U.S. ENERGY POLICIES

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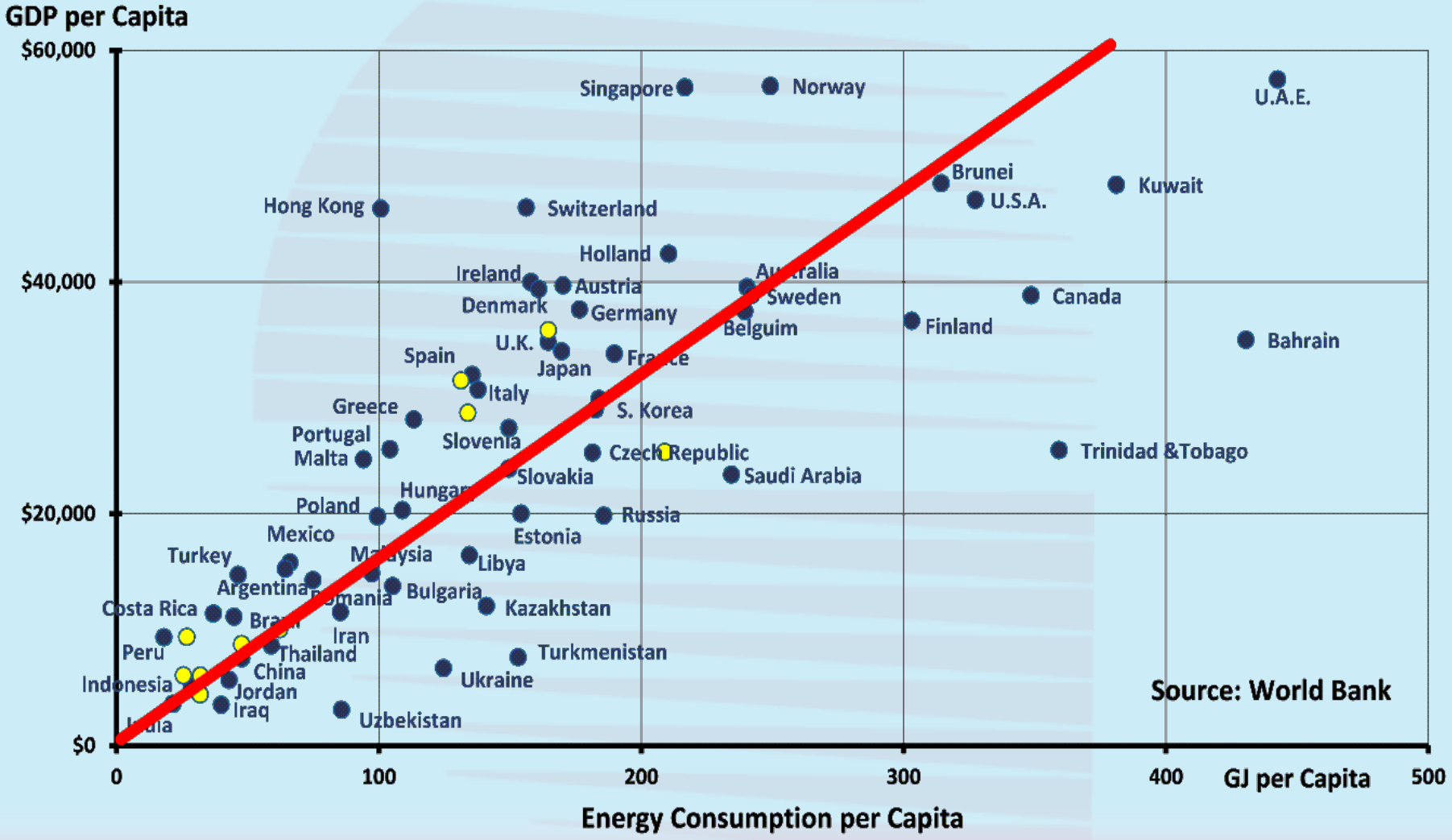
GDP per Capita versus Energy Consumption per Capita (2010)



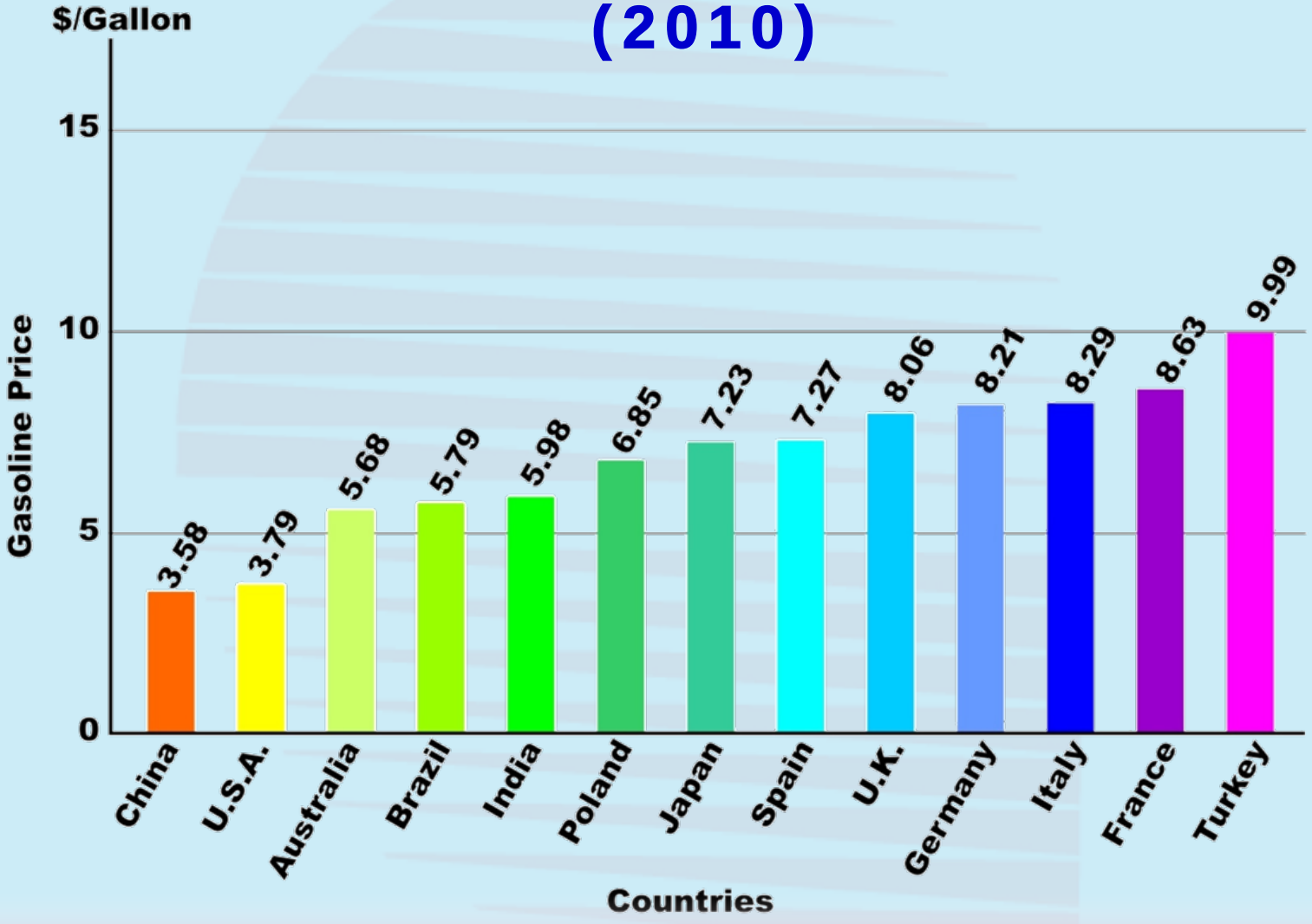
World & USA Data (2010)

Data	World	USA	USA vs World
Population	6,852,500,000	308,750,000	4.5 %
Population Growth	1.17%	0.97%	83 %
Energy Consumption	524.40 Quads	98.08 Quads	18.7 %
Energy Consumption per Capita	76.53×10^9 BTU	317.7×10^9 BTU	415 %
GDP	$63.17 Trillion	$14.7 Trillion	23 %
GDP per Capita	$9,220	$47,600	516 %

