

AREVA is Clean Energy and American Jobs

Ohio Manufacturers Association
April 28, 2010
Columbus, OH



Thomas M. Williamson, P.E.
VP, New Plant Market Strategy
AREVA Inc.



Introduction



- ▶ **AREVA Overview**
- ▶ **Nuclear Revival**
- ▶ **A New Nuclear Plant in Ohio – What Does it Mean?**
- ▶ **AREVA Procurement Approach**
- ▶ **Conclusion**



AREVA Overview



AREVA: Mission & Strategy



SPECIALIZING IN CO₂ FREE ENERGY GENERATION

▶ **OUR MISSION**

- ◆ Enabling all people worldwide to have affordable access to ever cleaner, safer and more economical energy
- ◆ Helping to create jobs, reduce reliance on fossil fuels and ensure energy security

▶ **OUR STRATEGY**

- ◆ To set the standard in CO₂ free power generation technology by expanding our products, services, and presence in key markets.

AREVA: A Global Industrial Group Focusing on CO₂-Free Energy



AREVA is #1 in nuclear and growing rapidly in renewables

Renewable Energy: AREVA's Portfolio

WIND POWER



- ♦ Off-shore wind technology with strong position in targeted geographies – U.S.

BIOMASS



- ♦ Specialized Engineering, Procurement, Construction (EPC) company for biomass fired power plants
- ♦ Ownership of critical technologies (combustion, gasification, etc.)

SOLAR



- ♦ Specialized EPC for solar thermal power plants
- ♦ Research and development of solar technologies

ENERGY CARRIER AND STORAGE



- ♦ Fuel cell design and production
- ♦ Development of next generation storage solutions and hydrogen production

AREVA in the World



43 countries

Production & Manufacturing

100 countries

Marketing & Sales

Two-thirds of AREVA's sales revenue outside France

75,000 Employees

EUROPE AND CIS

57% of sales	68% of employees
---------------------	-------------------------

Austria, Belgium, France, Germany, Greece, Hungary, Italy, Kazakhstan, the Netherlands, Norway, Poland, Russia, Slovakia, Spain, Sweden, Switzerland, Turkey, United Kingdom



NORTH AND SOUTH AMERICA

15% of sales	13% of employees
---------------------	-------------------------

Argentina, Brazil, Canada, Chile, Colombia, Mexico, United States,

AFRICA AND MIDDLE EAST

9% of sales	5% of employees
--------------------	------------------------

Central African Republic, Côte d'Ivoire, Egypt, Namibia, Niger, South Africa, United Arab Emirates

ASIA-PACIFIC

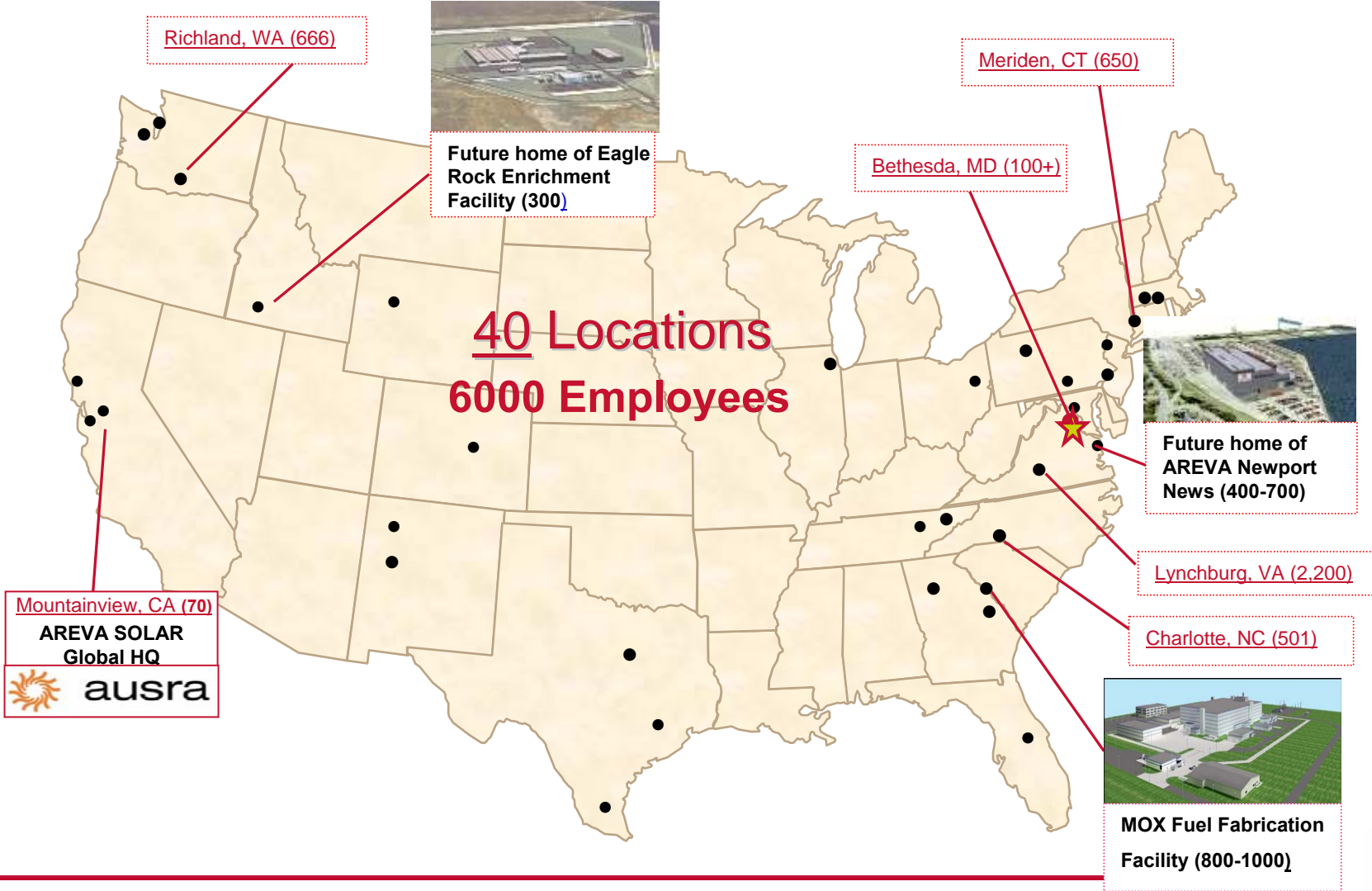
19% of sales	14% of employees
---------------------	-------------------------

