

## The Great Transition: Shifting from Fossil Fuels to Solar and Wind Energy Supporting Data - India

### [Cumulative Installed Solar Photovoltaics Capacity in India, 2000-2013](#)

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### [Cumulative Installed Wind Power Capacity in India, 1990-2014](#)

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### [Wind-generated Electricity in India, 2000-2013](#)

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### [Hydroelectric Generation in India, 1965-2013](#)

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### [Electricity Generation from Nuclear Power Plants in India, 1970-2013](#)

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### [Coal Imports in India, 1980-2012](#)

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A full listing of data for the entire book is on-line at:

[http://www.earth-policy.org/books/tgt/tgt\\_data](http://www.earth-policy.org/books/tgt/tgt_data)

This is part of a supporting dataset for **The Great Transition: Shifting from Fossil Fuels to Solar and Wind Energy**, by Lester R. Brown, with Janet Larsen, J. Matthew Roney, and Emily E. Adams (New York: W.W. Norton & Company, 2015).

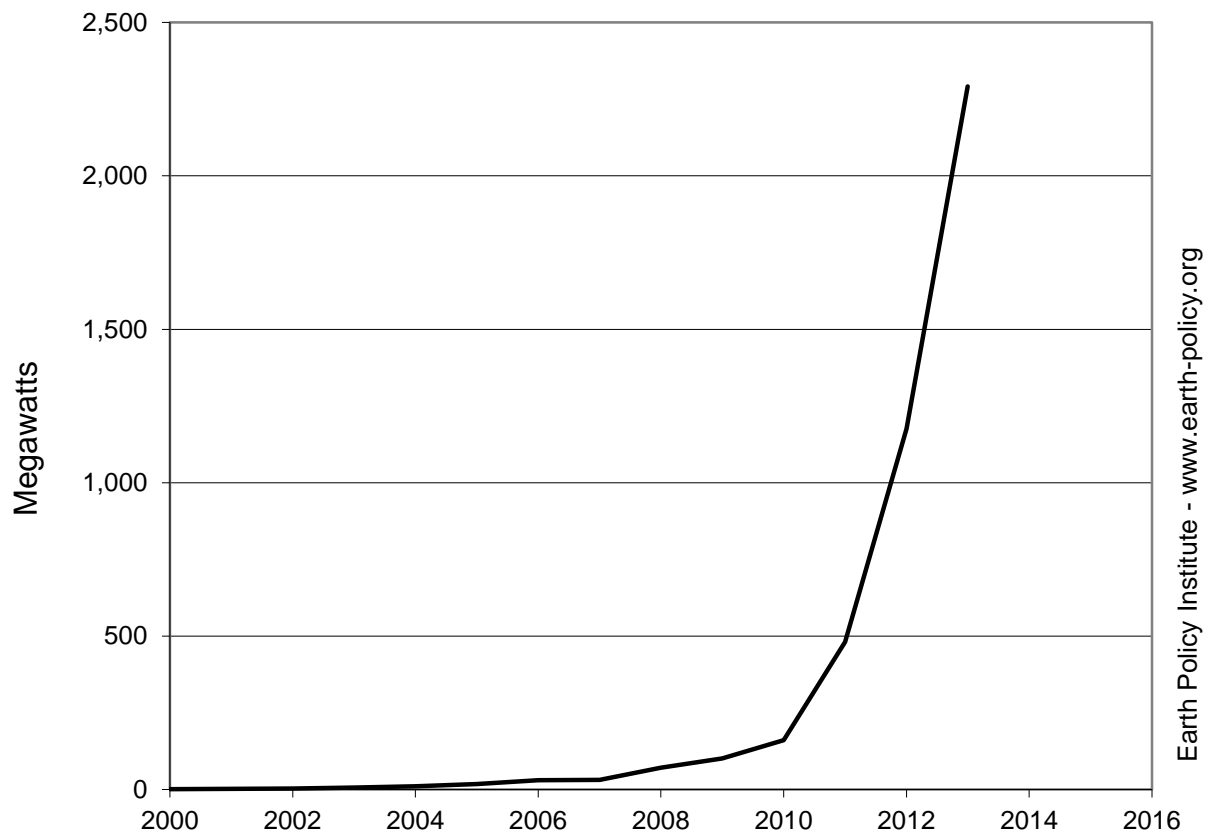
For more information, see Earth Policy Institute on-line at [www.earth-policy.org](http://www.earth-policy.org).

