Gasoline Tanker Fire

Gasoline Tanker Fire
MOLO, Kenya

January 31, 2009

More than 100 dead, over 200
injured



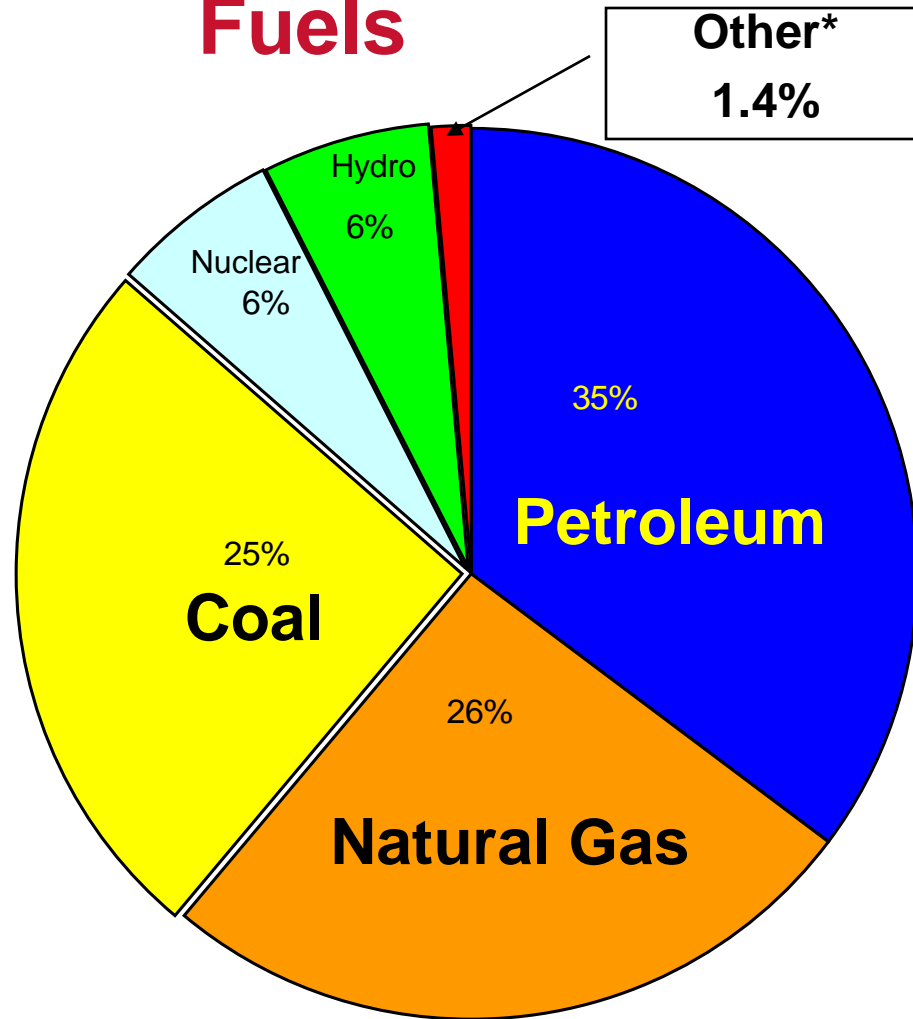
Gas Explosion at Gulf Gasoline Distribution Facility in Puerto Rico



