

# Assessing the American Power Act

The Economic, Employment, Energy Security and Environmental Impact of Senator Kerry and Senator Lieberman's Discussion Draft

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*May 20, 2010*

# What's in the American Power Act

## Elements of the bill and how we analyzed them

### **Title I – Domestic Clean Energy Development**

- Incentives for nuclear power, carbon capture and sequestration, clean vehicles, energy efficiency and renewable energy
- Provisions on offshore drilling

### **Title II – Greenhouse Gas Pollution Reduction**

- Economy-wide GHG reduction targets (17% below 2005 levels by 2020 and 83% by 2050) but sector specific regulation.
- International offsets available for the industrial and power sectors. No allowance trading in the transport sector.

### **Title III – Consumer Protection**

- 65% of allowance value used to offset the impact of higher energy prices on consumers, with 15% going to low-income consumers.
- Non-low income consumer assistance delivered through LDC allocations in early years and through direct rebate later on.

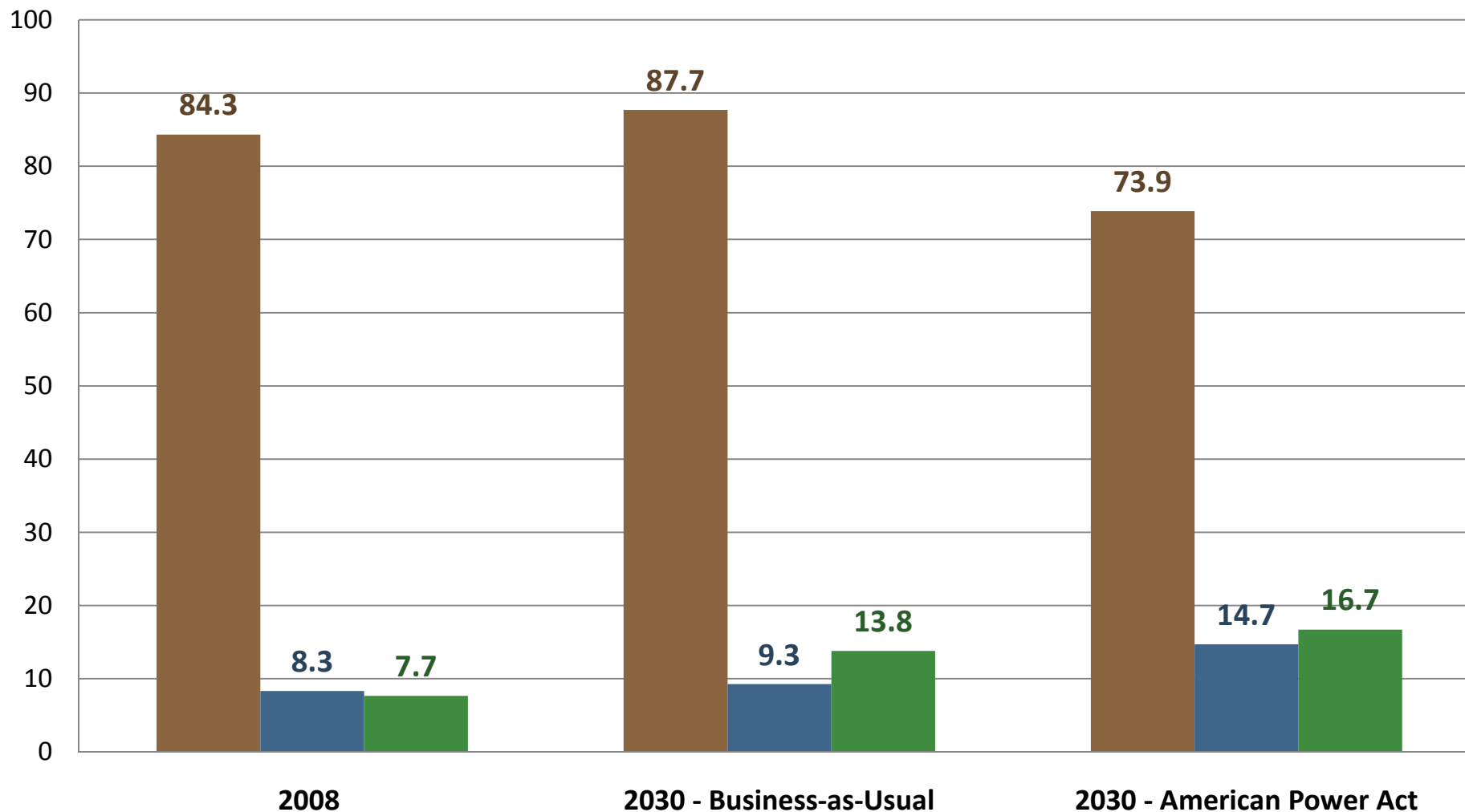
### **Title IV – Job Protection and Growth:**

