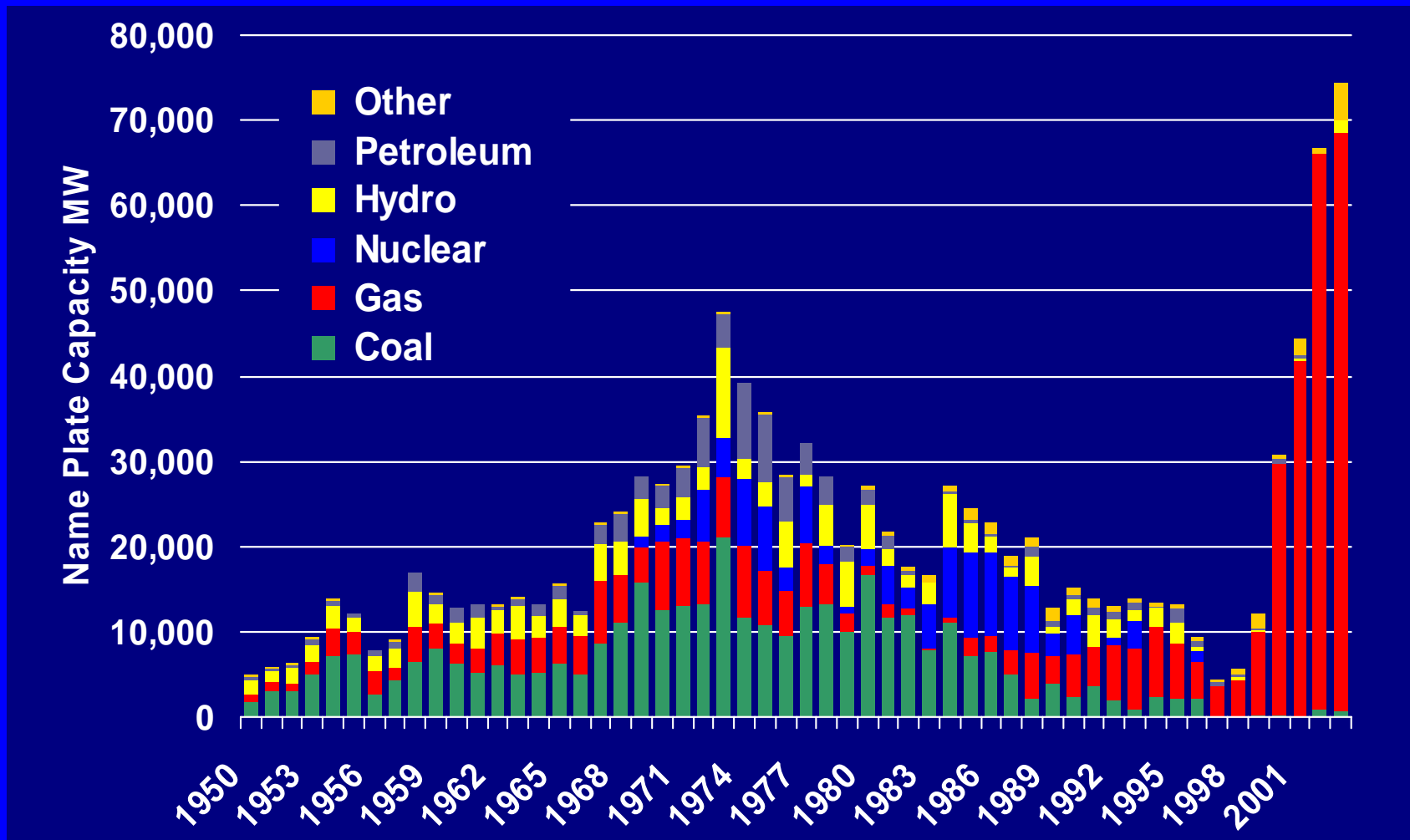


SOLUTION TO THE NATURAL GAS SHORTAGE

**What
are the
Facts
?**

**The Texas Institute for Advancement of
Chemical Technology**