**October 23,
2009**



86% of World's Energy Produced by Fossil Fuels



* Includes geothermal, solar, wind

Source: EIA 2004 Data

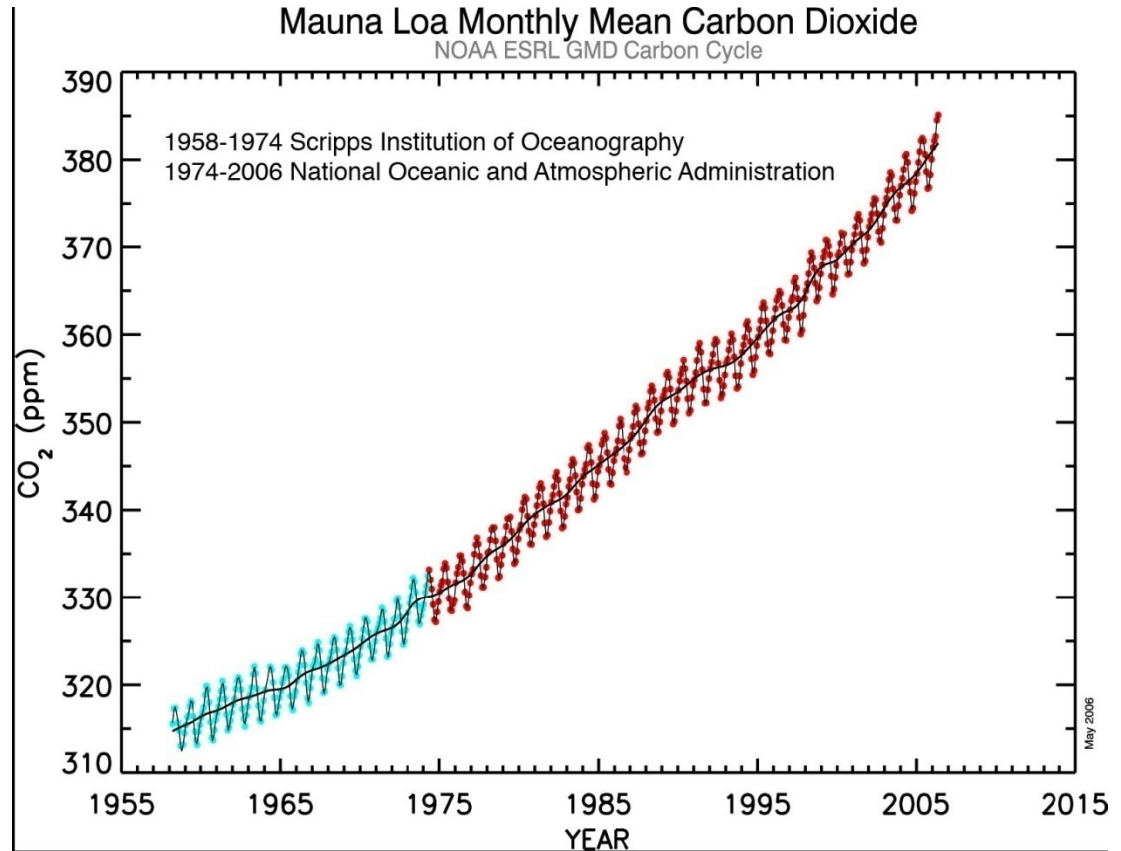
The Real US Energy Situation

Total US energy consumption = 100 Quads

85% is carbon fuels

Electric power sector = 38.2 Quads

1 quad per year = a mile-long train of coal every 2 hours, 24-7



61% Goes For Non-electric Use

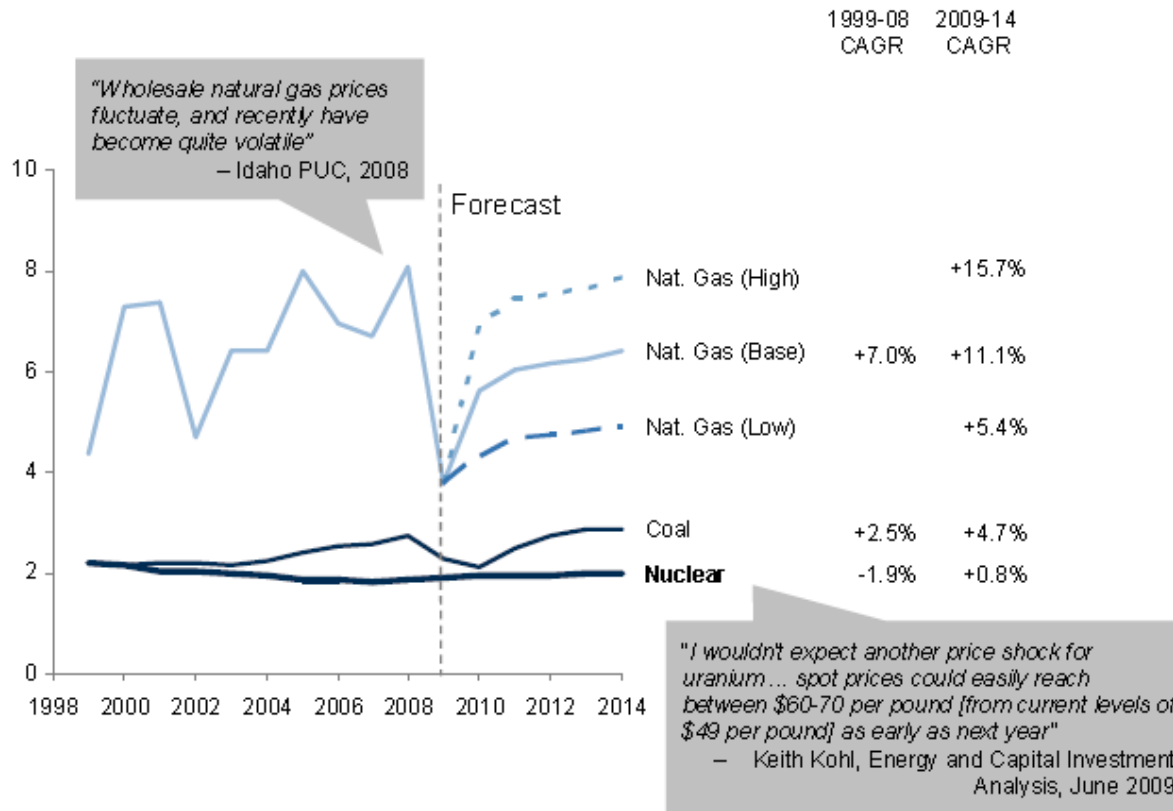
Source: EIA 2008 Data

Nuclear power remains the safest, proven 24/7, sustainable, CO₂- free energy source