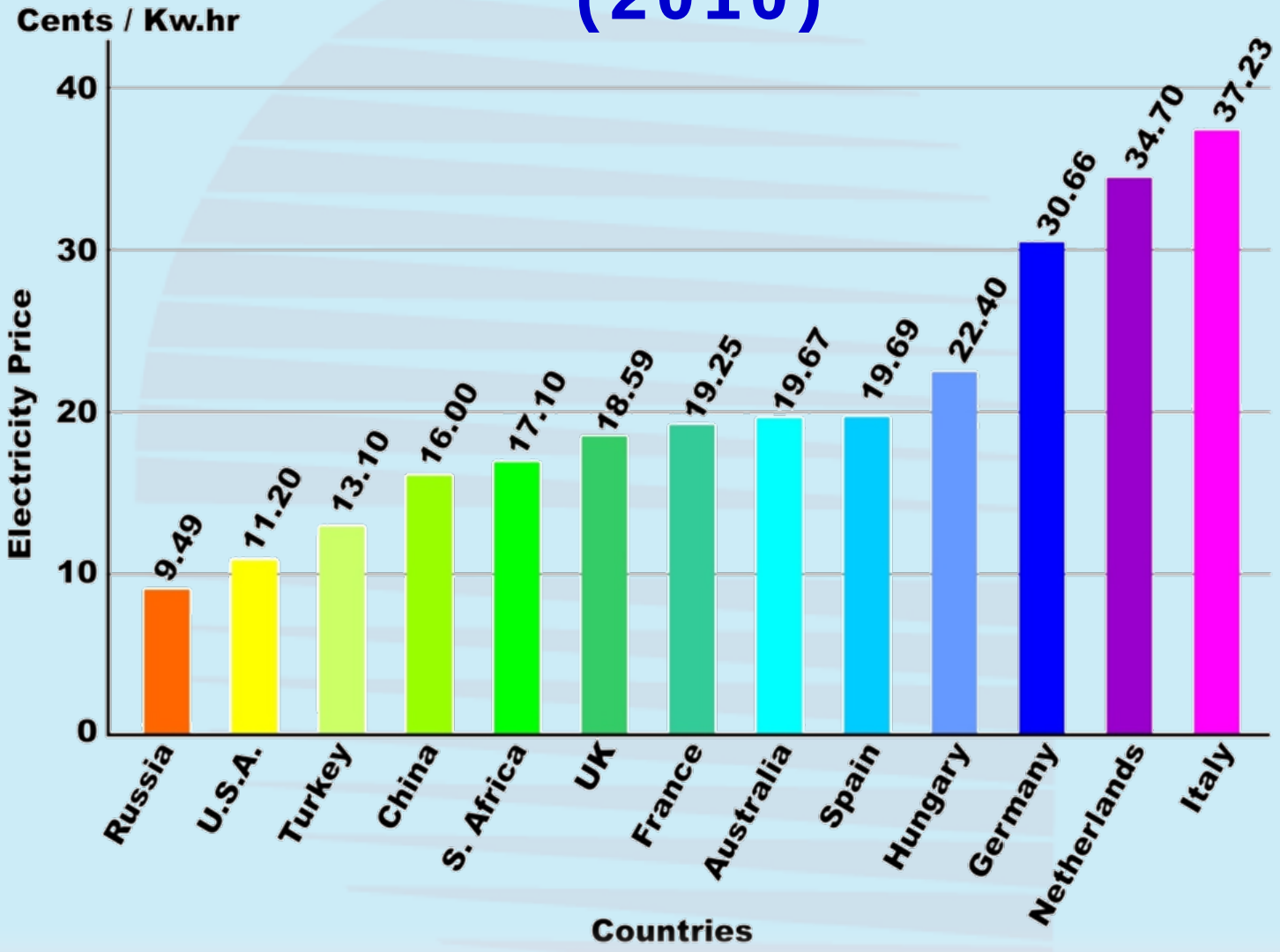
Six Pillars of U.S. Energy Policies

1. Provide Abundant and Cheap Energy
2. Support Renewable Energies
3. Encourage Energy Efficiency and Conservation
4. Reduce CO_2 Emissions and Pollutants
5. Establish International Cooperations
6. Ensure Energy Security

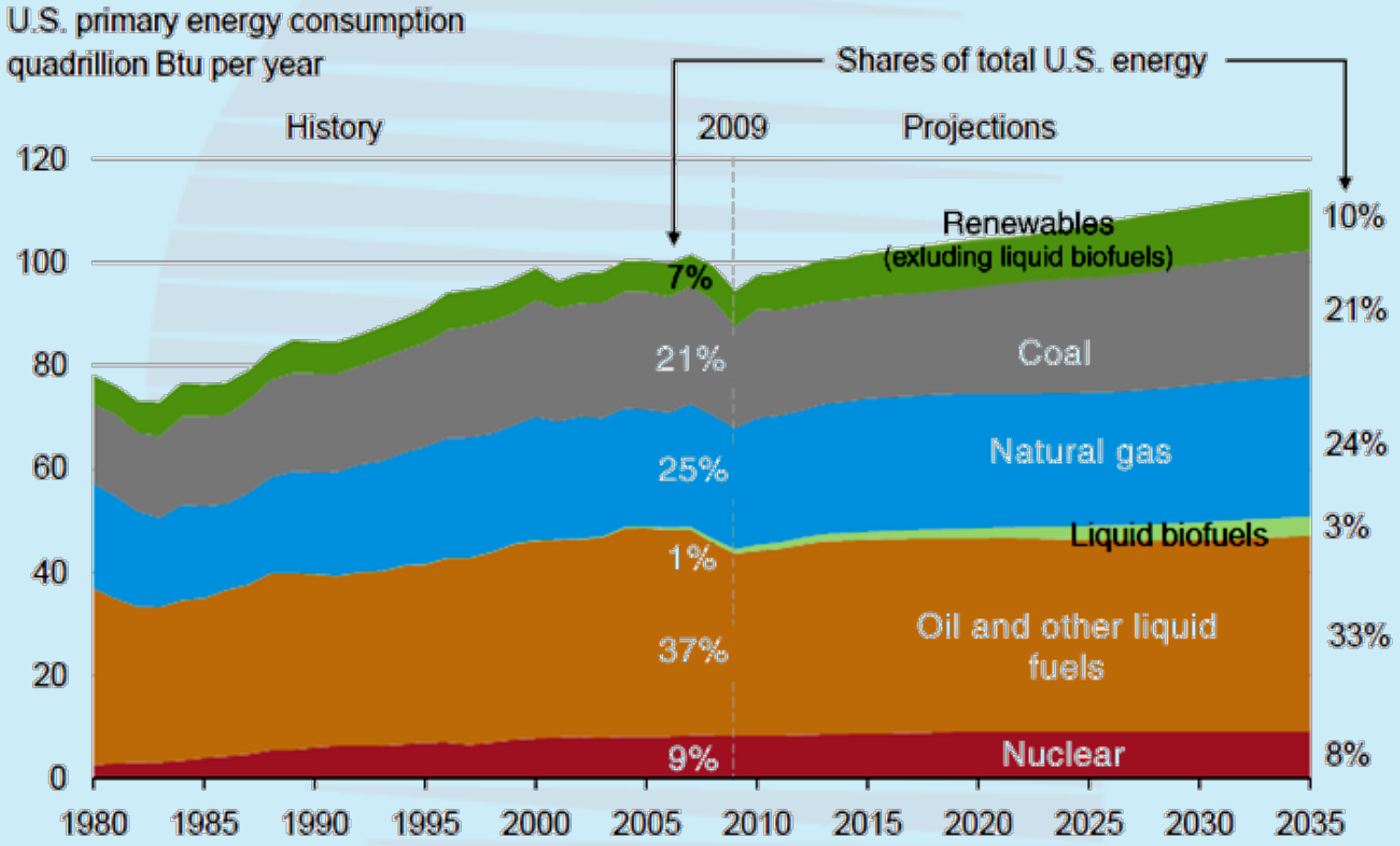
Gasoline Price in Major Petroleum Importing Countries (2010)



Electricity Price in Major Countries (2010)

