

**POWERING
THE FUTURE**

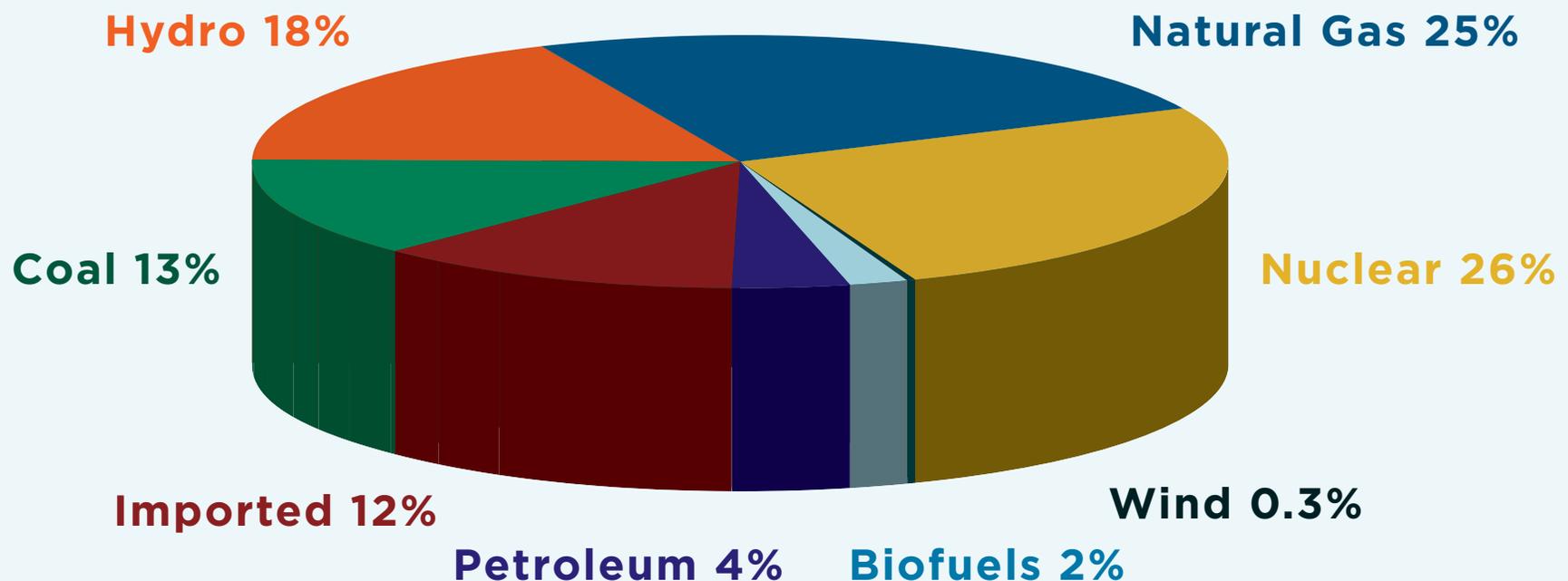
NUCLEAR

SPONSORED BY:



The Challenge: Energy Use in New York State

- New York State used 1.7 million mWh of electricity in 2006.
- The average household in the state consumes 591 kWh.



Nuclear Power: A Possible Solution?

- **The first commercial nuclear power plants began operation in the United States in 1957. Nuclear power now represents about 19% of total U.S. electricity generation.**
- **Since its introduction, nuclear power has been both controversial and expensive. No new nuclear power plant has been ordered in the U.S. since the 1970s.**
- **Nuclear power plants produce large amounts of electricity at a low operating cost and without emitting greenhouse gases.**
- **The high cost of fossil fuels and concerns about climate change have rekindled the debate about nuclear power.**
- **Since 2007, the Nuclear Regulatory Commission has received applications for 26 new units and anticipates another 9 applications by the end of 2010.**

Nuclear in New York State

- **6 reactors at 4 power plants currently provide New York State with 26% of its electricity.**
- **Although no new reactors have been built in the state since 1988, the output from existing facilities has increased substantially over the last 20 years due to improved operating efficiency.**
- **The operating initial licenses on all of New York State's 6 reactors will expire at various points in the next 50 years, with Indian Point 2's license expiring as early as 2013.**

Nuclear Power & Climate Change

- **Fossil-fuel fired power plants in the U.S. are responsible for 10% of global carbon emissions.**
- **Nuclear power is unique among carbon-neutral energy sources in that it is capable of producing enormous amounts of energy without emitting greenhouse gases.**
- **Some consider nuclear to be the only carbon-free power source that is able to meet increasing “baseload” demand.**
- **However, using nuclear power as a climate change strategy would mean unprecedented and enormous increases in the global use of nuclear power.**

Concerns About Nuclear: Safety, Waste and Cost

- Nuclear power plants remain very expensive to construct.
- A 2007 report placed the cost of new nuclear construction at \$3.5-4 billion per 1000MW of electricity.
- Nuclear power plants being developed today are far safer than they were 30 years ago. However, questions about the safety of nuclear power, especially near large population centers, remain a serious concern.
- Nuclear reactors generate hundreds of tons of highly radioactive and dangerous nuclear waste during their lifetimes. There is no safe system to permanently dispose of this waste.
- Additionally, a worldwide expansion of nuclear power would raise concerns about the proliferation of nuclear weapons.

The Role of Government: Federal Incentives

- **Since the 1950s the federal government has provided substantial incentives to the nuclear industry. It has been estimated that public subsidies for the nuclear industry total over \$80 billion in the last half century.**
- **The Energy Policy Act of 2005 provided for three important incentives:**
 - **\$18.5 billion worth of federal loan guarantees**
 - **An 1.8 cents per kwh production tax credit for a limited number of new plants**
 - **Up to \$500 million in risk insurance for the first 2 units built and up to \$250 million for units 3-6**

The Role of Government: State Actions

- The federal government regulates nuclear power plant construction and operation. The subsidies necessary to jumpstart new nuclear construction are too large to be practically undertaken by the state government.
- The state has an important role in nuclear power policy through its siting process and the political atmosphere toward nuclear it creates.
- Nuclear power plants are often strongly opposed by local interest groups.
- In 2002, Article X of the state's energy law expired. This statute established a centralized review process for power plants that allowed the state to override local concerns.
- Some states have taken steps to encourage nuclear power by adopting regulatory policies that would guarantee a utility's ability to recover the cost of construction from its customers.

Conclusions: Where do we go from here?

- **What role should nuclear play in New York's energy future?**
- **What role will government play in encouraging the development of nuclear power?**

For more information (including copies of this presentation
and other documents) visit us online at:

www.nylcvef.org/poweringthefuture

SOLAR
POWER



September **24**

WIND
POWER



October **21**

NUCLEAR
POWER



December **11**



EDUCATING FOR THE ENVIRONMENT