US Electricity Production Costs and Components

Electricity Cost by Fuel Type (No Carbon Tax)¹
2008 Cents/kWh





Patrick Moore – Green Peace
Steve Brand – Whole Earth Catalogue
James Lovelock - GAIA
Greg Warren – Australian Wildlife Fund

Produce More Energy And Reduce Our Carbon Emissions

What are the answers?

INCREASE ENERGY EFFICIENCY

DEVELOP CO2 FREE ENERGY SOURCES

DEVELOP CARBON CAPTURE AND STORAGE

NUCLEAR ENERGY



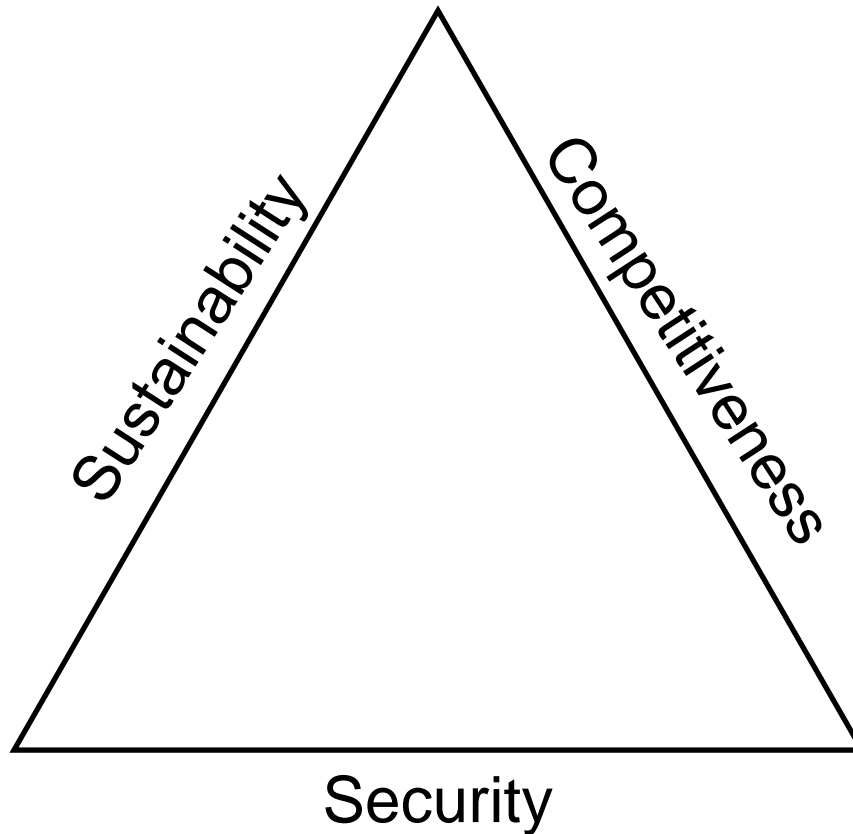
- RENEWABLES



▶ When it is about energy...three requirements have to be met:



The Energy Triangle



▶ Fossil fuels

= competitive at this time, but not sustainable, with substantial CO2 emissions

= and what about climate legislation?

▶ Renewable energy, a good choice:

= Low-carbon emissions

But...

= Intermittent energy

= Cannot ensure full security of supply

Nuclear energy meets the 3 requirements

!

Nuclear Power Plants ARE and Will Be Competitive

- FP&L: Nuclear superior in 8 of 9 scenarios
 - Progress: Nuclear “better than AFBC, pulverized coal and coal gasification”
- ▶ **Brattle Group analysis:**

Technology	Nuclear	SCPC w/CCS	IGCC w/CCS	Gas CC w/CCS
Capital Cost (\$/kWe)	4,038	4,037	3,387	1,558
Levelized Cost (\$/MWh)	83.40	141.90	124.50	103.10

Source: “Integrated Resource Plan for Connecticut,” The Brattle Group, January 2008



AREVA's committed to sustainable renewable generation

Anne Lauvergeon and Jim Rogers (Duke Energy CEO) with Bill Clinton for ADAGE launch