### Cumulative Installed Solar Photovoltaics Capacity in India, 2000-2013

Year	Cumulative Installations Megawatts
2000	1
2001	2
2002	4
2003	6
2004	10
2005	18
2006	30
2007	31
2008	71
2009	101
2010	161
2011	481
2012	1,176
2013	2,291

Source: Figure for 2010 from European Photovoltaic Industry Association, *Global Market Outlook for Photovoltaics Until 2016* (Brussels: May 2012), p. 50; all other data from BP, *Statistical Review of World Energy June 2014* (London: 2014).

Cumulative Installed Solar Photovoltaics Capacity in India, 2000-2013



Source: BP

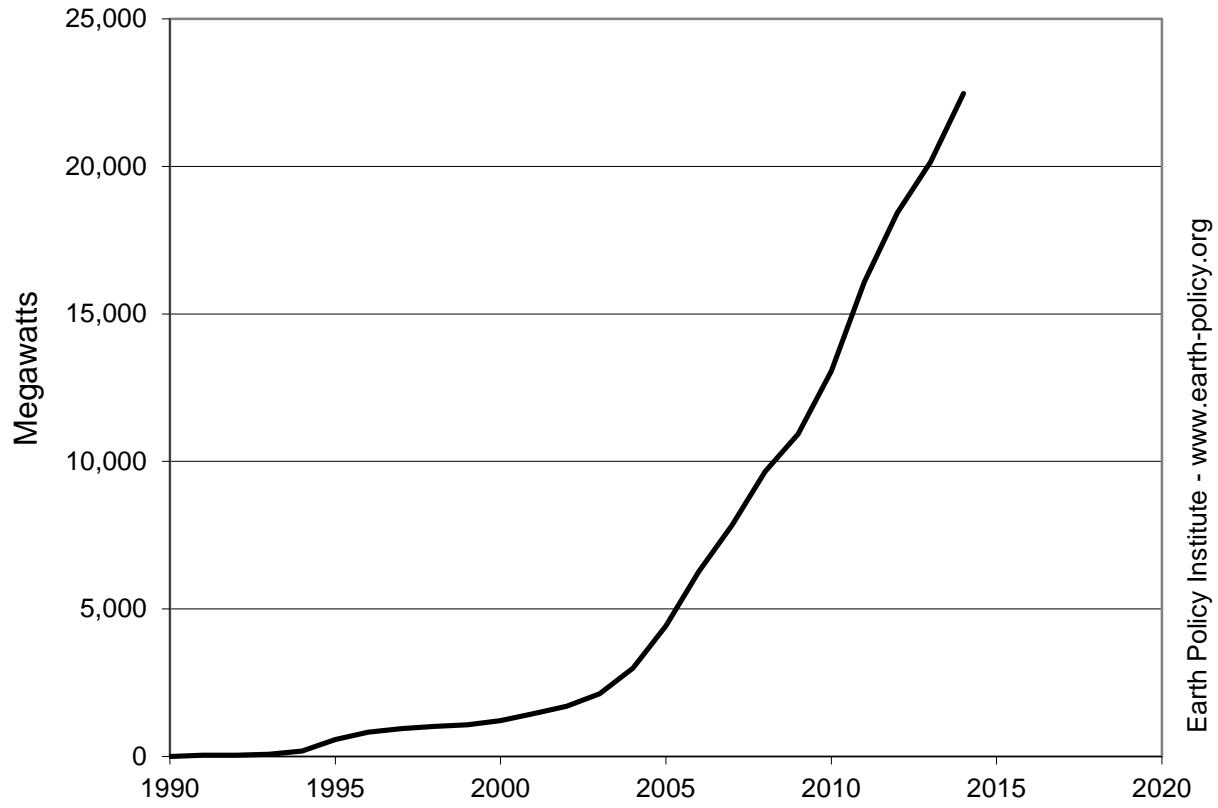
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## Cumulative Installed Wind Power Capacity in India, 1990-2014

<u>Year</u>	<u>India</u>
	Megawatts
1990	0
1991	39
1992	39
1993	79
1994	185
1995	576
1996	820
1997	940
1998	1,015
1999	1,077
2000	1,220
2001	1,456
2002	1,702
2003	2,125
2004	3,000
2005	4,430
2006	6,270
2007	7,845
2008	9,655
2009	10,926
2010	13,065
2011	16,084
2012	18,421
2013	20,150
2014	22,465

Source: Compiled by Earth Policy Institute from Worldwatch Institute, *Signposts 2001*, CD-ROM (Washington, DC: 2001); and from Global Wind Energy Council, *Global Wind Report: Annual Market Update 2014* (Brussels: April 2015).