- Output based rebating then border measures for energy-intensive industry
- Natural gas vehicle incentives and EPA guidance on motor vehicle emissions standards



# Energy Sector Changes: Consumption by Source

Quadrillion btu, 2008, 2020 and 2030

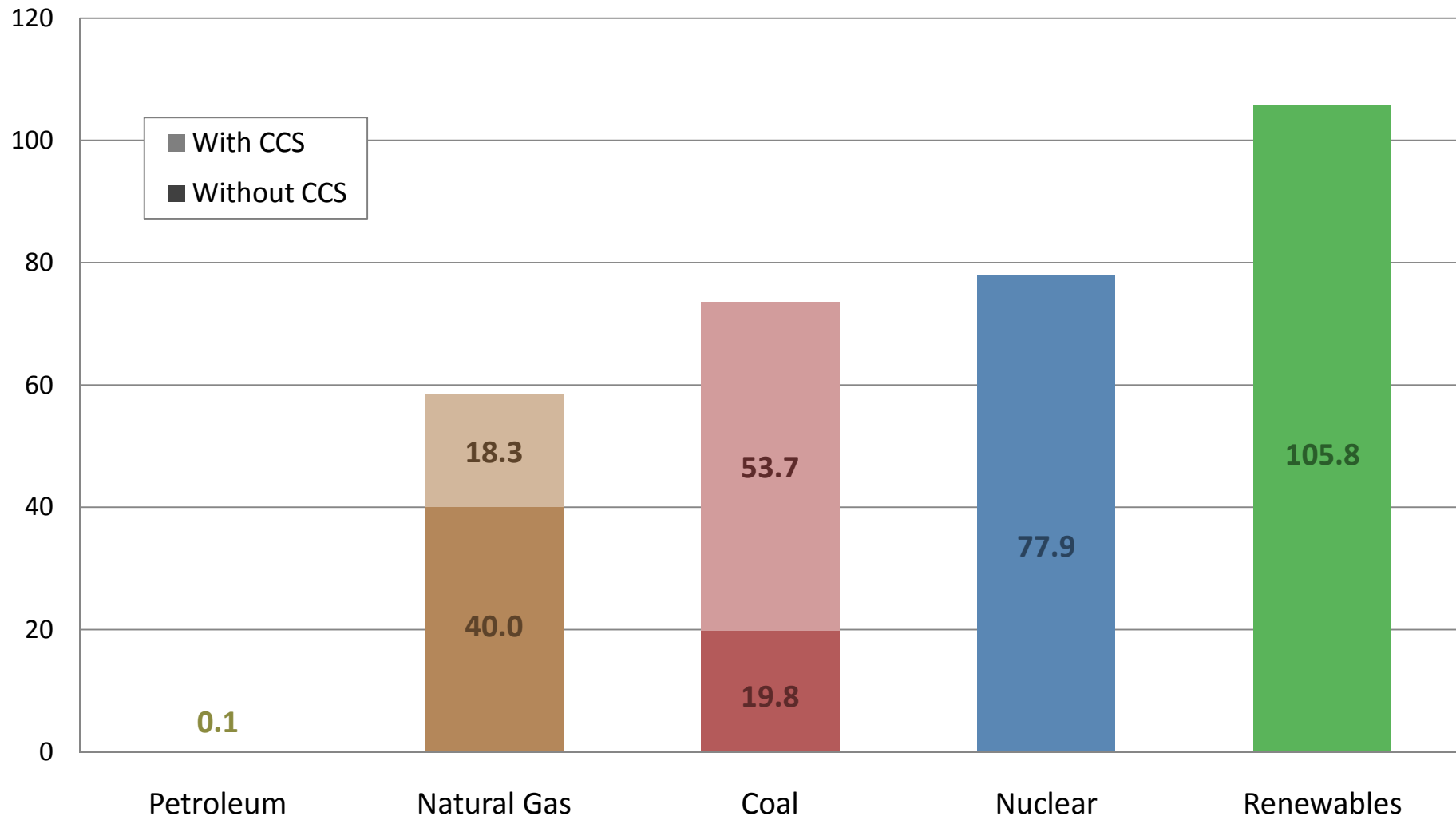


Source: Authors' estimates of the impact of the American Power Act as modeled using the Energy Information Administration's AEO2009 version of the National Energy Modeling System.