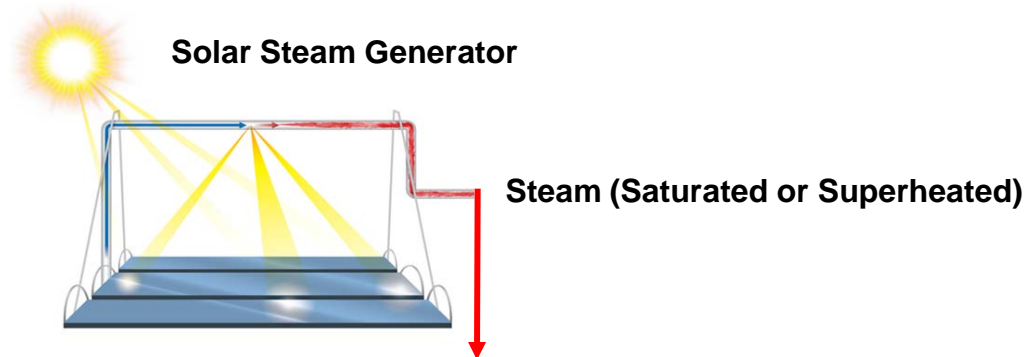
AREVA biomass ADAGE, for the US

- ▶ Plans to develop twelve 50 MW biopower energy plants in the continental U.S. for green electricity customers from wood waste
- ▶ Launched in Sept 2008 by AREVA and Duke Energy at the Clinton Global Initiative
- ▶ Combines the strength of the two major energy companies:
 - ◆ AREVA will design and build biomass power plants
 - ◆ Duke Energy Generation Services (DEGS), a business unit of Duke Energy that owns and develops renewable energy, will manage operations



AREVA's committed to sustainable renewable generation

Concentrating Solar Power (CSP) for large-scale power generation and industrial steam customers



Standalone Solar & Solar Hybrid Power Plants



Solar Steam Augmentation



Industrial Processing

Customers

- Utilities
- IPPs

- Utilities
- IPPs

- Enhanced oil recovery & refining
- Chemical processing & refining
- Food processing
- Desalination



AREVA's committed to sustainable renewable generation

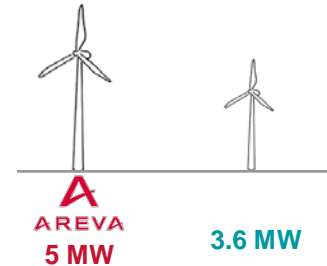


Multibrid turbines M5000



Offshore turbines

- ▶ The most powerful offshore turbine on the market (5 MW)
 - ◆ A leading edge position on a market favourable to high power turbines



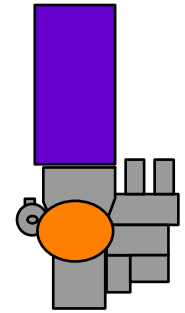
- ▶ A wind turbine designed specifically for harsh sea conditions
- ▶ A light-weight structure, providing
 - ◆ A facilitated installation and maintenance
 - ◆ The best weight / power ratio available on the market