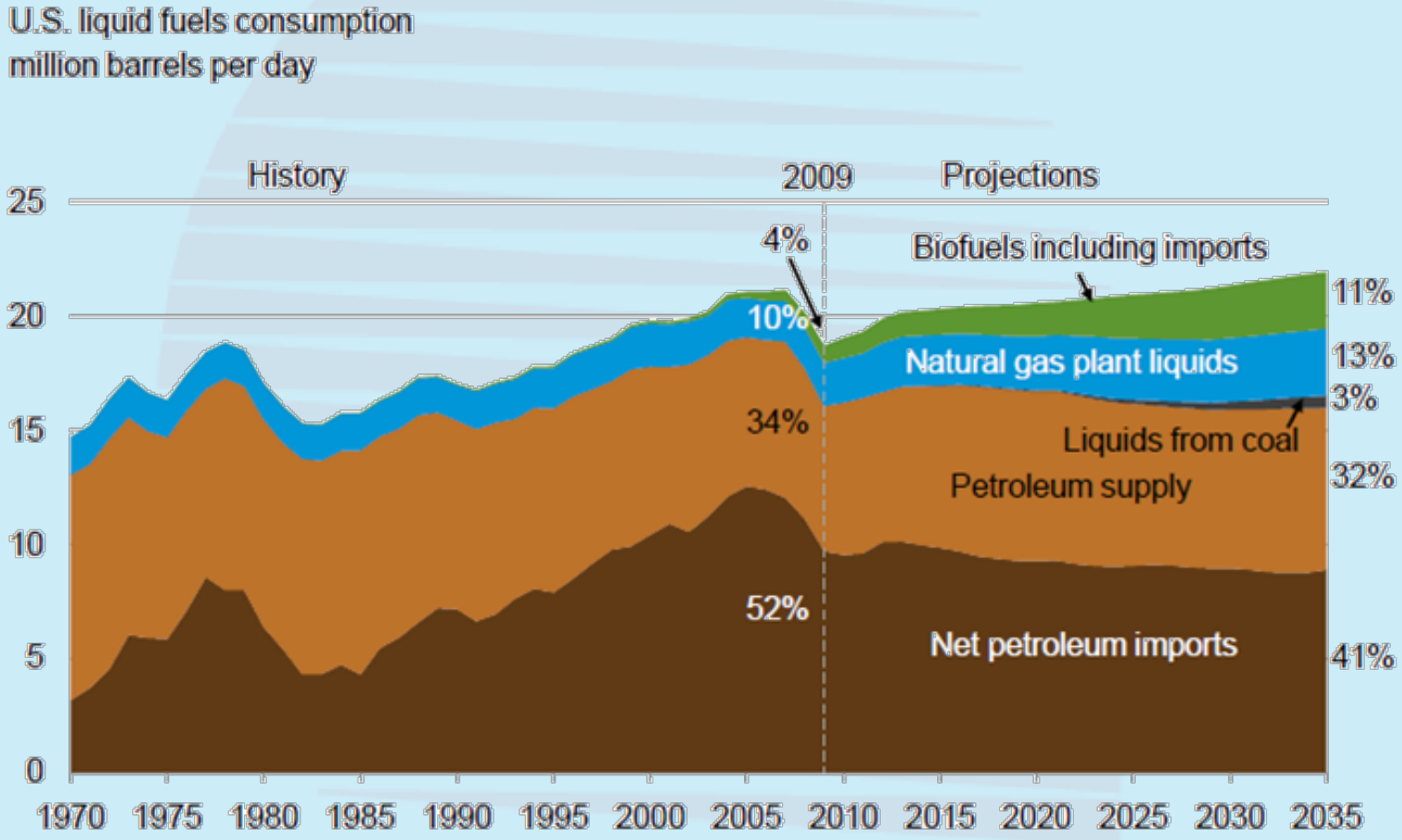


Annual Primary Energy Consumption by Source
1980-2035



Source: EIA, Annual Energy Outlook 2011

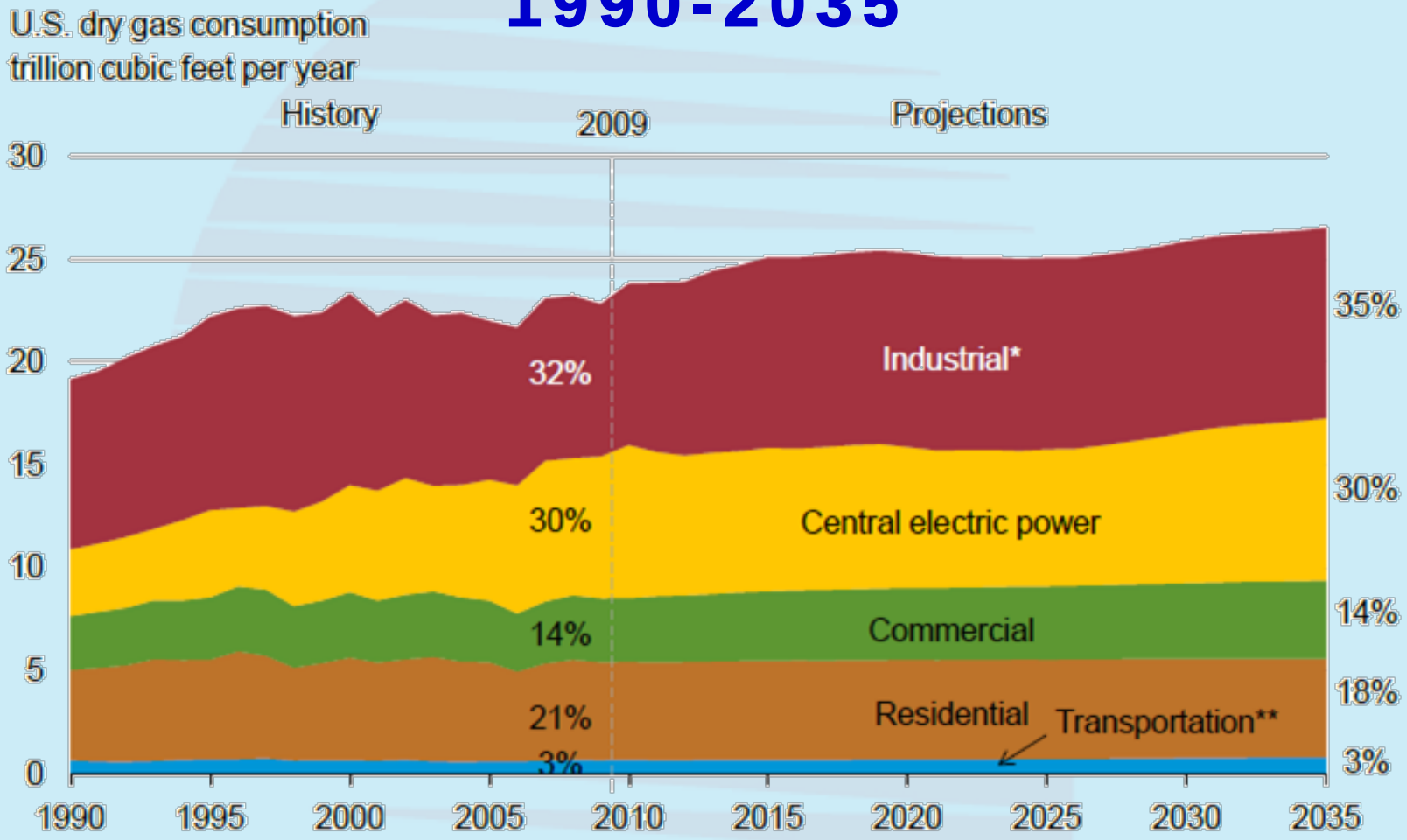
Daily Liquid Fuels Consumption 1970-2035