# Energy Sector Changes: New Power Capacity

New investment in power generation, million kw gross capacity, 2010-2030

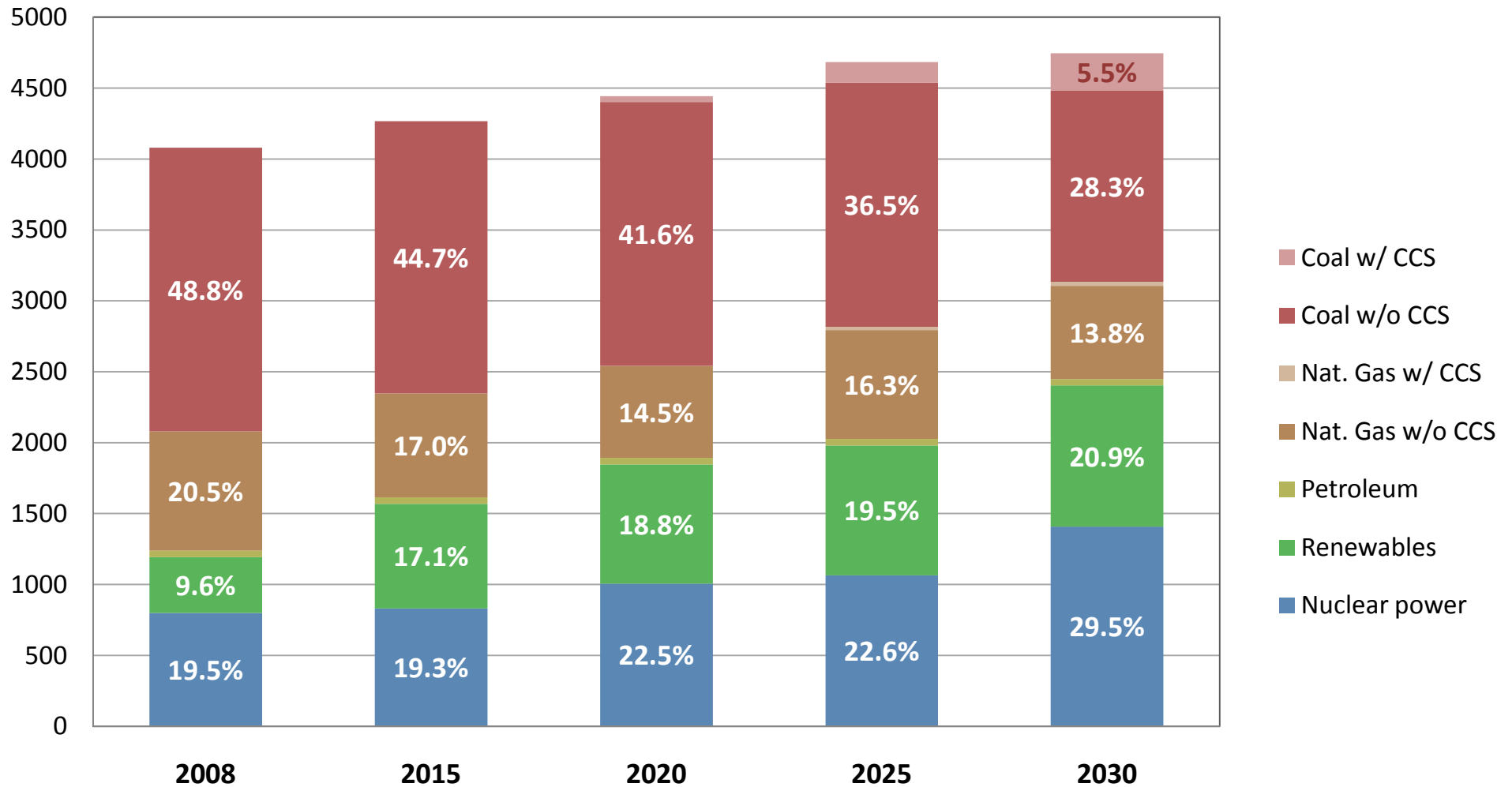


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# Energy Sector Changes: Power Generation

By source, billion kwh



Source: Authors' estimates of the impact of the American Power Act as modeled using the Energy Information Administration's AEO2009 version of the National Energy Modeling System.