Koeberg South Africa Part of the AREVA 900 MWe Fleet



Civaux France

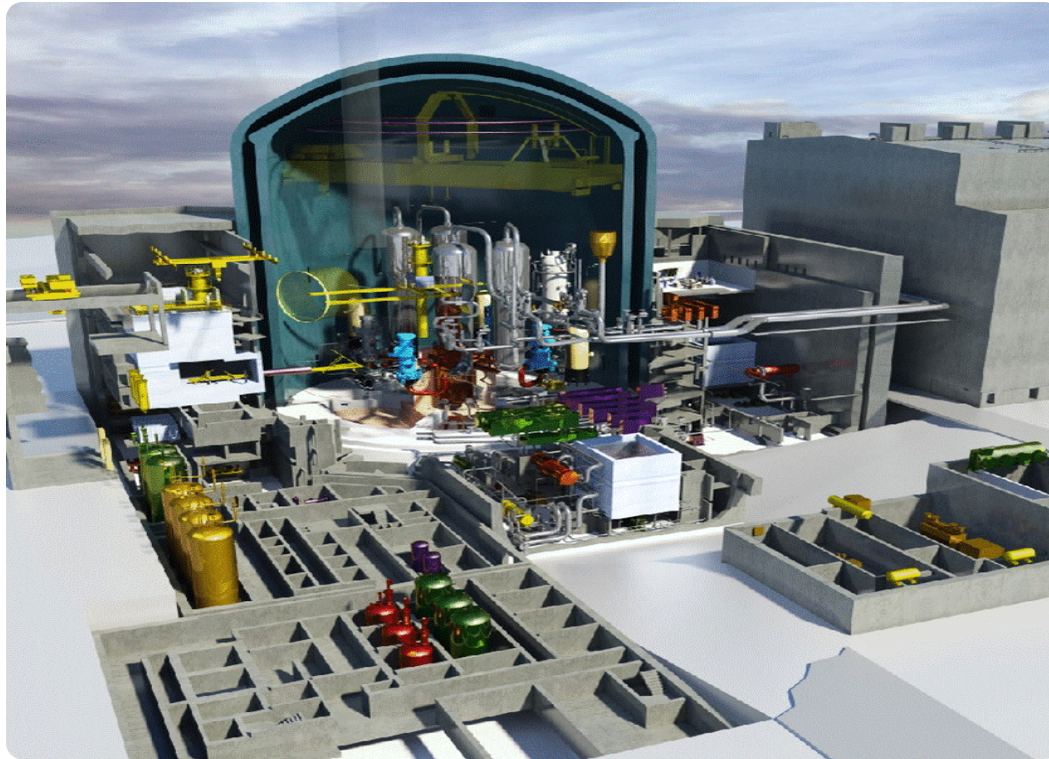
Part of the AREVA 1500 MWe Fleet



**Recyclable
Energy**

The AREVA EPR

Another evolutionary fleet

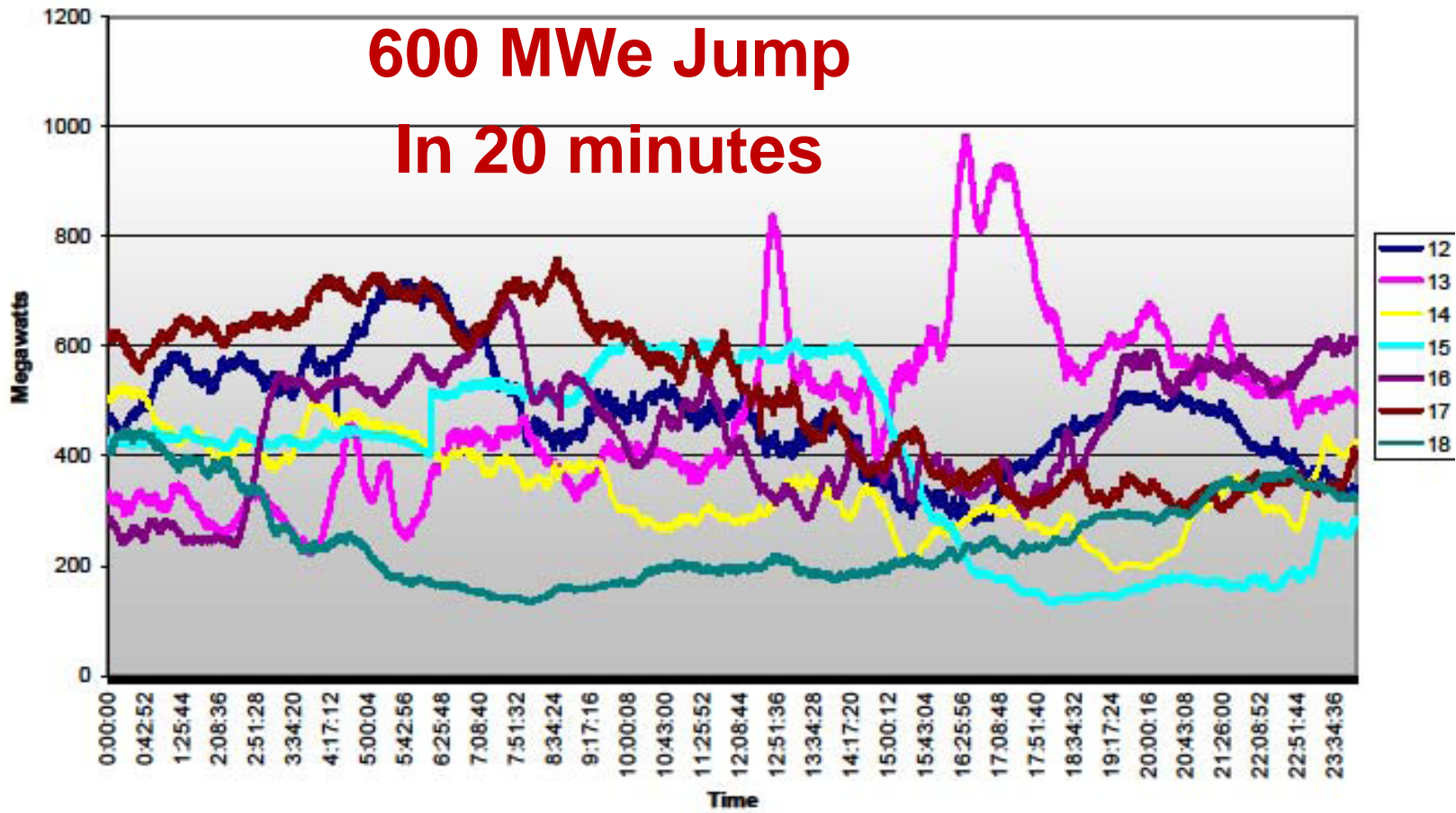


CERTAINTY
For an
Uncertain Time



Importance of Digital Control

February 2009 Total Wind Generation
7 day plot of major Pacific Storm in California