Australia, China, India, Indonesia, Japan, Malaysia, Singapore, Thailand



AREVA US Locations

HQ – Bethesda, Maryland

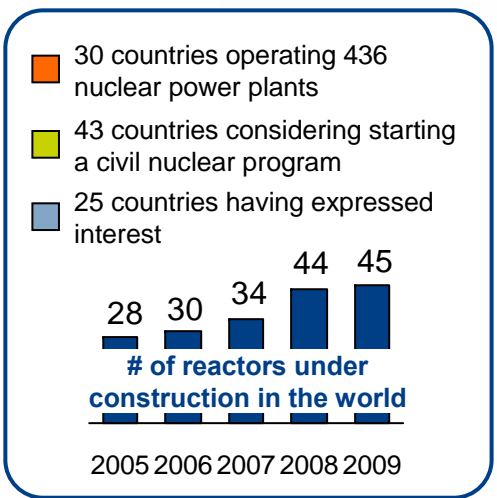
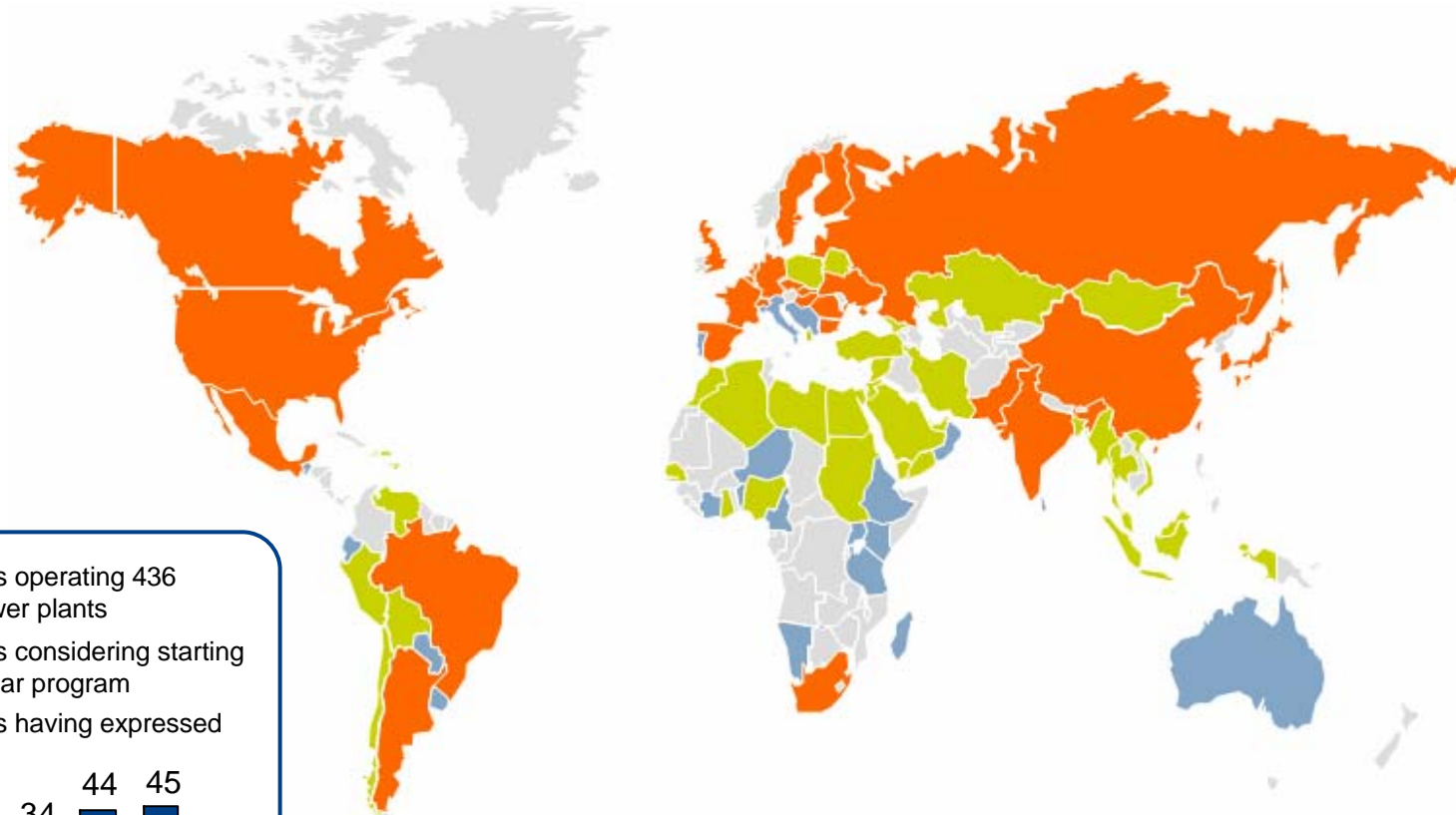




Nuclear Revival



Nuclear Energy is Global and a Revival is Underway





More than 20 EPR™ Reactor Projects under Development Worldwide



- Under construction
- Under development
- Prospects

4 + 4 UK

- ▶ 4 units announced by EDF
- ▶ 4 units targeted with E.ON/RWE
- ▶ Further units GDF SUEZ/Iberdrola/SSE
- ▶ Industrial partnerships with Balfour Beatty and Rolls Royce covering engineering, manufacturing and construction

