

# NUCLEAR AMBITIONS

A number of countries have plans to expand nuclear power, despite the current slowdown.

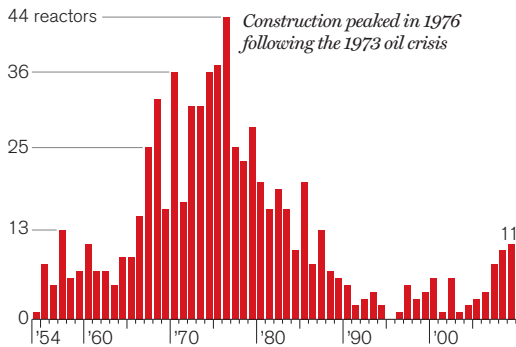
## TOP 10 NUCLEAR-POWER-GENERATING COUNTRIES

RANK/ COUNTRY	ELECTRIC POWER GENERATED, 2009		REACTORS OPERABLE		REACTORS UNDER CONSTRUCTION		REACTORS PLANNED	
	Nuclear (billion kWh)	All other sources (fossil and renewables) As a percentage of total electric gen.	Number	Total MW	Number	Total MW	Number	Total MW
1 <b>United States</b>	<b>798.7</b>	20.2%	<b>104</b>	101,216	<b>2</b>	2,234*	<b>9</b>	11,800
2 <b>France</b>	<b>391.7</b>	75.2	<b>58</b>	63,236	<b>1</b>	1,630	<b>1</b>	1,630
3 <b>Japan</b>	<b>263.1</b>	28.9	<b>55</b>	47,348	<b>2</b>	2,756	<b>12</b>	16,532
4 <b>Russia</b>	<b>152.8</b>	17.8	<b>32</b>	23,084	<b>10</b>	8,960	<b>14</b>	16,000
5 <b>South Korea</b>	<b>141.1</b>	34.8	<b>20</b>	17,716	<b>6</b>	6,700	<b>6</b>	8,190
6 <b>Germany</b>	<b>127.7</b>	26.1	<b>17</b>	20,339	—	—	—	—
7 <b>Canada</b>	<b>85.3</b>	14.8	<b>18</b>	12,679	<b>2</b>	1,500	<b>4</b>	4,400
8 <b>Ukraine</b>	<b>77.9</b>	48.6	<b>15</b>	13,168	—	—	<b>2</b>	1,900
9 <b>China</b>	<b>65.7</b>	1.9	<b>12</b>	9,624	<b>24</b>	26,550	<b>33</b>	37,450
10 <b>Spain</b>	<b>50.6</b>	17.5	<b>8</b>	7,448	—	—	<b>0</b>	0
<b>World total</b>	<b>2,560.0</b>	14	<b>440</b>	375,805	<b>59</b>	60,065	<b>149</b>	163,744

\*Data for the U.S. is from the Energy Information Administration and was not included in World Nuclear Association totals as of August 2010.  
Sources: World Nuclear Association (reactor data); International Atomic Energy Agency (generation)

Nuclear proponents are heartened by the recent uptick in reactor construction starts . . .

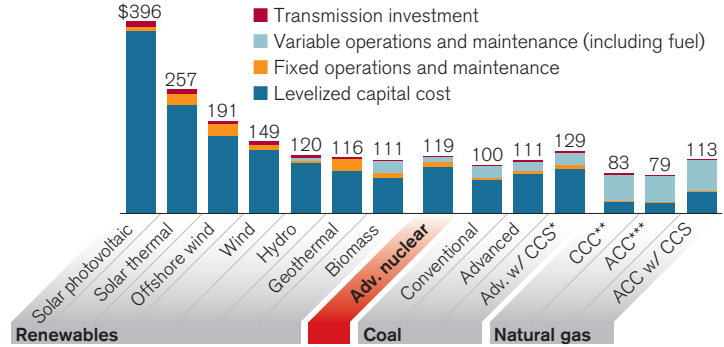
### GLOBAL NUCLEAR REACTOR CONSTRUCTION (annually, 1954–2009)



Source: International Atomic Energy Agency

But the cost of nuclear power must be right for the momentum to continue.

### AVERAGE LEVELIZED COST TO GENERATE POWER (\$ per megawatt-hour in the United States)



\*Carbon capture and storage; \*\*Conventional combined cycle; \*\*\*Advanced combined cycle.  
Source: U.S. Energy Information Administration

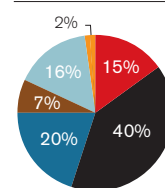
The International Energy Agency predicts that nuclear's share of global electricity production will decline in the coming decades under a "business as usual" scenario. But nuclear would play an important role in a plan it calls the "Blue Map" scenario, which would cut carbon emissions in half by 2050.

### GLOBAL ELECTRIC PRODUCTION

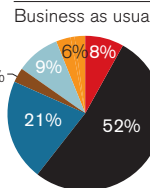
#### GENERATING TECHNOLOGY

- Fossil Fuels**
  - Coal
  - Coal + CCS
  - Gas
  - Gas + CCS
  - Oil
- Renewables**
  - Hydro
  - All others\*

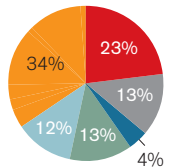
2005



2050 (Projected)



Blue Map scenario



\*Includes wind, bio, geothermal, tidal, hydrogen, and solar. Source: International Energy Agency

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