Source: EIA, Annual Energy Outlook 2011

Natural Gas Utilization by Sectors

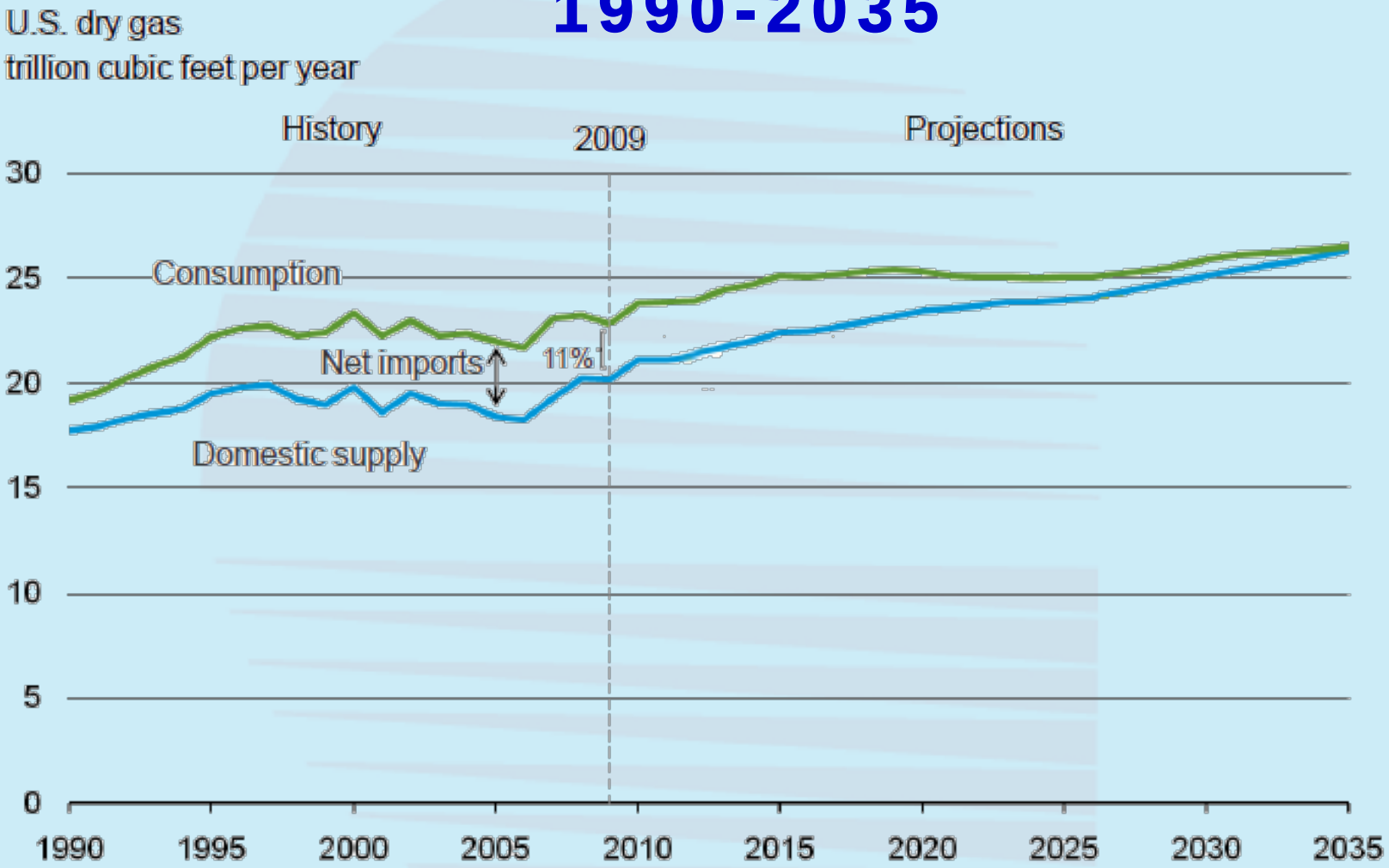
1990-2035



*Includes combined heat-and-power and lease and plant fuel. **Includes pipeline fuel.