1 FINLAND

- ▶ OLKILUOTO 3 under construction

1 FRANCE

- ▶ FLAMANVILLE 3 under construction

2 CHINA

- ▶ TAISHAN 1&2, 2 units under construction

4 ITALY

- ▶ 4 units announced by EDF and Enel through the JV SNI
- ▶ Further potential units with European utilities that have declared interest in contributing to the Italian nuclear program; no formal set-up yet

1 + 1 FRANCE

- ▶ Second EPR™ project for EDF, GDF SUEZ, Total, Enel and possibly E.ON in Penly
- ▶ Possible 3rd EPR™ project under discussion

8 + 1 USA

- ▶ Design Certification Application submitted in Dec. 2007 and expected by 2012
- ▶ Detailed Design underway
- ▶ 4 Combined License Applications referenced by NRC
- ▶ Duke Energy is currently evaluating the EPR™ technology for the Piketon, Ohio site

2 + 4 INDIA

- ▶ Memorandum of Understanding with NPCIL for 6 EPR™ reactors at the Jaitapur site; offer for 2 EPR™ reactors
- ▶ Strategic alliance with Bharat Forge
- ▶ Framework agreement with TCE Consulting Engineers (Tata) for engineering services
- ▶ Licensing launched

PROSPECTS

- ▶ Brazil, Canada, China, Czech Republic, Finland, Lithuania, Poland, Switzerland, the Netherlands

REPUBLIC OF SOUTH AFRICA (RSA)

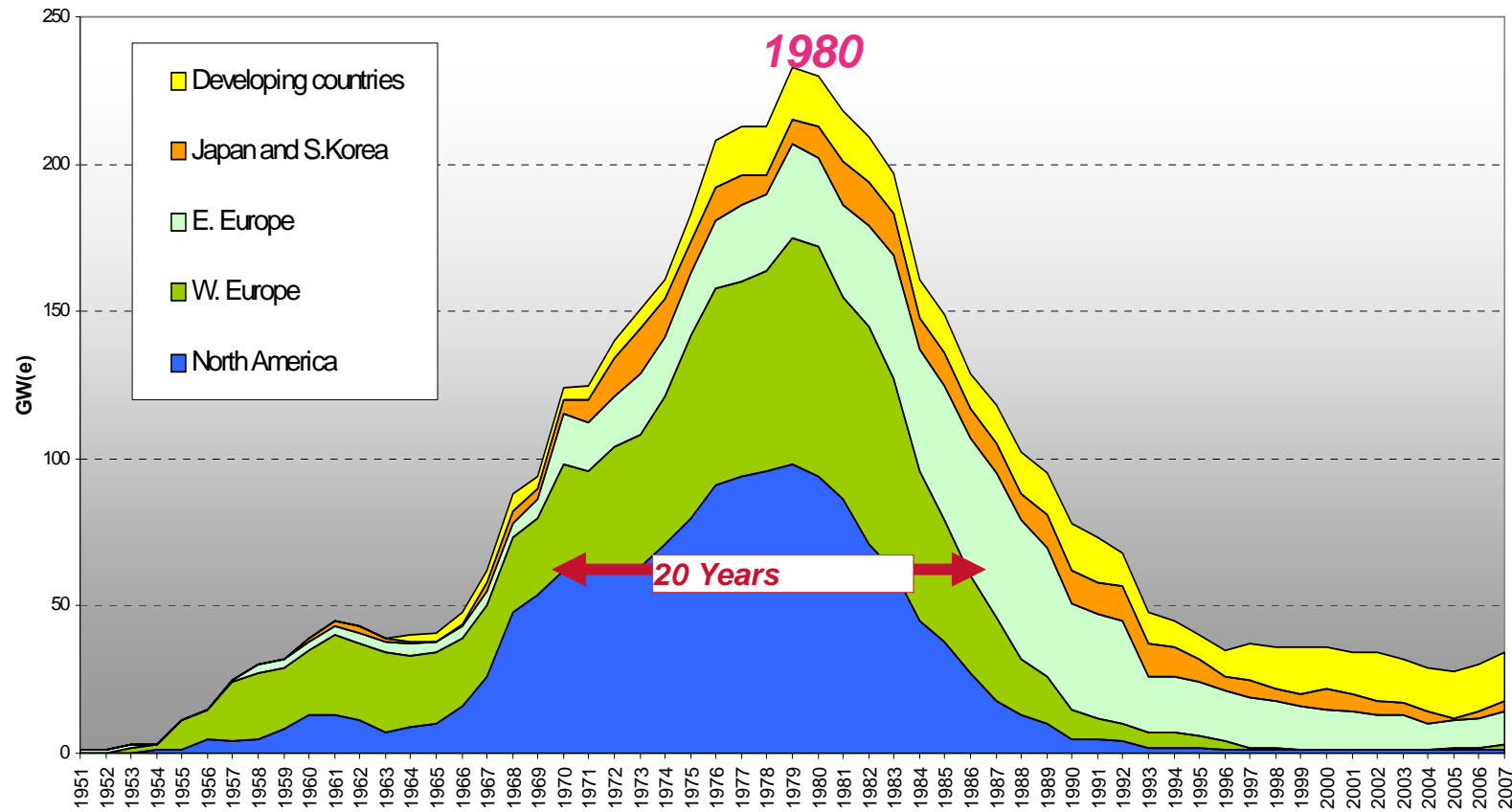
- ▶ RSA is speaking about a fleet approach (Integrated Resource Plan) with about 10,500MWe by 2018 and 21,000 MWe by 2035
- ▶ Localization will be a key issue