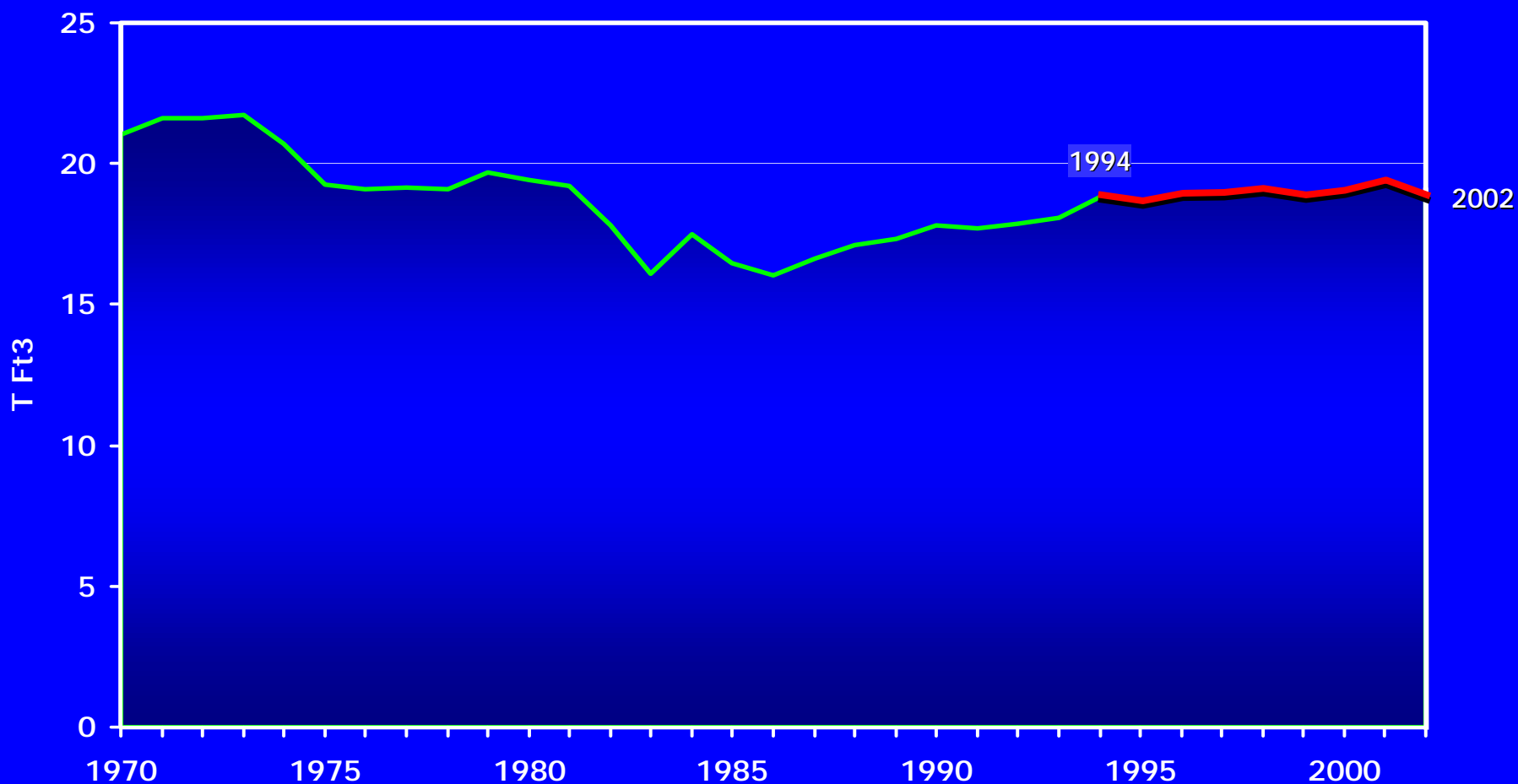
CAPACITY BROUGHT ON LINE BY FUEL TYPE (1950-2002)



Source: RDI PowerDat database. Last updated 9/15/03.