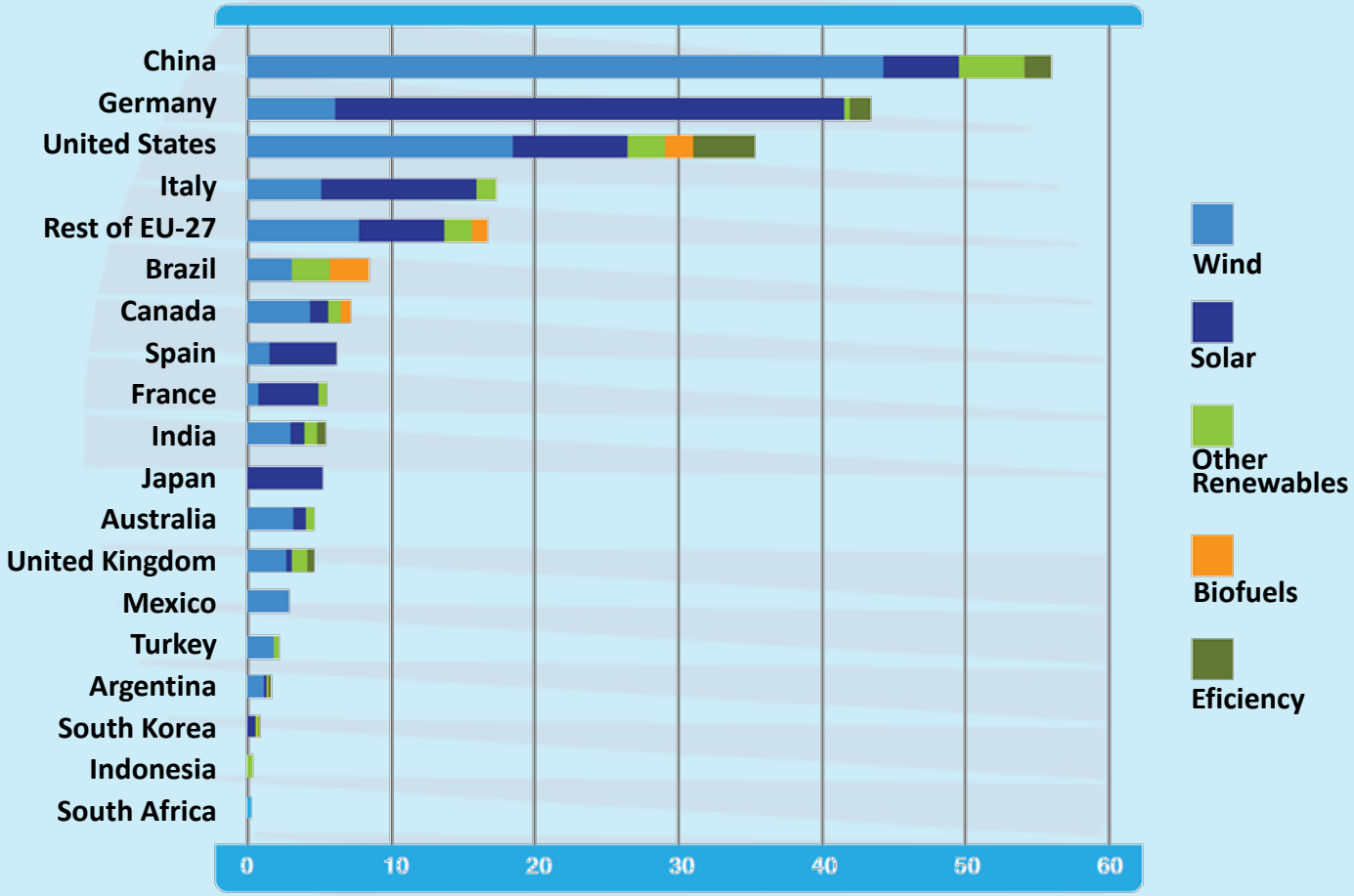
Source: EIA, Annual Energy Outlook 2011

Natural Gas Consumption & Supplies 1990-2035



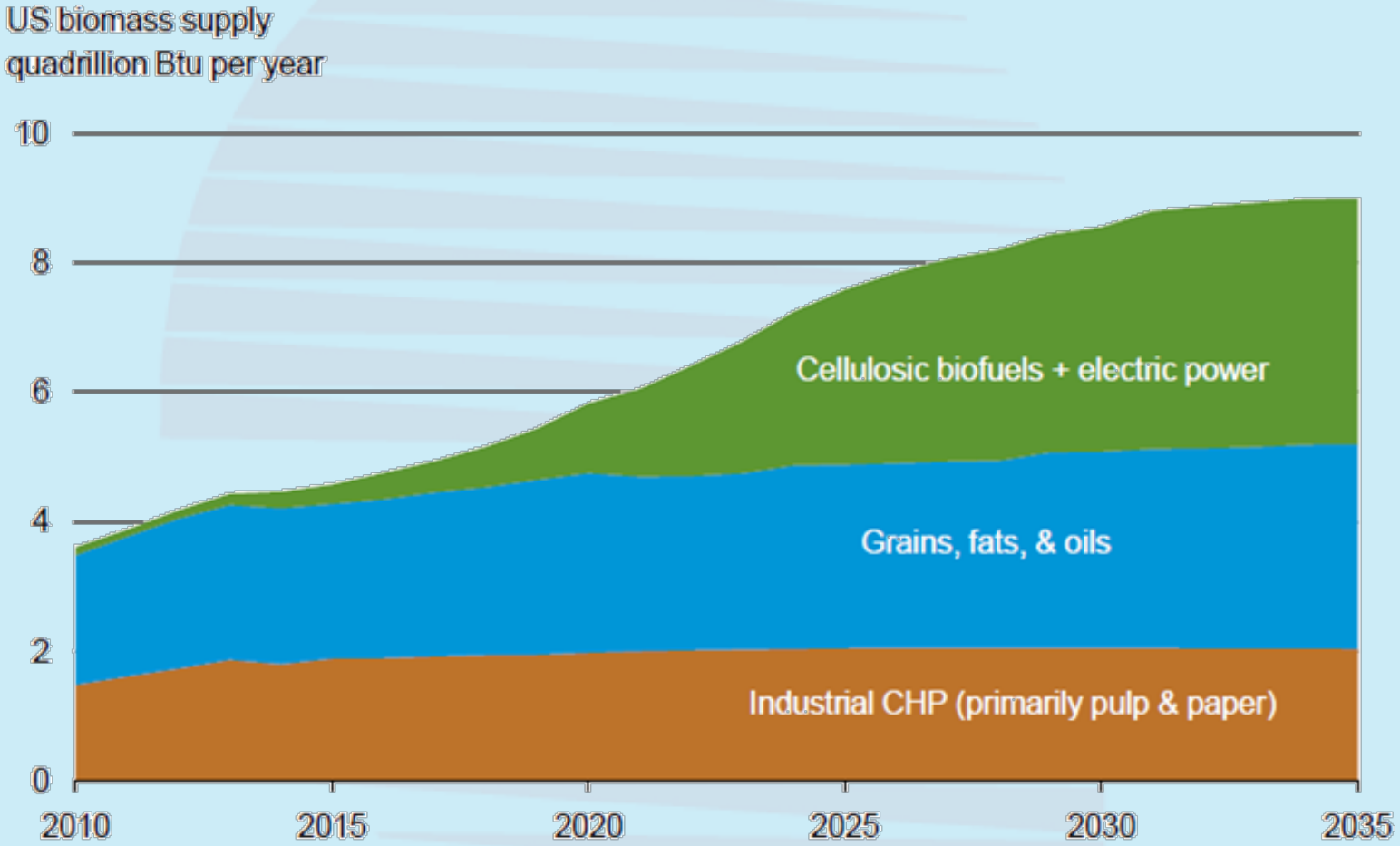
Source: EIA, Annual Energy Outlook 2011

Renewable Energy Investment by Country & Sector, 2010 (Billions of $)



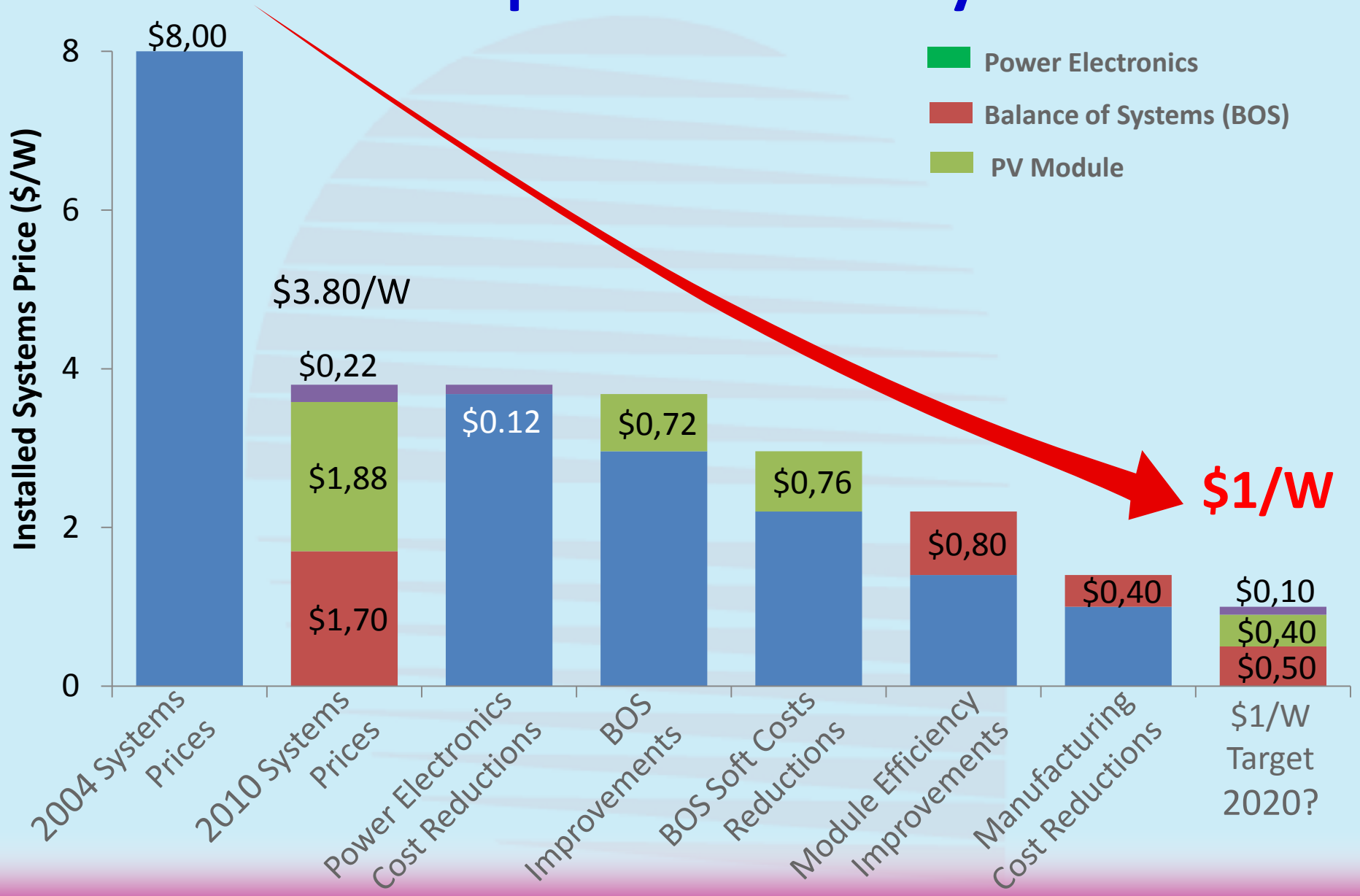
Source: Pew Charitable Trusts, *"Who's Winning the Clean Energy Race?" 2010 Edition*