U.S. EPR™ Projects



Nuclear Manufacturing Must be Rebuilt



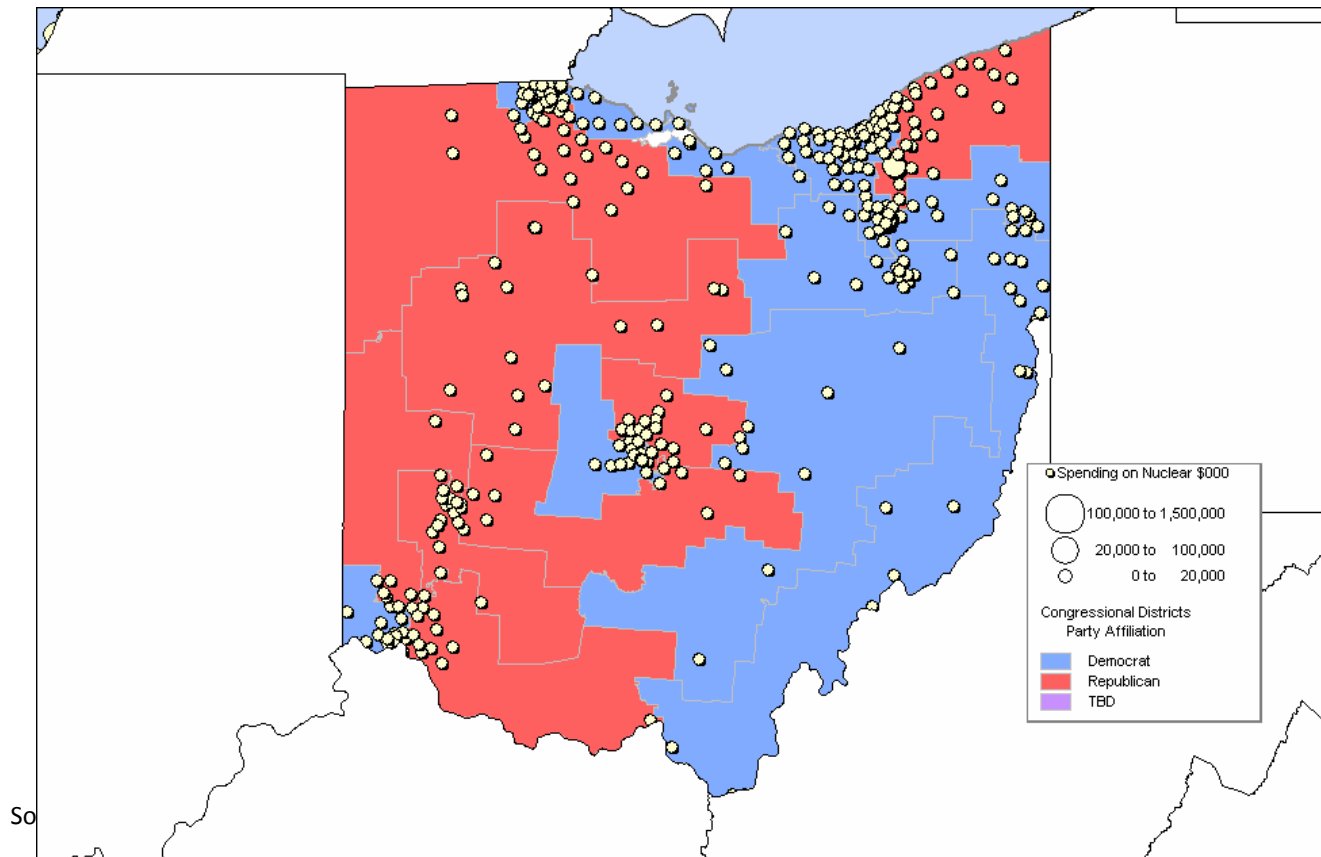
source: IAEA 2008

A New Nuclear Plant in Ohio

What Does it Mean?