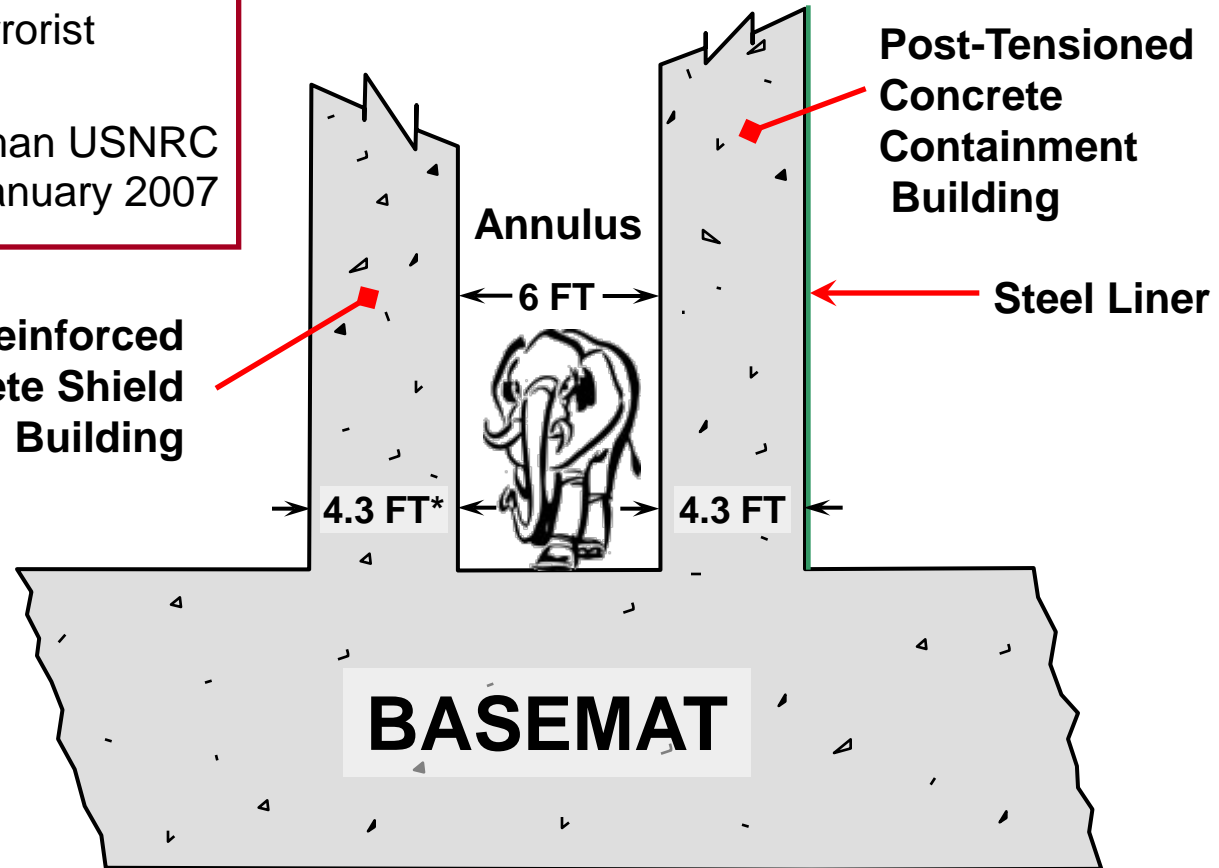


Aircraft Hazard Protection

“Future nuclear power plants should include design improvements to better protect against a terrorist attack by large aircraft”

-Dale Klein, Chairman USNRC
January 2007

Reinforced
Concrete Shield
Building

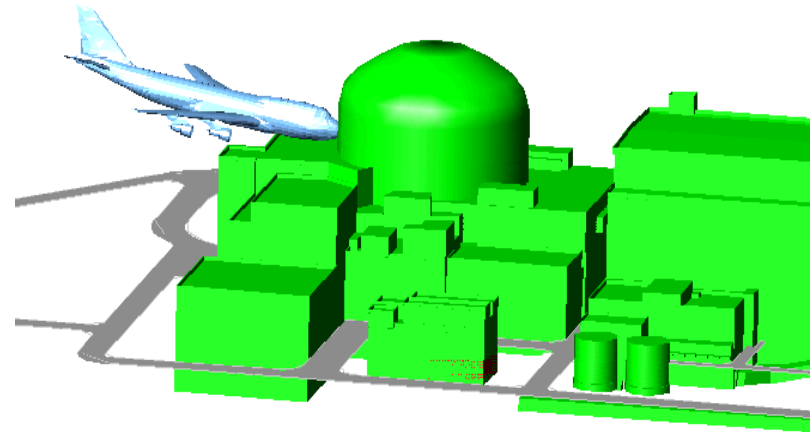


*Exposed section of Shield Building (above surrounding buildings) is 5.8 ft thick