## Cumulative Installed Wind Power Capacity in India, 1980-2014



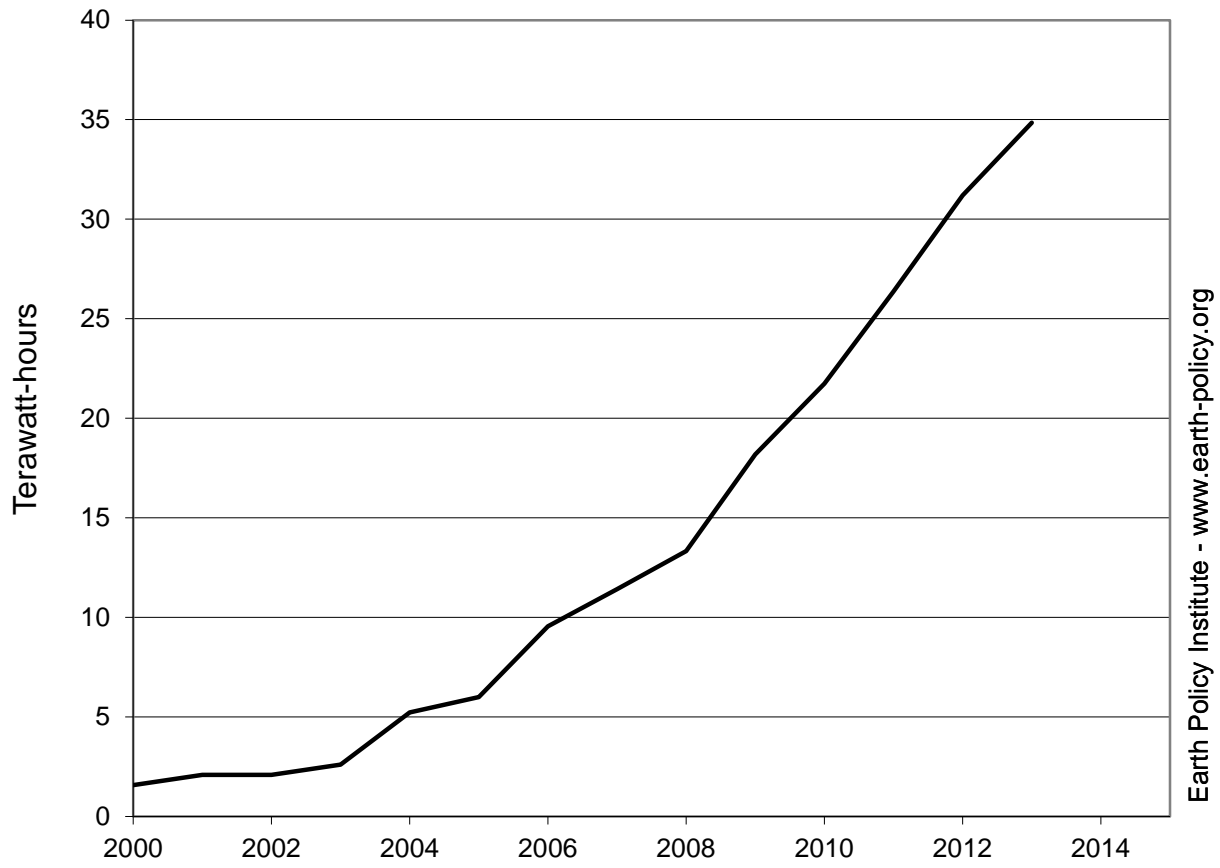
Source: EPI from GWEC, Worldwatch

### Wind-generated Electricity in India, 2000-2013

Year	Wind-generated Electricity Terawatt-hours
2000	2
2001	2
2002	2
2003	3
2004	5
2005	6
2006	10
2007	11
2008	13
2009	18
2010	22
2011	26
2012	31
2013	35

Source: BP, *Statistical Review of World Energy June 2014* (London: 2014).