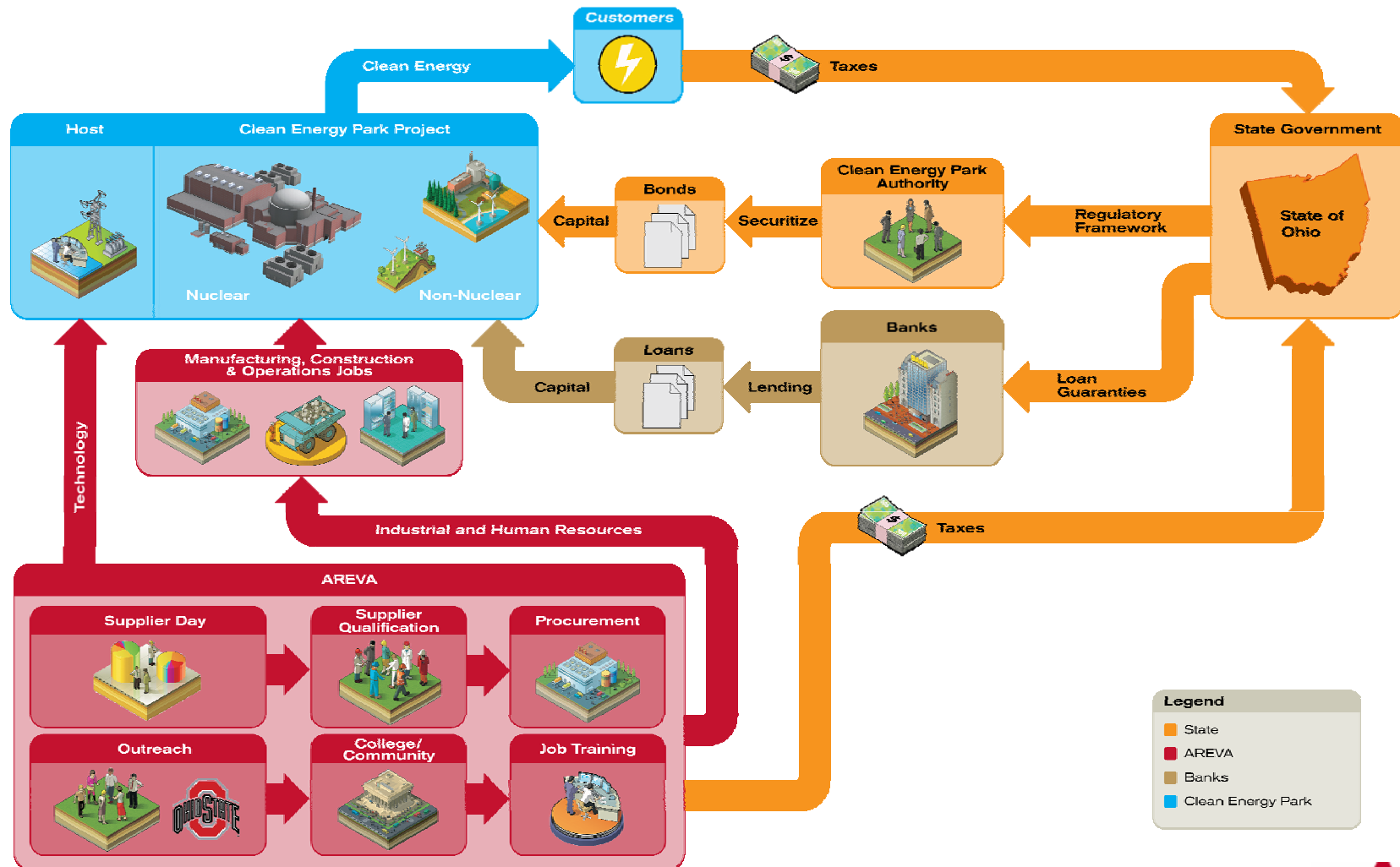


Total Nuclear Procurement in Ohio



Only \$194M in nuclear procurement in Ohio in 2008 vs. \$1.8B in Pennsylvania; nuclear represents a major opportunity for growth in Ohio

Jobs + Manufacturing + Education + Tax Revenues = Sustainable Development



**Manufacturing, Construction
& Operations Jobs**



Clean Energy Jobs



<u>New Jobs</u>	<u>Year 1</u>	<u>Highest Year</u>	
Direct	820	3,000	Site construction workers
Indirect	593	2,168	Ohio vendors for equipment and services
<u>Induced</u>	<u>688</u>	<u>2,516</u>	Service jobs created in food, hotel, entertainment and other industries
Total	2,102	7,684	



Based on detailed analysis of the Piketon site

**Manufacturing, Construction
& Operations Jobs**



Payroll Tax Revenue



	<u>Year 1</u>	<u>Highest Year</u>
Federal	\$30.1M	\$110.2M
State and Local	<u>\$15.9M</u>	<u>\$57.9M</u>
Total	\$46.0M	\$168.1M



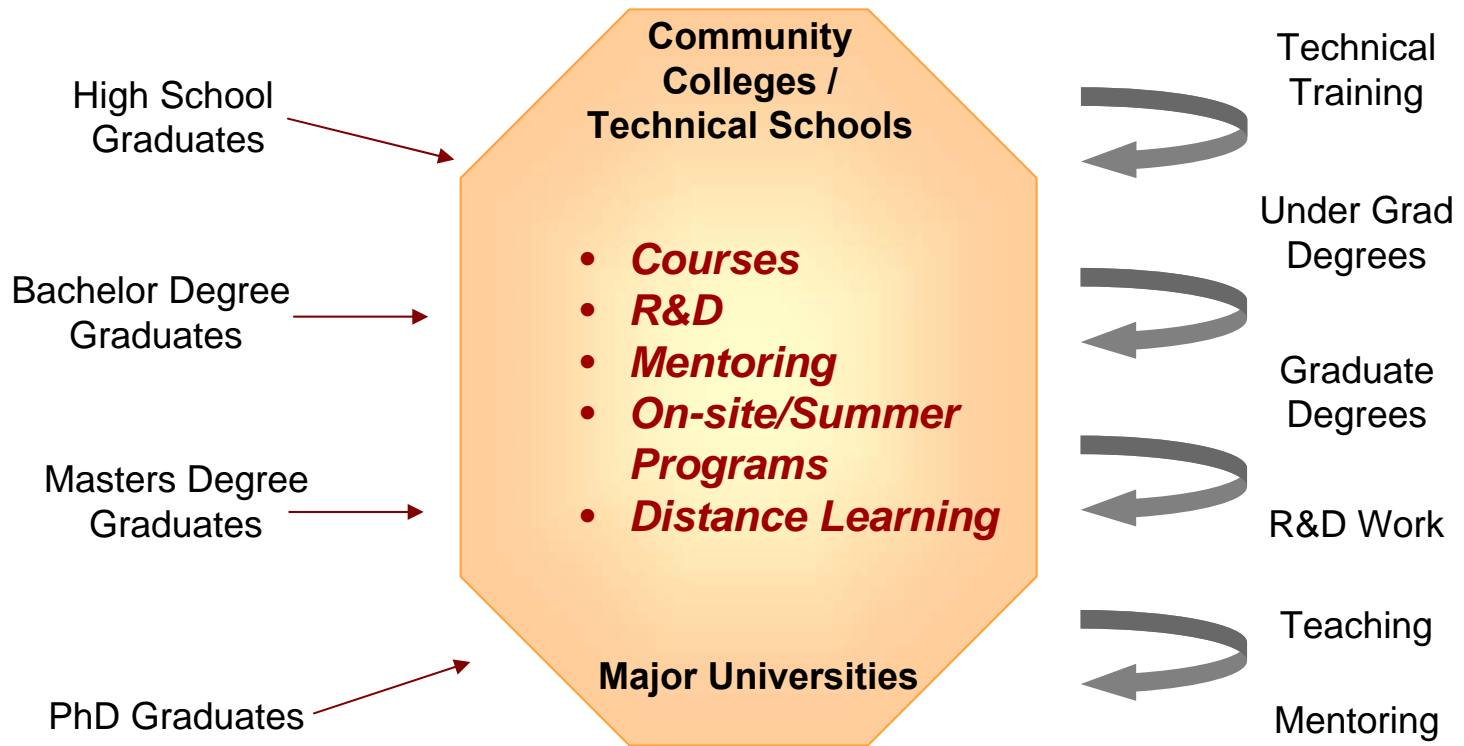
>\$832M in federal, state and local taxes during construction