# Energy Security Implications: CORE Scenario

## US oil imports, expenditures and oil producer revenue

Country/region	2008	Business-as-usual in 2030	American Power Act in 2030	American Power Act vs. business-as-usual in 2030		
	US oil imports, thousand barrels/day	US oil imports, thousand barrels/day	US oil imports, thousand barrels/day	US oil imports, thousand barrels/day	US oil imports, billion dollars/year	Producer revenue, billion dollars/year
OPEC	4,903	3,429	3,100	-328	-\$21.6	-\$132.9
Saudi Arabia	1,471	992	898	-94	-\$6.2	-\$42.7
Venezuela	1,196	859	778	-81	-\$5.3	-\$9.4
Nigeria	575	373	338	-35	-\$2.3	-\$7.4
Iraq	603	407	368	-38	-\$2.5	-\$9.4
Algeria	284	258	230	-28	-\$1.8	-\$6.0
Angola	256	167	151	-16	-\$1.0	-\$6.9
Kuwait	202	136	123	-13	-\$0.8	-\$10.8
Libya	53	49	43	-5	-\$0.3	-\$5.1
Iran	0	0	0	0	\$0.0	-\$18.7
Non-OPEC	6,138	4,774	4,331	-443	-\$29.4	-\$130.3
Canada	1,758	1,486	1,350	-136	-\$9.1	-\$11.6
Mexico	1,190	773	700	-73	-\$4.8	-\$5.3
Russia	319	308	279	-29	-\$1.9	-\$22.8
Brazil	168	154	139	-15	-\$1.0	-\$9.1
Sudan	0	0	0	0	\$0.0	-\$1.2
<b>TOTAL</b>	<b>11,041</b>	<b>8,203</b>	<b>7,431</b>	<b>-771</b>	<b>-\$51.0</b>	<b>-\$263.1</b>

Note: Real 2007 US dollars using average import price for all crude oil in 2030 forecast by NEMS. Production levels in 2030 based on regional forecasts by NEMS, disaggregated to the country level assuming a constant 2008 share of regional production, with the exception of Canada, Mexico, Russia, and Brazil, for which country-level forecasts are available in NEMS.