# Wind-generated Electricity in India, 2000-2013



Source: BP

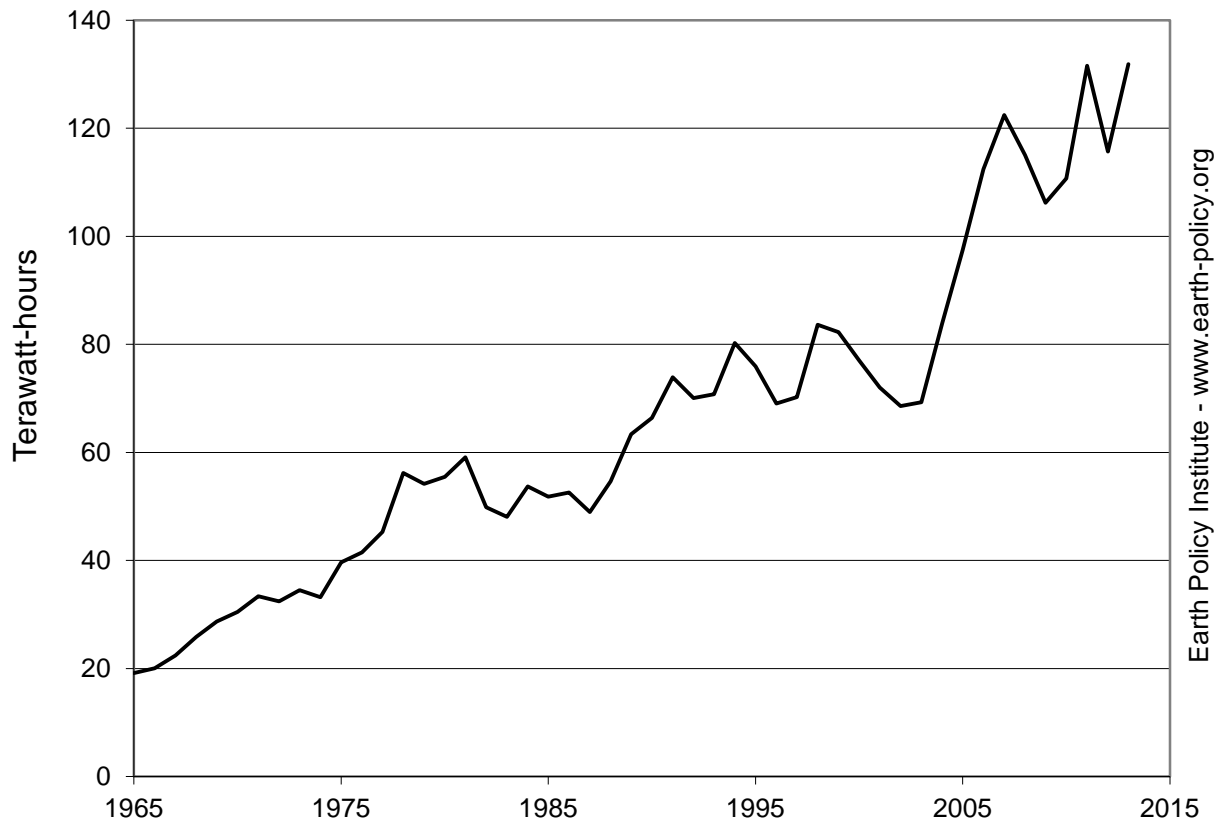
## Hydroelectric Generation in India, 1965-2013

<u>Year</u>	<u>Generation</u> Terawatt-hours
1965	19
1966	20
1967	22
1968	26
1969	29
1970	30
1971	33
1972	32
1973	35
1974	33
1975	40
1976	41
1977	45
1978	56
1979	54
1980	55
1981	59
1982	50
1983	48
1984	54
1985	52
1986	53
1987	49
1988	55
1989	63
1990	66
1991	74
1992	70
1993	71
1994	80
1995	76
1996	69
1997	70
1998	84
1999	82
2000	77
2001	72
2002	69
2003	69
2004	84
2005	97
2006	112
2007	122
2008	115
2009	106
2010	111
2011	132
2012	116
2013	132

Source: Compiled by Earth Policy Institute from BP, *Statistical Review of World Energy June 2014* (London: 2014).