Virtual University



Provide access to educational opportunities for all levels of employees throughout their careers



Matching people and careers in Ohio



AREVA EPR™ Supplier Days in MD and OH



>200 attendees from >100 companies at each event



U.S. EPR™ Procurement:

Join the Team!



AREVA Procurement Vision



- ▶ **A new generation of suppliers *for a new generation of Power Plants***
- ▶ **Purchasing Strategy**
 - ◆ AREVA continuously seeks to enrich, develop and optimize its worldwide panel of supplier partners; in order to select the most competitive solutions with respect to both technical and financial requirements.
 - ◆ Long-term partnerships will be developed with selected suppliers in order to
 - Respond to local requirements**
 - **DOMESTIC PROJECTS**
 - Offer competitive solutions worldwide to our customers**
 - **INTERNATIONAL PROJECTS**

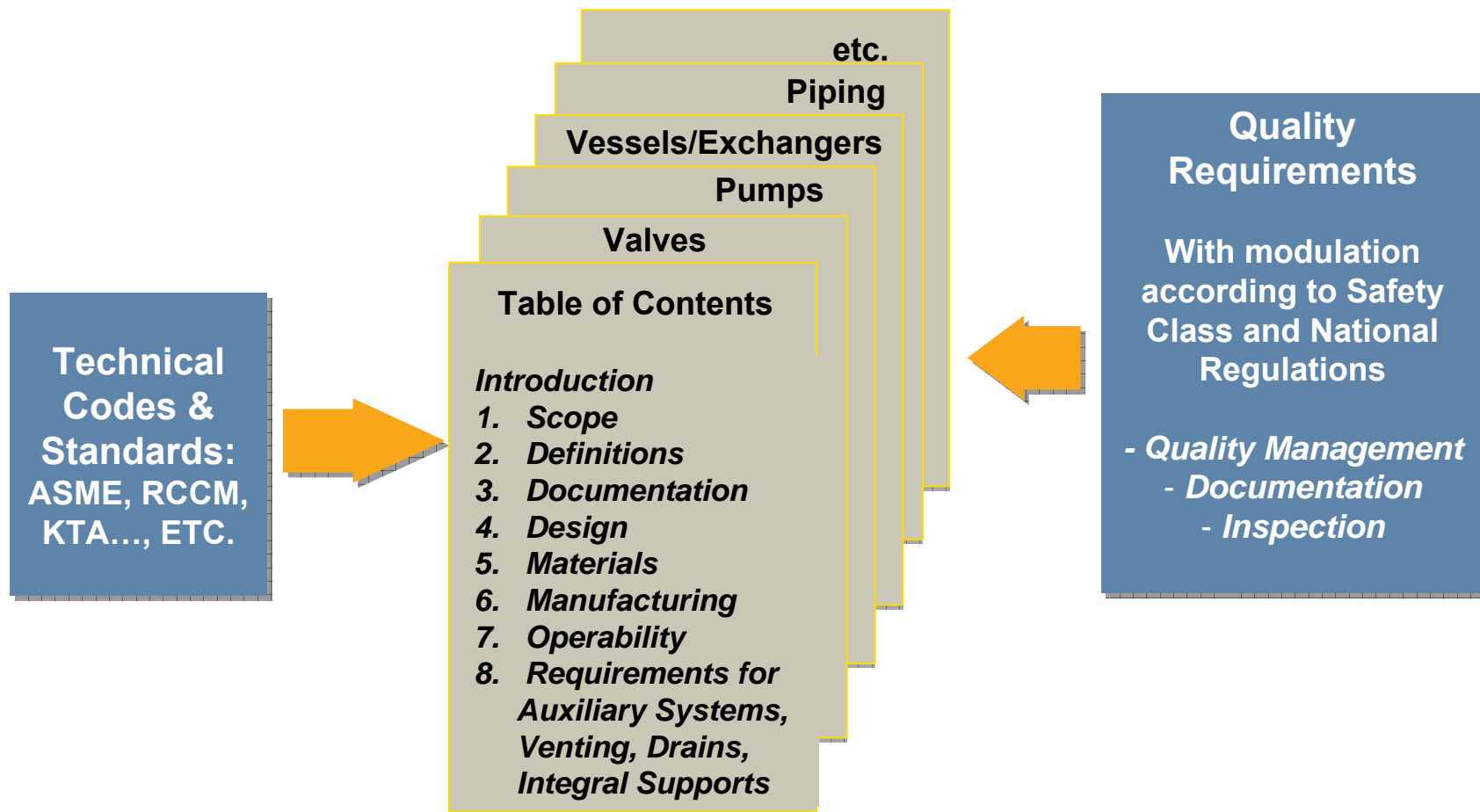
AREVA U.S. Purchasing Organization: Project Responsibilities