Annual Biomass Consumption 2010-2035



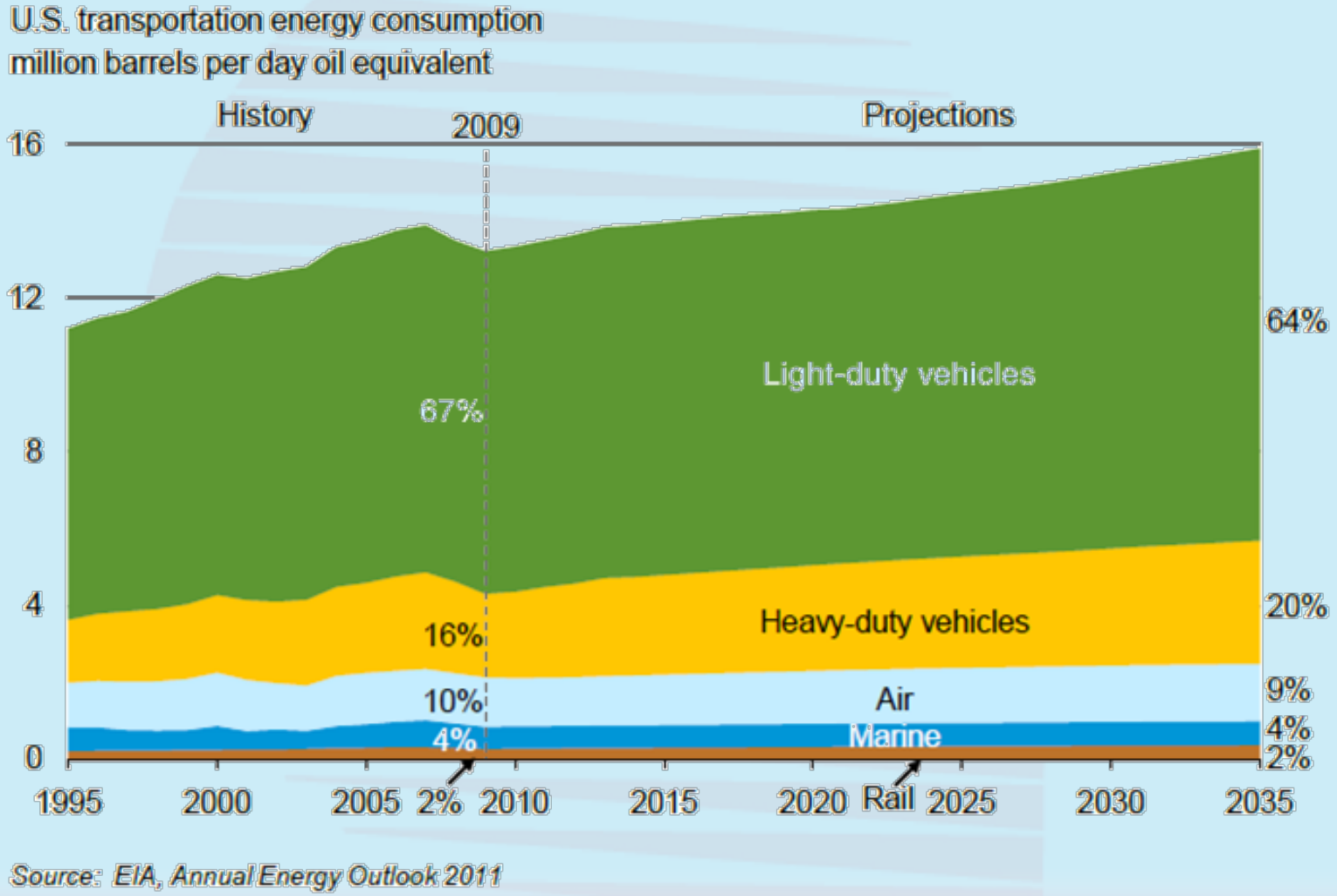
Source: EIA, Annual Energy Outlook 2011

Cost Competitive Solar by 2020



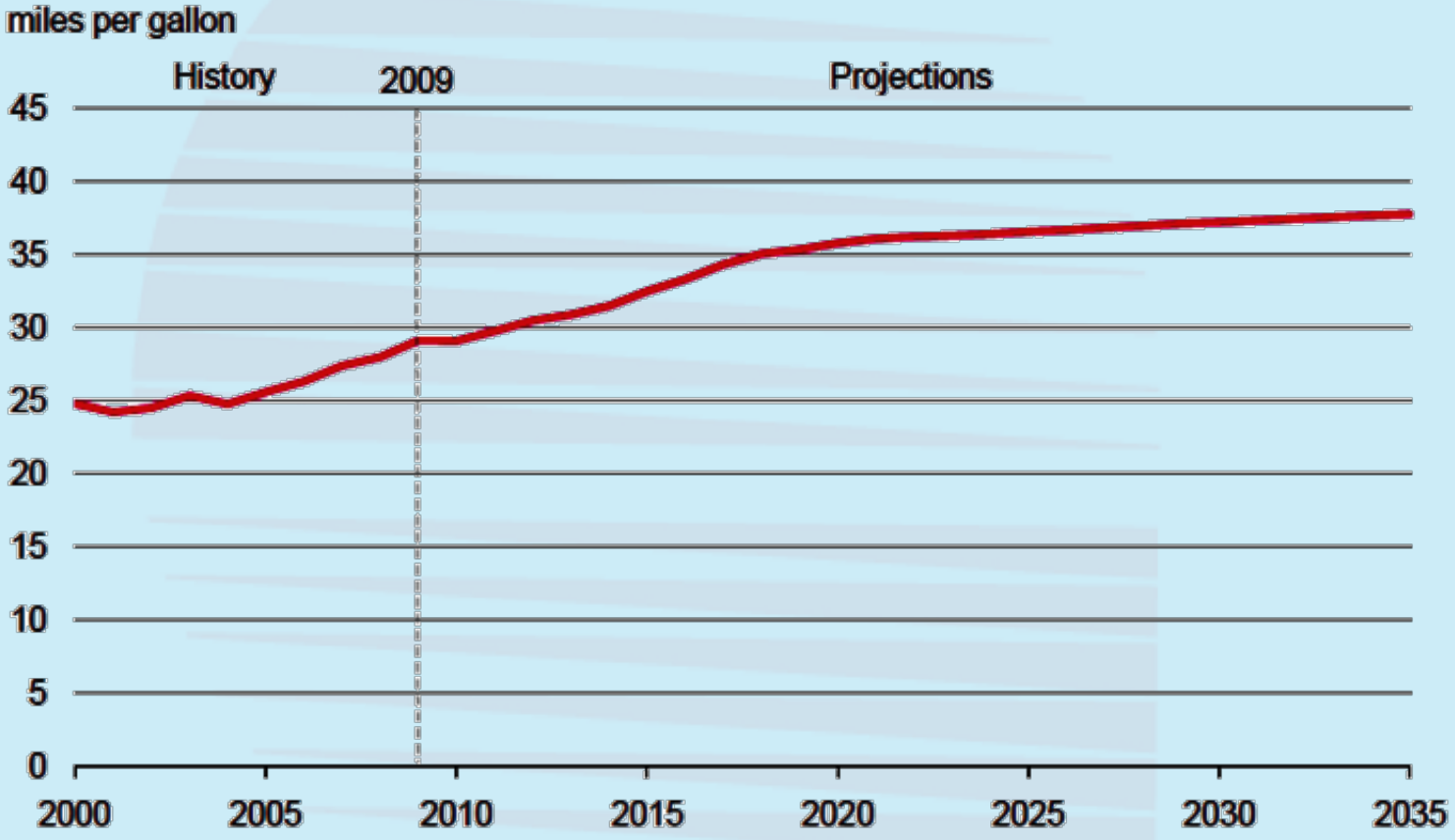
Energy Consumption by Transport Sectors

1995-2035



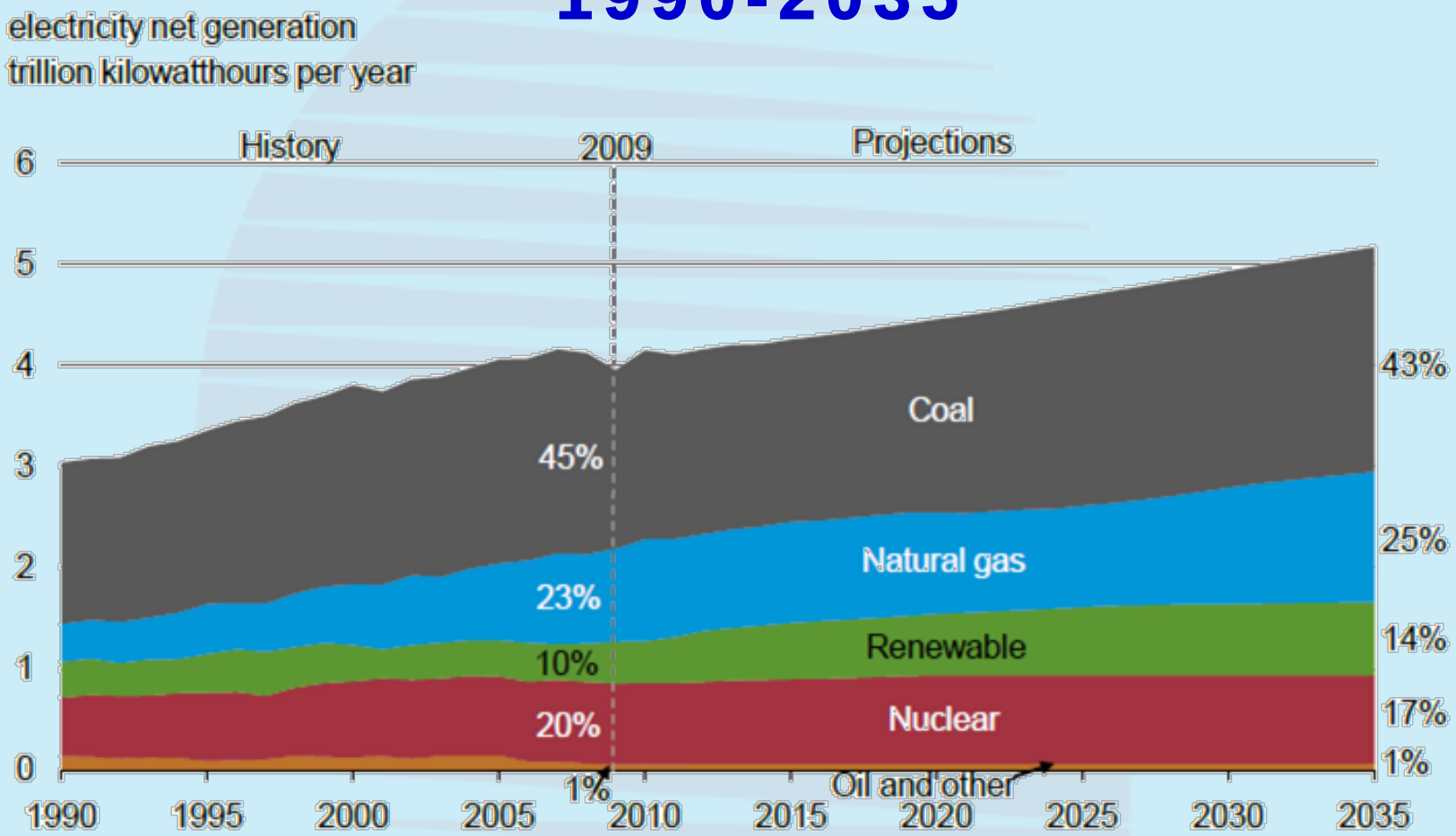
Source: EIA, Annual Energy Outlook 2011