U.S. Dry Natural Gas Production, 1970-2002




(Taken from: *Presentation by R.W. Jewell; see Ref. 5, and EIA, 2003*)



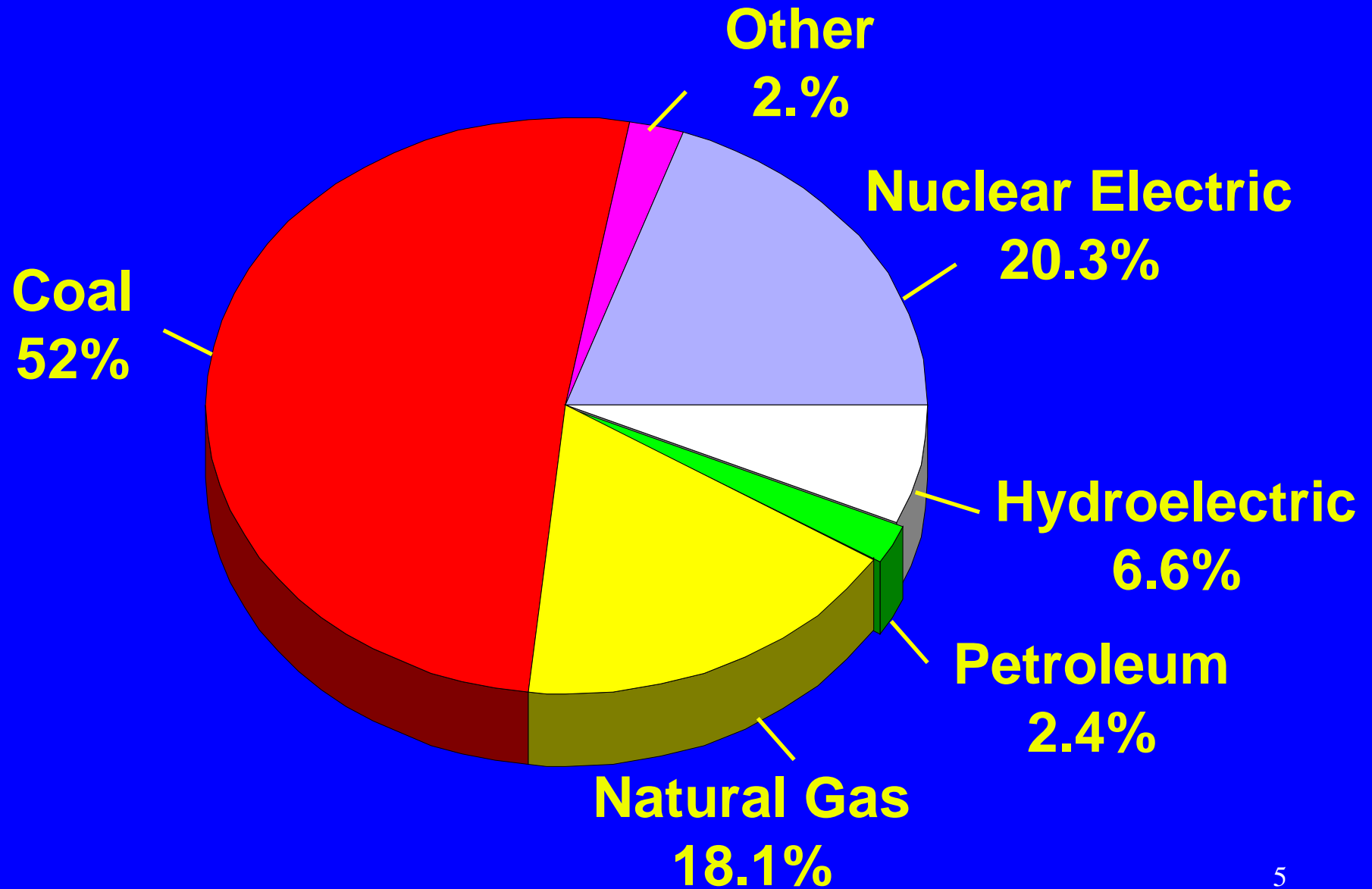
Source: EIA

PRICE OF NATURAL GAS

(Taken From: American Chemistry Council, www.accnewsmedia.com, 2003)

| | | Per million BTU |
|---|------------------|-----------------|
|  | USA | \$ 5.50 |
|  | Russia | \$ 0.80 |
|  | Venezuela | \$ 0.70 |
|  | Kuwait | \$ 0.60 |
|  | Algeria | \$ 0.40 |