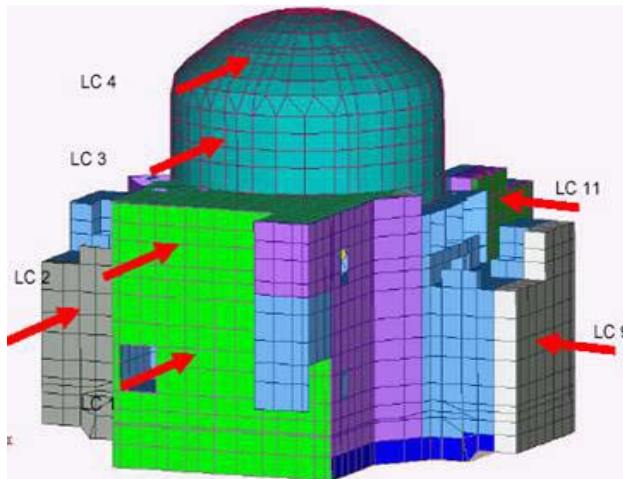
EPR Aircraft Hazard Protection

EPR Designed to Withstand Impact of:

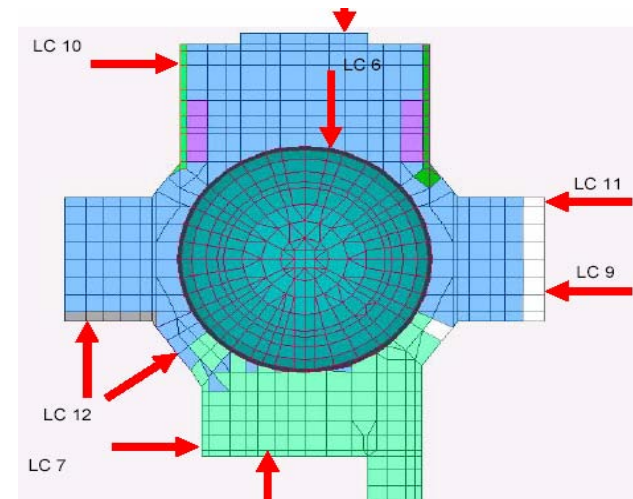
A large commercial airplane



at various elevations



and from different sides



AREVA's EPR Fleet

Turning the nuclear renaissance into reality



- ▶ Plants are being built
- ▶ Experience gained is being incorporated into US market
- ▶ Knowledge transfer is being accomplished
- ▶ **THIS IS REAL EXPERIENCE**