Miles per Gallon for Light Duty Vehicles 2000-2035



Source: EIA, Annual Energy Outlook 2011

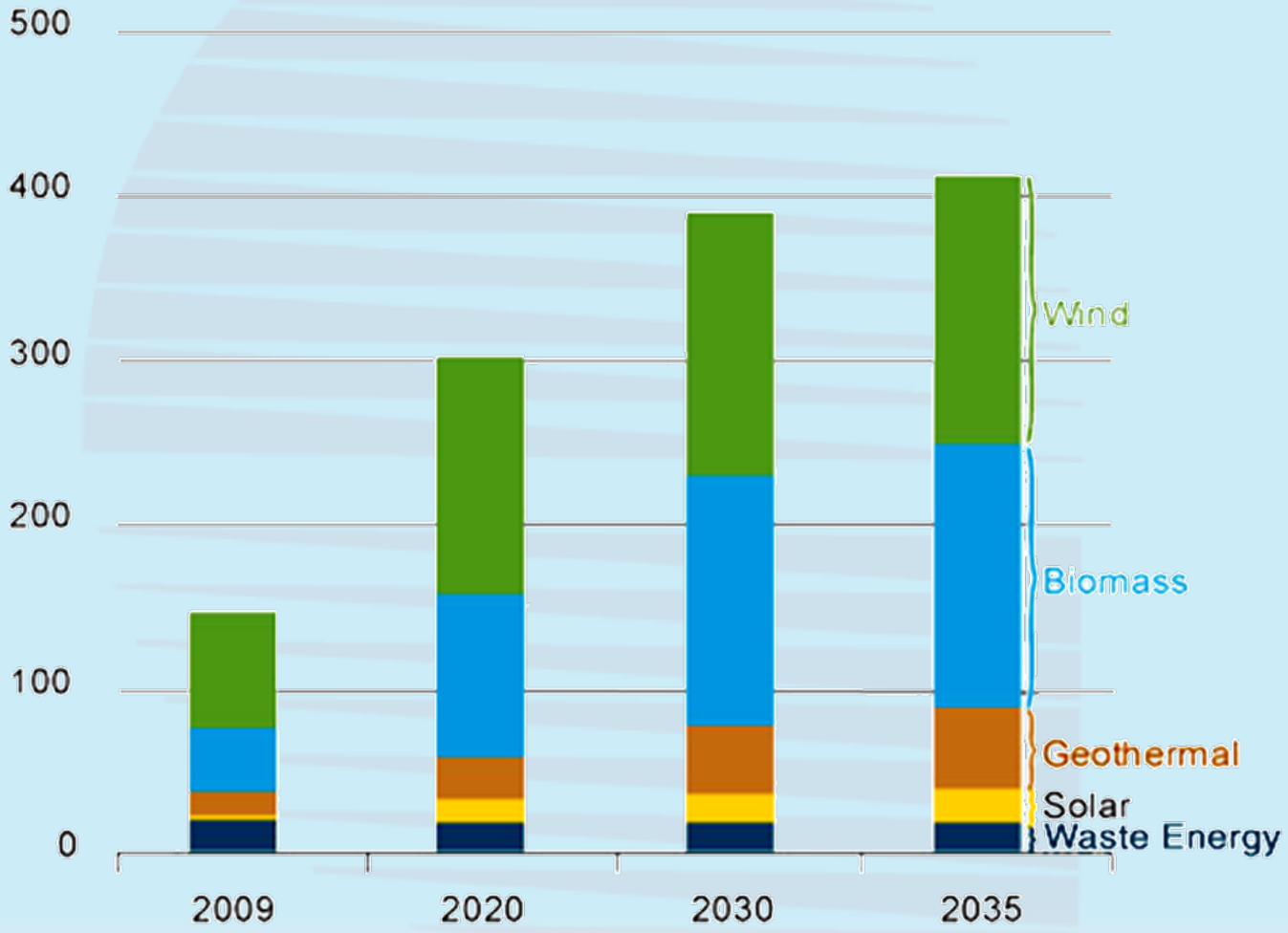
Electricity Generation by Fuel Type 1990-2035



Source: EIA, Annual Energy Outlook 2011

Non Hydro Renewable Electricity Generation 2009-2035

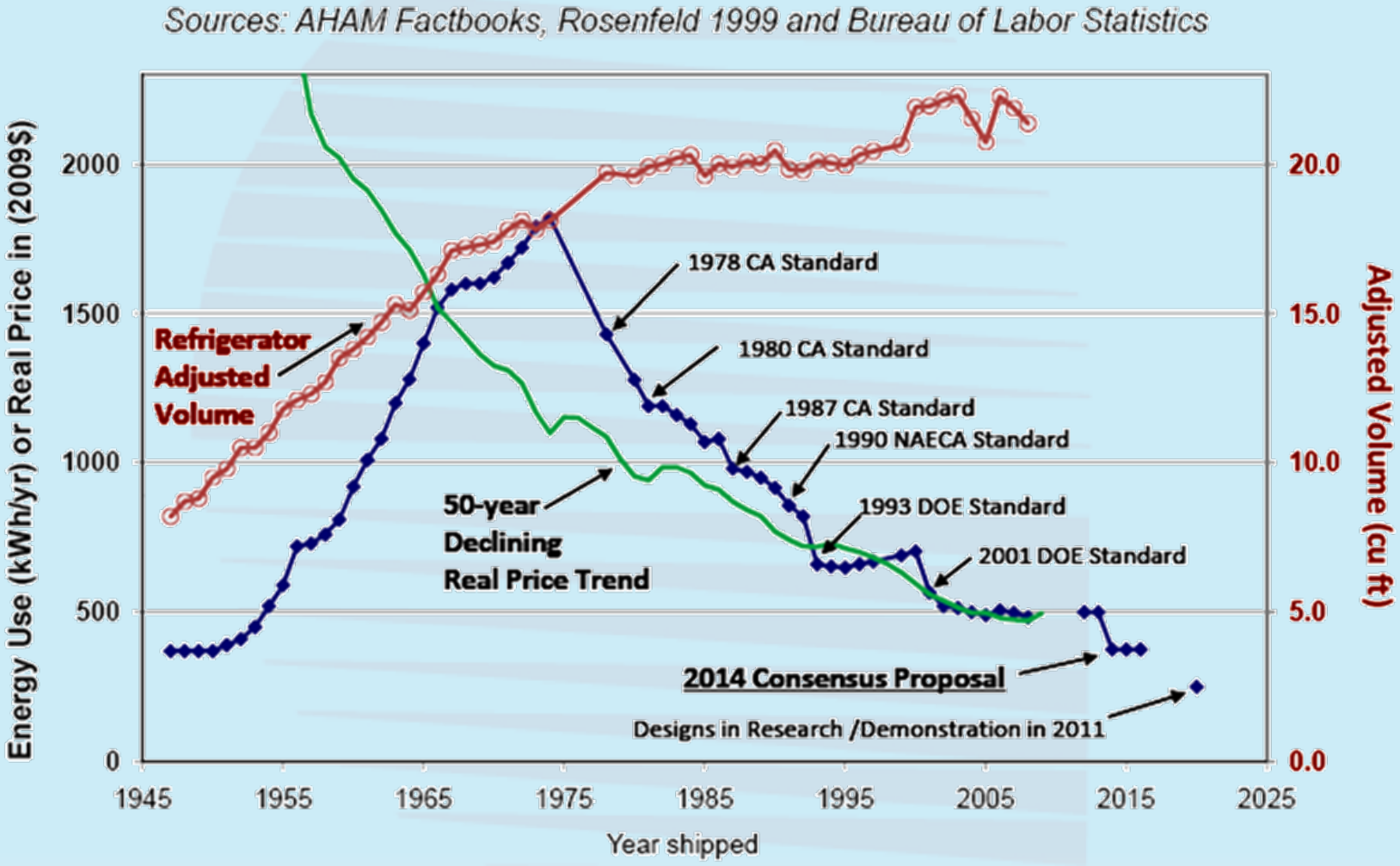
(billion kilowatthours)