# Energy Security Implications: CAFE Scenario

## US oil imports, expenditures and oil producer revenue

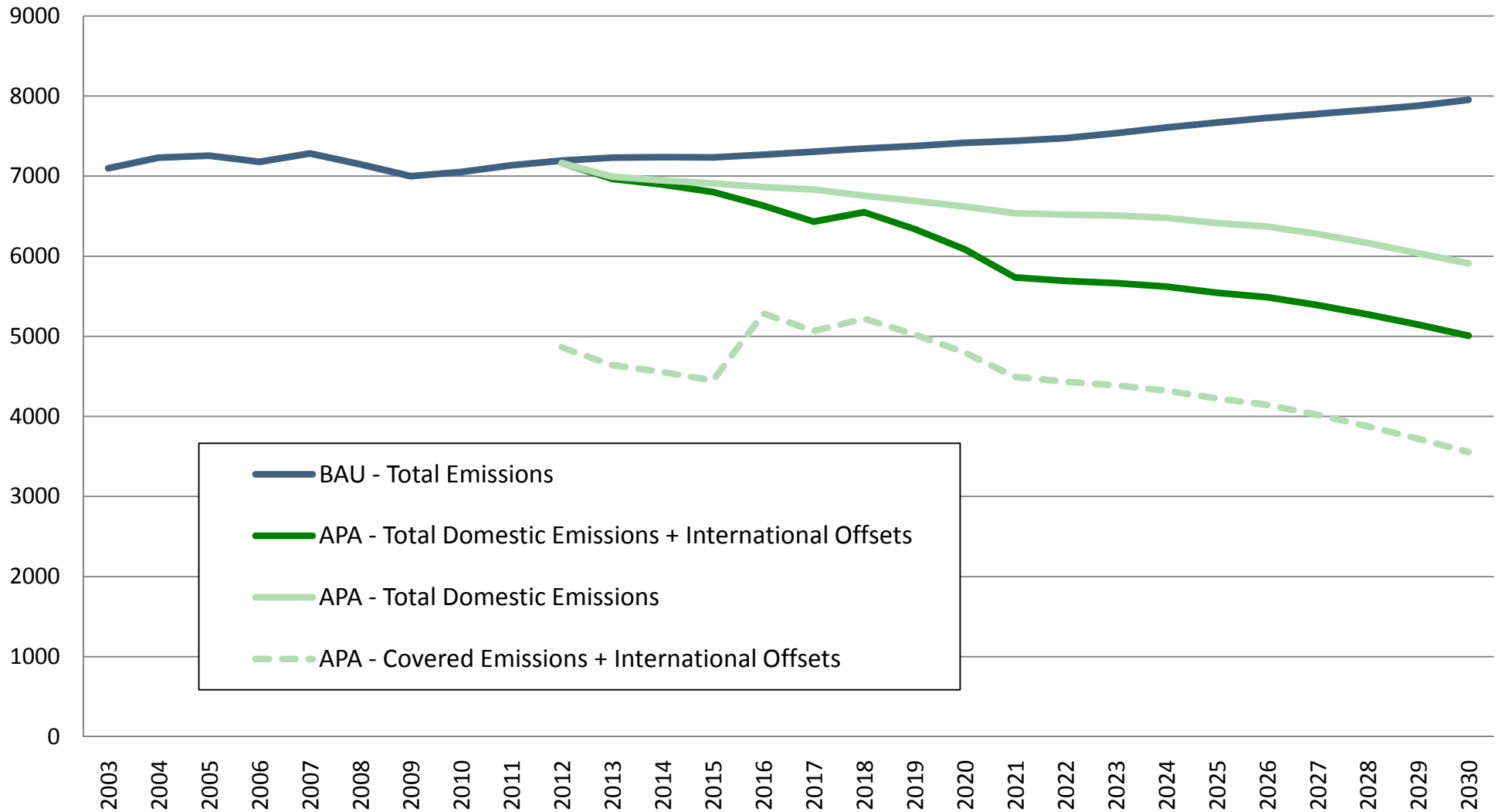
Country/Region	2008	Business-as-usual in 2030	American Power Act in 2030	American Power Act vs. business-as-usual in 2030		
	US oil imports, thousand barrels/day	US oil imports, thousand barrels/day	US oil imports, thousand barrels/day	US oil imports, thousand barrels/day	US oil imports, billion dollars/year	Producer revenue, billion dollars/year
OPEC	4,903	3,429	2,749	-679	-\$39.8	-\$217.5
Saudi Arabia	1,471	992	793	-198	-\$11.6	-\$71.7
Venezuela	1,196	859	692	-167	-\$9.8	-\$14.3
Nigeria	575	373	299	-73	-\$4.3	-\$11.3
Iraq	603	407	325	-81	-\$4.7	-\$15.8
Algeria	284	258	206	-53	-\$3.1	-\$9.1
Angola	256	167	134	-33	-\$1.9	-\$10.5
Kuwait	202	136	109	-27	-\$1.6	-\$18.1
Libya	53	49	39	-10	-\$0.6	-\$7.9
Iran	0	0	0	0	\$0.0	-\$31.3
Non-OPEC	6,138	4,774	3,874	-900	-\$53.5	-\$218.9
Canada	1,758	1,486	1,204	-282	-\$16.7	-\$17.7
Mexico	1,190	773	615	-158	-\$9.2	-\$8.1
Russia	319	308	252	-56	-\$3.4	-\$34.8
Brazil	168	154	122	-31	-\$1.8	-\$13.9
Sudan	0	0	0	0	\$0.0	-\$1.8
<b>TOTAL</b>	<b>11,041</b>	<b>8,203</b>	<b>6,623</b>	<b>-1,579</b>	<b>-\$93.3</b>	<b>-\$436.4</b>

Note: Real 2007 US dollars using average import price for all crude oil in 2030 forecast by NEMS. Production levels in 2030 based on regional forecasts by NEMS, disaggregated to the country level assuming a constant 2008 share of regional production, with the exception of Canada, Mexico, Russia and Brazil, for which country-level forecasts are available in NEMS.