» This is what we are doing – Not what we are going to do

AREVA - Investing in US Infrastructure



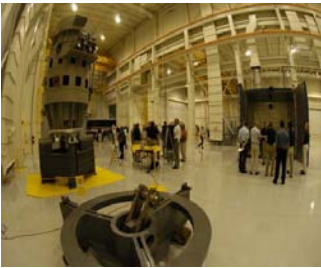
OFR
Upgrade
\$16M
Expansion



Best
Practice
Rod Lines
\$6M



US Enrichment
Center in Idaho



Pump and
Motor
Facility
\$16M



Blended
Low
Enriched
Uranium
Facilities
\$60M



Newport News
Manufacturing
Facility
\$230M



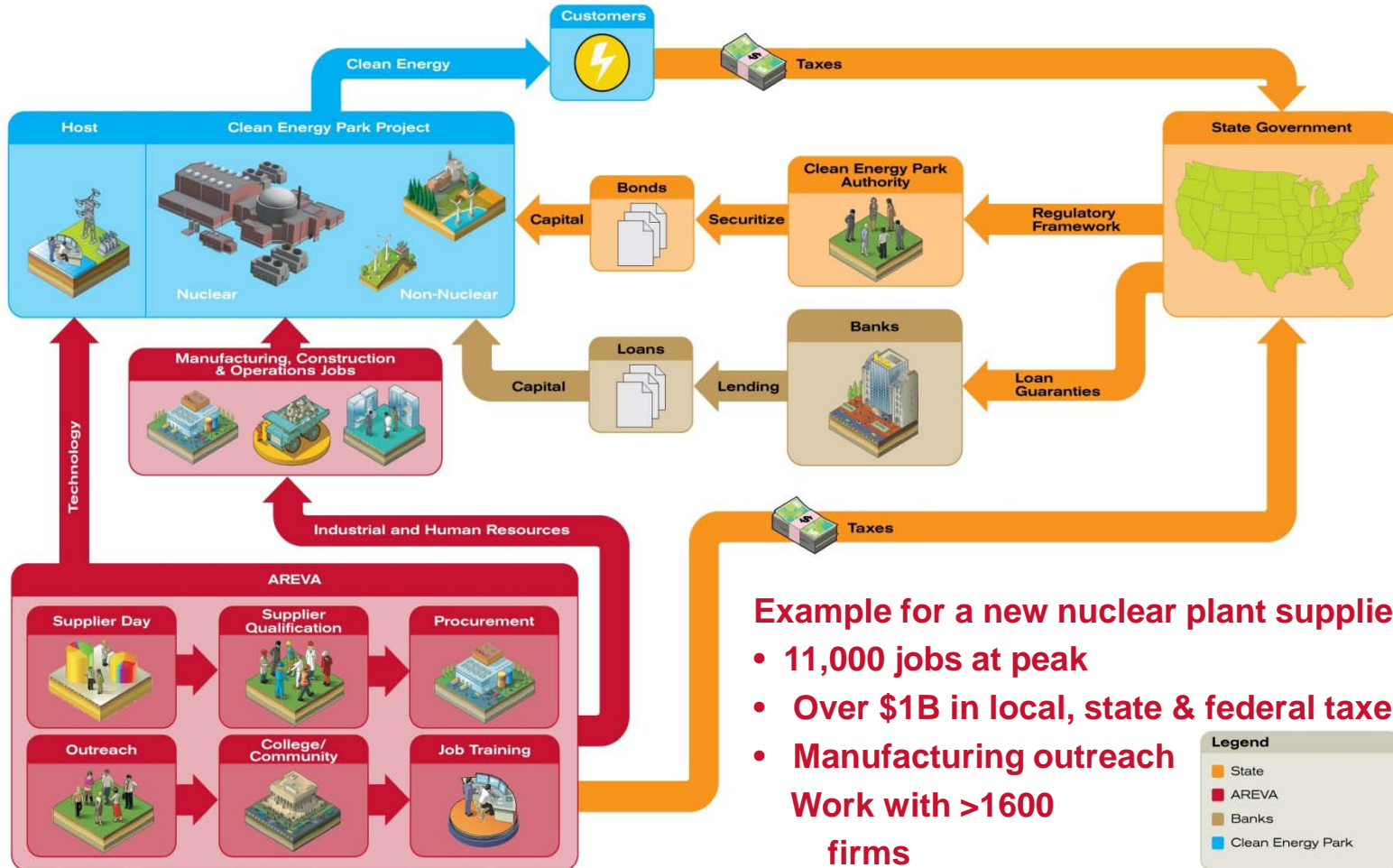
MRR
Training
Facility
\$6M



Chemistry
Lab
\$6M

>\$400M of Our Money!

Self-Sustaining Clean Energy Park Project



Example for a new nuclear plant supplied by AREVA

- 11,000 jobs at peak
- Over \$1B in local, state & federal taxes
- Manufacturing outreach
- Work with >1600 firms
- Educational outreach

» Jobs, Manufacturing, CO₂-Free Energy

AREVA Recycles NOW!

- **Natural resources savings**
 - ◆ Used fuel contains **96%** of reusable materials
 - ◆ Up to **25%** natural uranium savings



*La Hague, France
Spent Fuel Reprocessing*

Dry Cask Storage



*Melox/Marcoule, France
Mox Fuel Fabrication*

**We aren't waiting, we are not studying,
We are doing!**

Dry cask storage as an interim option



Whether it is

Long-term
sustainable jobs

We have
shovels in the
ground – today!
We can
accelerate the
recovery
TODAY!



Clean Energy
Park





Shovels in the ground – LITERALLY!



President Obama



**We welcome change and openness;
for we believe that freedom, energy, economic
growth and security go together,
and that the advance of human liberty through the
availability of energy can only strengthen the cause
of world peace.**

**There is one sign your administration can make that
would be unmistakable, that would advance
dramatically the cause of freedom, economic
recovery, and peace.**

**President Obama, if you seek change, if you seek
prosperity for the United States and the world, if you
seek economic recovery, come here to this
conference. President Obama, open the restraining
gates of energy politics, regulation and finance.**

President Obama, build these parks!

Clean Energy Park

President Obama – Build
these parks!

April 7, 2010

“to promote the sustainable supply and use of energy
for the greatest benefit of all.”