Incentives for Renewable Energies, Energy Efficiency & Conservation

- Loan Guarantees
- Investment Subsidies
- Tax Credits for Clean Fuels
- Tax Credits for Energy Efficiency
- Rebates for Efficient Appliances & Vehicles
- Guaranteed Electricity Rates

Effects of Efficiency Improvements: 1950-2020
Annual Energy Use, Volume & Real Price for Refrigerators



Incentives for Nuclear Energy

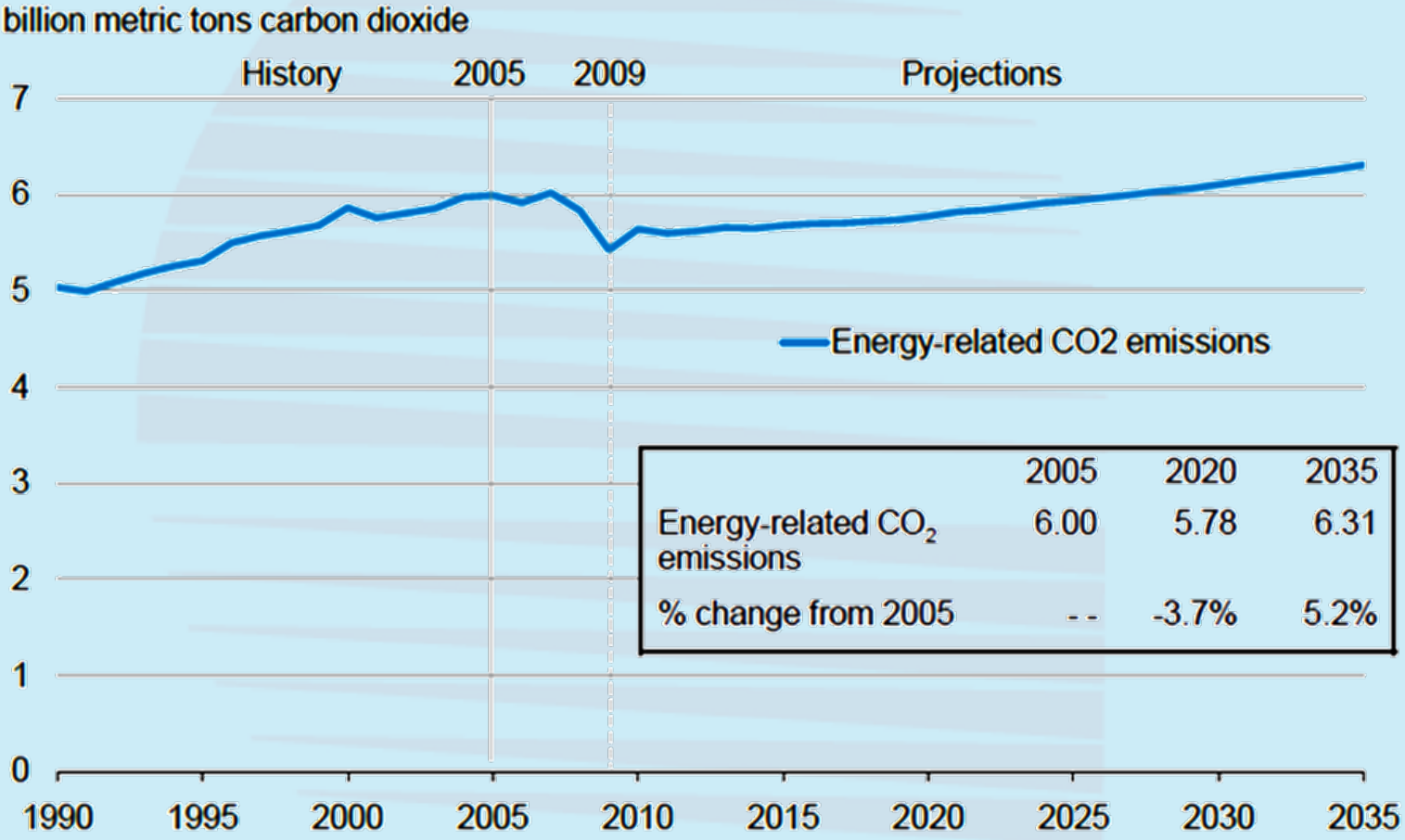
- Loan Guarantees
- Liability Protection
- Risk Insurance Assistance
- Tax Credits for Electricity Generated
- Reduced Tax on Decommissioning Funds
- Support for Advanced Technologies

Small Modular Reactors (~300 MW)

Benefits

- Mass-produced in a factory
- Transported by ship, truck or rail
- Replaces moderate sized power plants with no need to upgrade existing transmission system
- Operational in Less Time
- More Cost Effective
- Faster Return on Investment

Energy Related CO_2 Emission 1990-2035



	2005	2020	2035
Energy-related CO_2 emissions	6.00	5.78	6.31
% change from 2005	- -	-3.7%	5.2%

Source: EIA, Annual Energy Outlook 2011

International Programs

U.S. Department of Energy (DOE) Enters into Cooperative Agreements with International Organizations and Countries Covering:

- Fossil Fuel Technologies
- Renewable Energy Technologies
- Nuclear Energy Technologies
- Energy Efficiency/Conservation
- Environmental Remediation
- CO_2 Emission Reduction
- Nuclear Non-Proliferation

International Organizations & Countries having Cooperative Agreements with U.S.A.

U.N.	Australia	Japan
I.E.A.	Belarus	Norway
W.E.C.	Brazil	Poland
U.N.D.P.	Canada	Russia
U.N.E.P.	China	S. Korea
U.N.I.D.O.	India	Ukraine
ECPA	Indonesia	U.K.

Energy Security:

U.S. Strategic Petroleum Reserve

1973 Oil Embargo - 1977 Establishment of SPR

Existing Facilities: 2 in Texas & 2 in Louisiana, in Caverns carved in Salt Domes, ~ 1,000 m below, each ~ 60 m dia x ~ 600 m deep.

Capacity: 727 Million Barrels (115.6 Million m3)

Oil Stored: 726.5 Million Barrels (115.5 Million m3)

Purchase Price: $20.1 Billion

Market Price: $85.5 Billion

Planned Facilities: 1 in Mississippi with 160 million barrels capacity.

Energy Security:

Strategic Petroleum Reserve

Uses

1. Disruption of Oil Imports Due to Hostilities, etc.

2. Disruption of Oil Imports for a Facility (Refinery) Due to Accidents, etc.

3. Oil Price Stabilization if Oil Prices Rise too Fast and/or too High.

Energy Security:
U.S. Bases / Military in Middle East

World & USA Data (2035)

Data	World	USA	USA vs World
Population	8,450.0 Millions	358.5 Millions	4.2 %
Population Growth	0.62%	0.50%	81 %
Energy Consumption	770 Quads	114 Quads	14.8 %
Energy Consumption per Capita	91.12 x 10^9 BTU	318 x 10^9 BTU	349 %
GDP	111.6 Trillion	24.33 Trillion	22 %
GDP per Capita	$13,207	$67,866	514 %

Thank you for your attention!

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