# Environmental Impacts

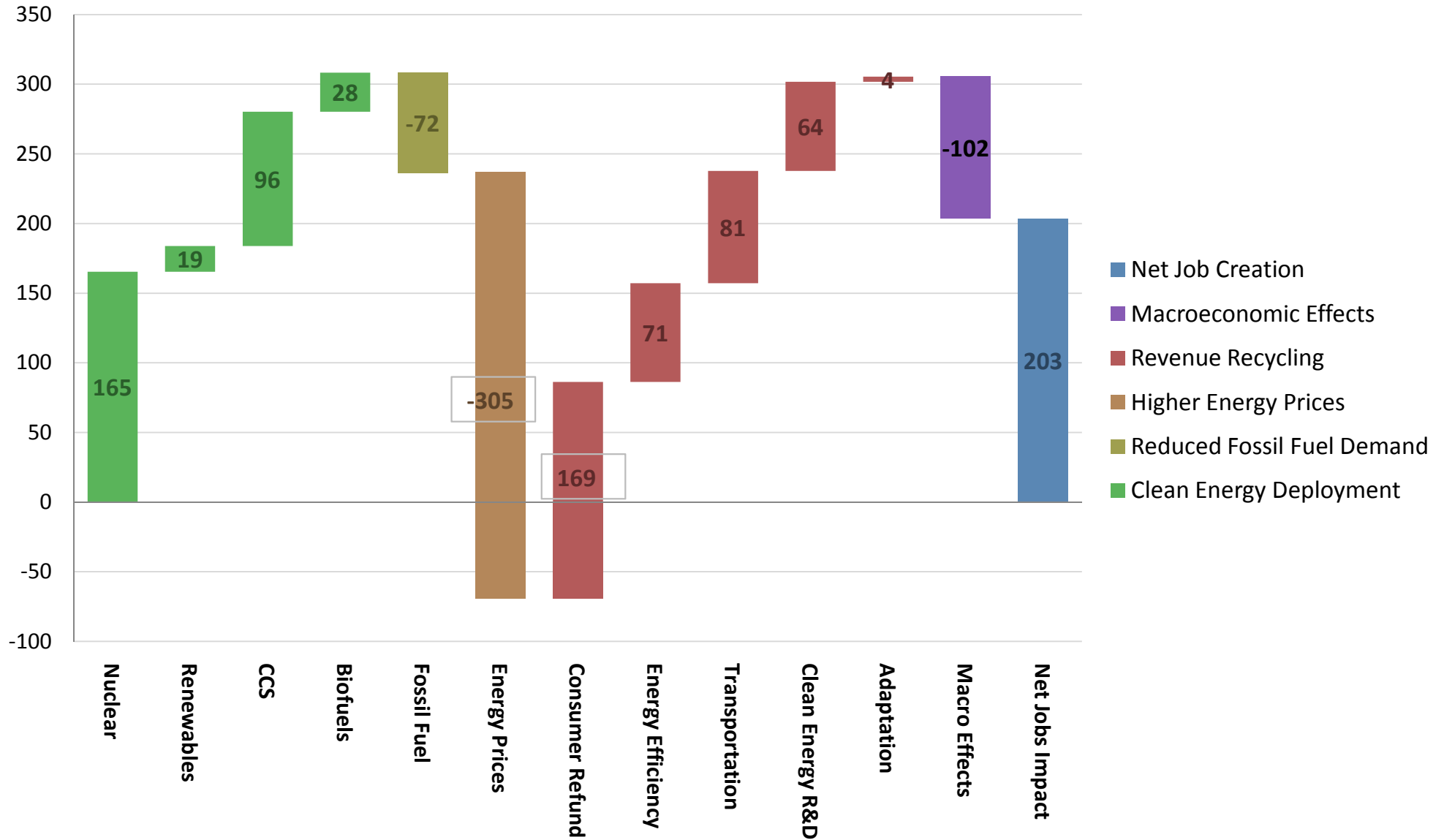
Annual greenhouse gas emissions – million tons





# Employment Effects

Thousand average annual jobs, 2011-2020



# Impact on Consumers

Average annual household energy expenditures, real 2007 USD