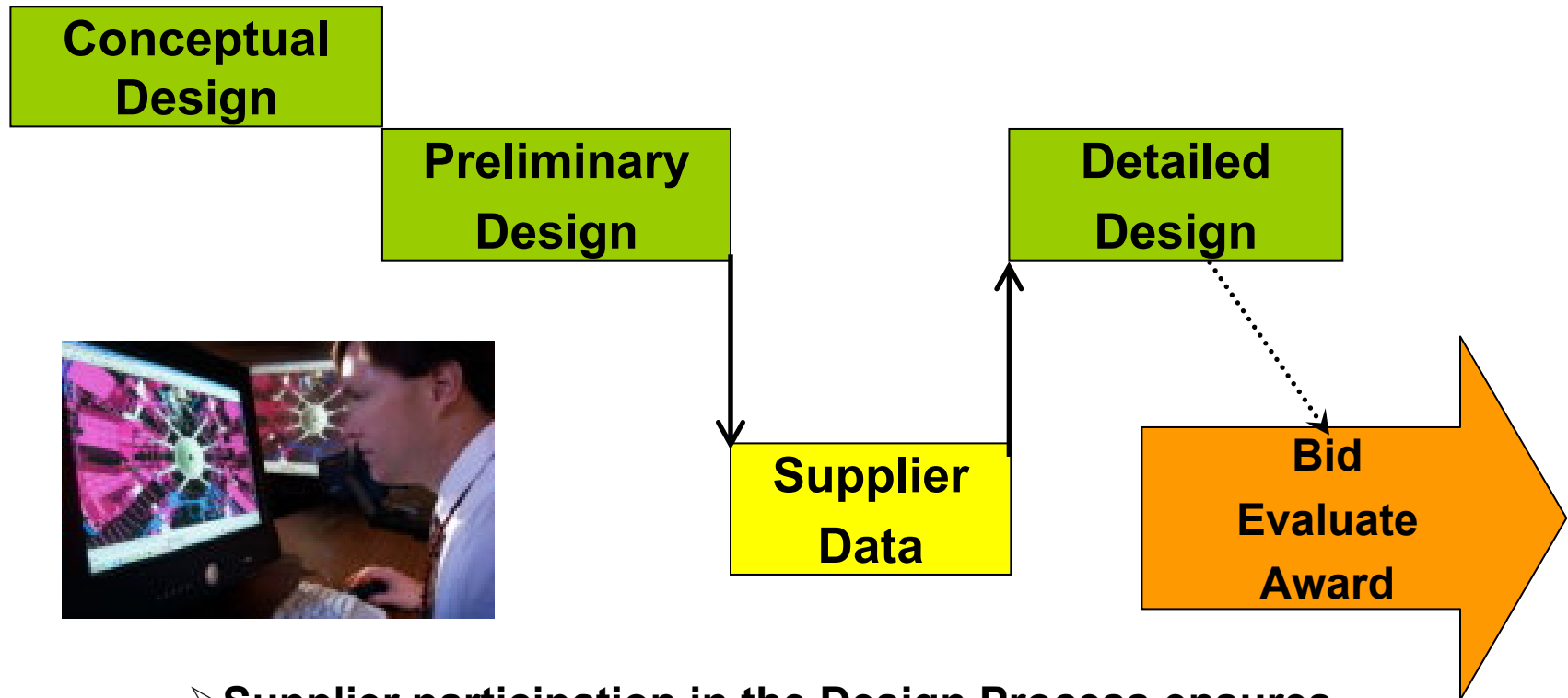
- ▶ **U.S. AREVA dedicated team is in charge of** all aspects of procurement from tender phase to the beginning of the warranty period in particular
 - ◆ Supplier Selection
 - ◆ Orders
 - ◆ Follow up of deliveries (Expediting)

- ▶ **U.S. AREVA Procurement ensures** that equipment or services are bought on time, within a defined budget, according to the quality requirements of the technical specifications, in respect of contractual obligations towards the final client

The Procurement Process Involves Detailed Design Specifications


































Detailed Design Engineering Specifications Require Supplier Data



- Supplier participation in the Design Process ensures availability
- **SECURES THE PROJECT**

General Division of Responsibilities

PROJECT MANAGEMENT  ENGINEERING LEAD 							Site specific			
Generic Design							CCNPP3	U2	U3	U4
	Nuclear Island		I&C	Turbine Island		BOP	BOP Site Specific			
	NSSS	BNI		TG*	BTI					
Overall Design Engineering Responsibility				ALSTOM						
SCHEDULE & PROJECT CONTROLS LEAD: 										
Procurement		 		ALSTOM						
Construction										
Start-Up & Commissioning	TBD	TBD	TBD	TBD	TBD	TBD	TBD	TBD	TBD	TBD
*Contract with Alstom under UNE until future assignment to the Consortium.										