## Hydroelectric Generation in India, 1965-2013



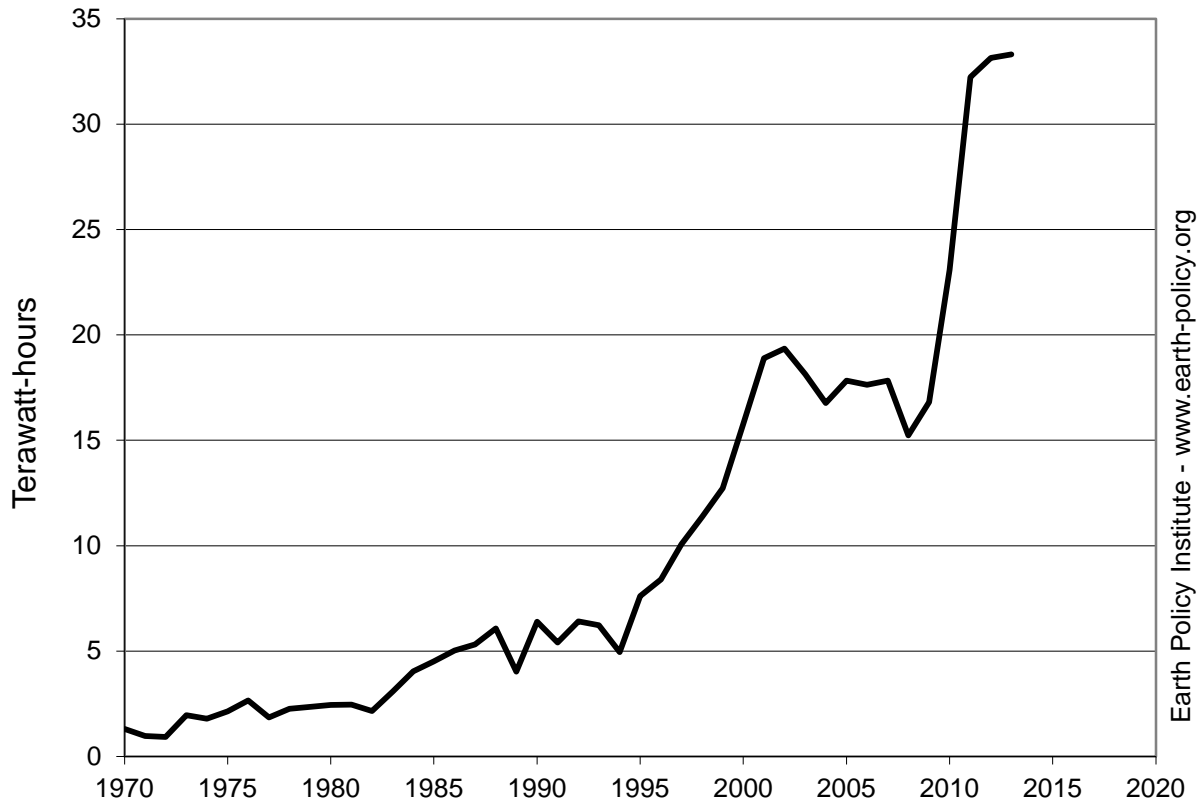
Source: BP

## Electricity Generation from Nuclear Power Plants in India, 1970-2013

<u>Year</u>	<u>Generation</u> Terawatt-hours
1970	1.3
1971	1.0
1972	0.9
1973	2.0
1974	1.8
1975	2.1
1976	2.7
1977	1.9
1978	2.3
1979	2.3
1980	2.4
1981	2.5
1982	2.2
1983	3.1
1984	4.0
1985	4.5
1986	5.0
1987	5.3
1988	6.1
1989	4.0
1990	6.4
1991	5.4
1992	6.4
1993	6.2
1994	4.9
1995	7.6
1996	8.4
1997	10.1
1998	11.4
1999	12.7
2000	15.8
2001	18.9
2002	19.4
2003	18.1
2004	16.8
2005	17.8
2006	17.6
2007	17.8
2008	15.2
2009	16.8
2010	23.1
2011	32.2
2012	33.1
2013	33.3

Source: BP, *Statistical Review of World Energy June 2014* (London: 2014).