Fuels used to generate electricity



PROJECTED SUPPLY AND DEMAND FOR NATURAL GAS BY THE U.S. IN 2010

| <u>Source</u> | <u>Quantity</u> |
|--------------------------------------|--------------------|
| U.S. Domestic Production | 19 tcf/y |
| Imports from Canada | 3.5 tcf/y |
| Imports as LNG to Existing Terminals | <u>1.43 tcf/y</u> |
| TOTAL AVAILABLE | 23.93 tcf/y |
| Estimated Need by EIA | 28.13 tcf/y* |
| Potential Shortfall | 4 tcf/y |

**In January 2004, the original estimate of 28.13 was reduced by an equivalent amount of energy from clean coal*

STEPS INVOLVED IN IMPORTING LNG

**LNG
Liquefaction
Plant**



**Transportation
by Ship**



**LNG
Terminal**

CHENIERE LNG SITES

(Taken from: *Cheniere LNG Brochure*; see Ref. 9)



Two neutrons

+

One Sr-100

+

One Xe-134

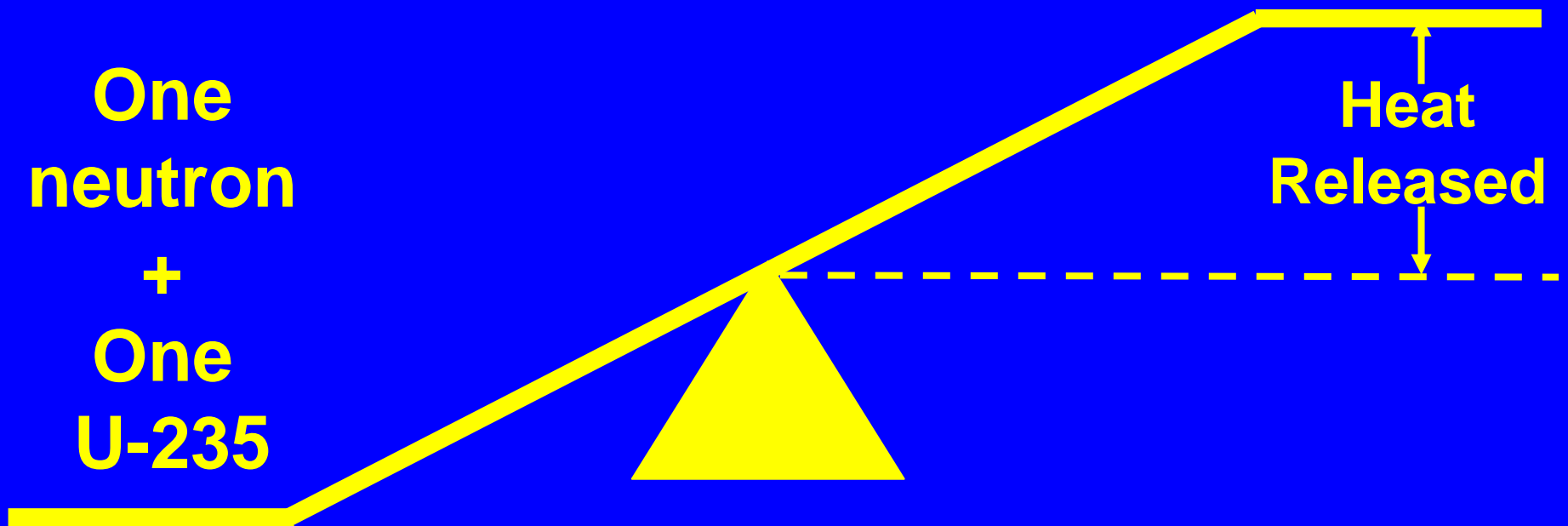
**One
neutron**

+

**One
U-235**

Heat

Released



NUCLEAR ENERGY POWER PLANTS

- **Only realistic option for replacing natural gas and coal;**
- **Safety;**
- **Negligible radiation;**
- **Low cost: 3 cents per kwh-comparable to coal.**
- **Spent Fuel**

Cost of Pellet = \$5

Energy=

**149 gallons of
oil;**

**1,780 pounds of
coal;**

**157 gallons of
regular gasoline.**



**This pellet is:
1.0 centimeter in
diameter;
1.5 centimeters
high.**

**Fuel Rod
Covering**