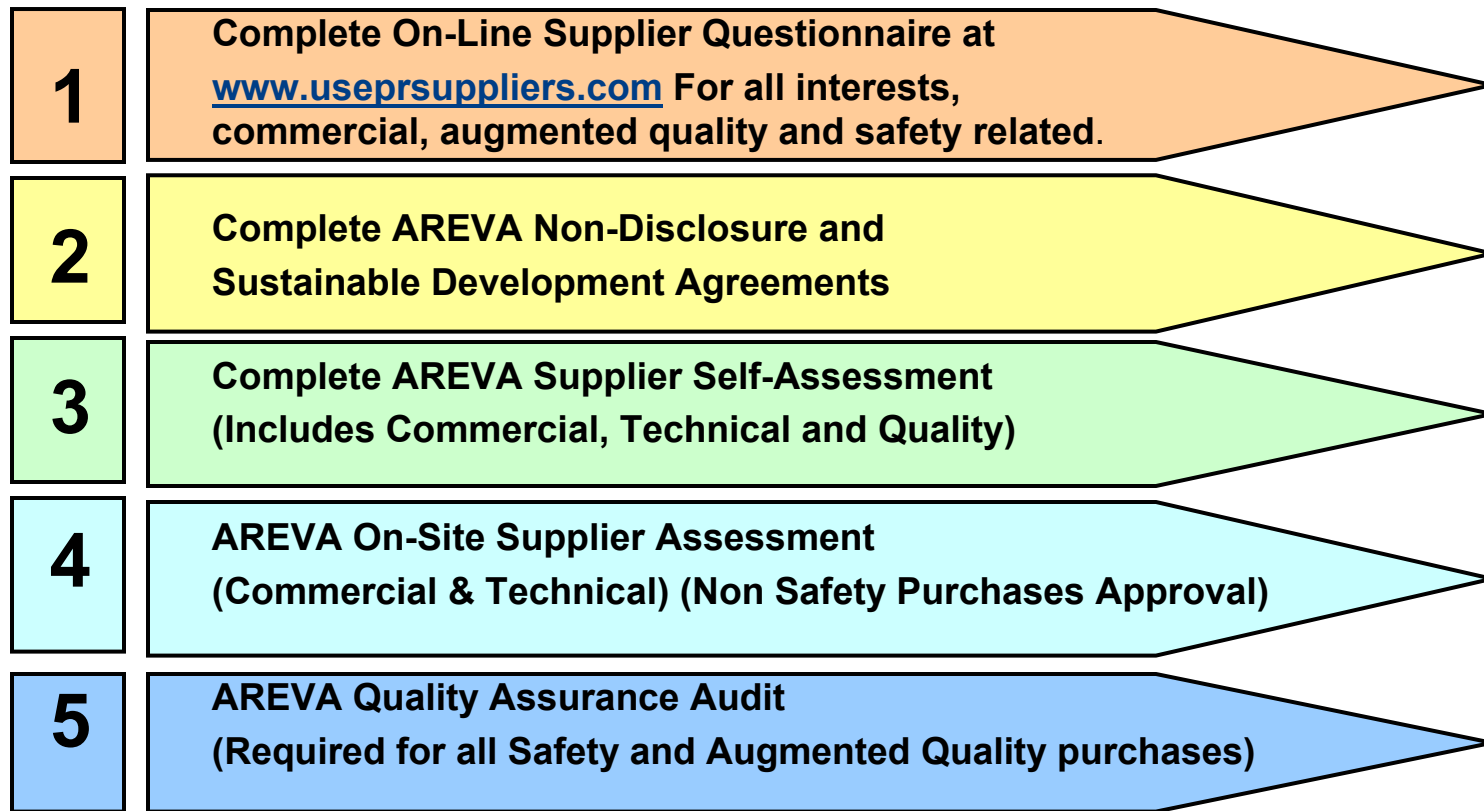
How To Become an EPR™ U.S. Supplier

- ▶ **Respect Sustainable Development**
 - ◆ Support AREVA's Sustainable Development Charter
- ▶ **Target the right product**
 - ◆ Supplier should have the required technical capabilities
- ▶ **With the right quality requirements**
 - ◆ Supplier & product should be qualified
- ▶ **At the right cost**
 - ◆ Supplier should be competitive
- ▶ **Be on-time**
 - ◆ Supplier should have a proven reputation for on-time delivery
- ▶ **Be able to supply a fleet of EPR™ reactors**



Sign up at www.useprsuppliers.com

AREVA Supplier Approval Process



Upon successful completion of the QA Audit, Supplier is added to the AREVA Approved Supplier List (ASL)

Join the EPR™ Team and Get Involved!

- ▶ Get on the AREVA ASL
- ▶ Go global by becoming an AREVA Certified Supplier
- ▶ AREVA Clean Energy Supplier Network
- ▶ Check us out on-line to advocate nuclear new build

◆ Blog: us.arevablog.com

◆ Facebook: [AREVA Inc.](https://www.facebook.com/AREVAInc)

AREVA Clean Energy Supplier Network

Our Mission

- Develop partnerships to expand clean energy manufacturing
- Generate clean energy jobs
- Made in America by Americans
- Expand the global supply chain
- Communicate the benefits beyond sale, cost effective, clean energy
- Thousands of high paying jobs for the site community
- Thousands of high paying jobs in State and regional manufacturing
- Expanded universities, community colleges, and vocational schools
- Increased local, state, and federal tax revenues

Take Action Now:

- >> Letters to your policy maker
- >> Who is my Senator?
- >> Who is my Congressman?

AREVA New Plants Update:

- >> New Plants Update

In The News:

- >> Loan guarantees recharge nuclear debate Feb 9
- >> Areva wins U.S. approval for nuclear safety system Feb 2
- >> Nuclear Power Gets Strong Push From White House Jan 29
- >> Is nuclear power the future? Obama calls for more plants Jan 28
- >> France-based Areva plans Central Valley nuclear plant Dec 29

Links:

- >> u.s.areva.com
- >> AREVA Blog
- >> Unistar

EPR™ Supplier Day:

Presentations and attendee lists from the events are available below. For further information about becoming an AREVA Supplier, please complete the Preliminary Vendor Questionnaire on-line at www.usarevasuppliers.com, or contact Larry.Hooper@areva.com

Maryland EPR™ Supplier Day

- >> [Attendee List](#)
- >> [Presentations](#)

Ohio EPR™ Supplier Day

- >> [Attendee List](#)
- >> [Presentations](#)

Related Publications:

- >> [ADAGE Brochure](#)
- >> [AREVA Certainty Brochure](#)
- >> [Clean Energy Park](#)
- >> [EPR Plant Illustration](#)
- >> [U.S. EPR™: The Path of Greatest Certainty](#)

<http://www.us.aveva-np.com/enewsletters/supplier/index.html>

We Are Rebuilding an Industry in the USA





Conclusion



Conclusion



- ▶ **Nuclear electricity consumption to double by 2030**
 - ▶ **Global nuclear revival is underway creating jobs worldwide**
 - ▶ **AREVA is investing in the U.S. creating U.S. jobs**
 - ▶ **Federal and state support needed to make SOCEPA project in Piketon a reality**
- » **AREVA is creating highly skilled high-paying jobs for Americans in support of clean energy and energy security**