# Electricity Generation from Nuclear Power Plants in India, 1970-2013



Source: BP

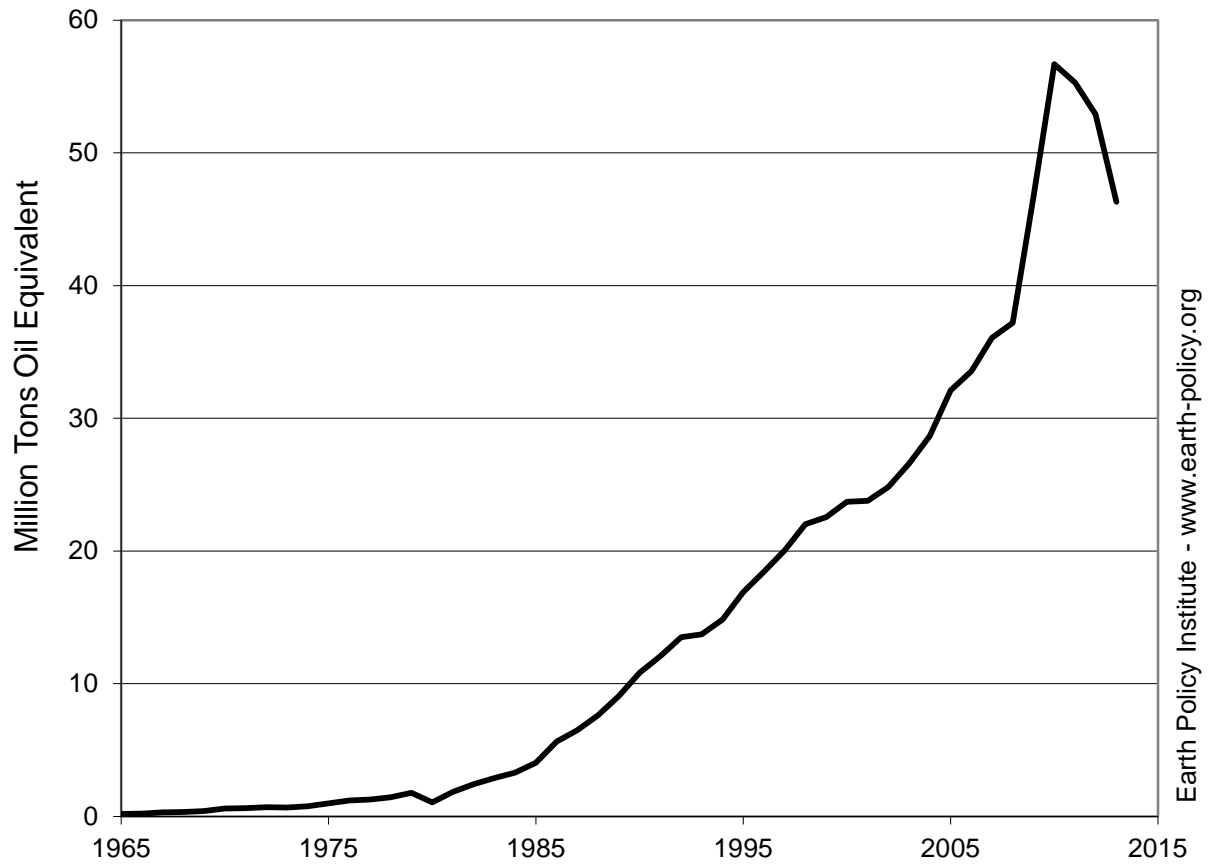
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### Natural Gas Consumption in India, 1965-2013

Year	Consumption Million Tons Oil Equivalent
1965	0.2
1966	0.2
1967	0.3
1968	0.3
1969	0.4
1970	0.6
1971	0.6
1972	0.7
1973	0.7
1974	0.8
1975	1.0
1976	1.2
1977	1.3
1978	1.4
1979	1.8
1980	1.1
1981	1.8
1982	2.4
1983	2.9
1984	3.3
1985	4.0
1986	5.6
1987	6.5
1988	7.6
1989	9.1
1990	10.8
1991	12.1
1992	13.5
1993	13.7
1994	14.8
1995	16.9
1996	18.5
1997	20.1
1998	22.0
1999	22.6
2000	23.7
2001	23.8
2002	24.8
2003	26.6
2004	28.7
2005	32.1
2006	33.5
2007	36.1
2008	37.2
2009	46.7
2010	56.7
2011	55.3
2012	52.9
2013	46.3

Source: BP, *Statistical Review of World Energy June 2014* (London: 2014).

Natural Gas Consumption in India, 1965-2013



Source: BP

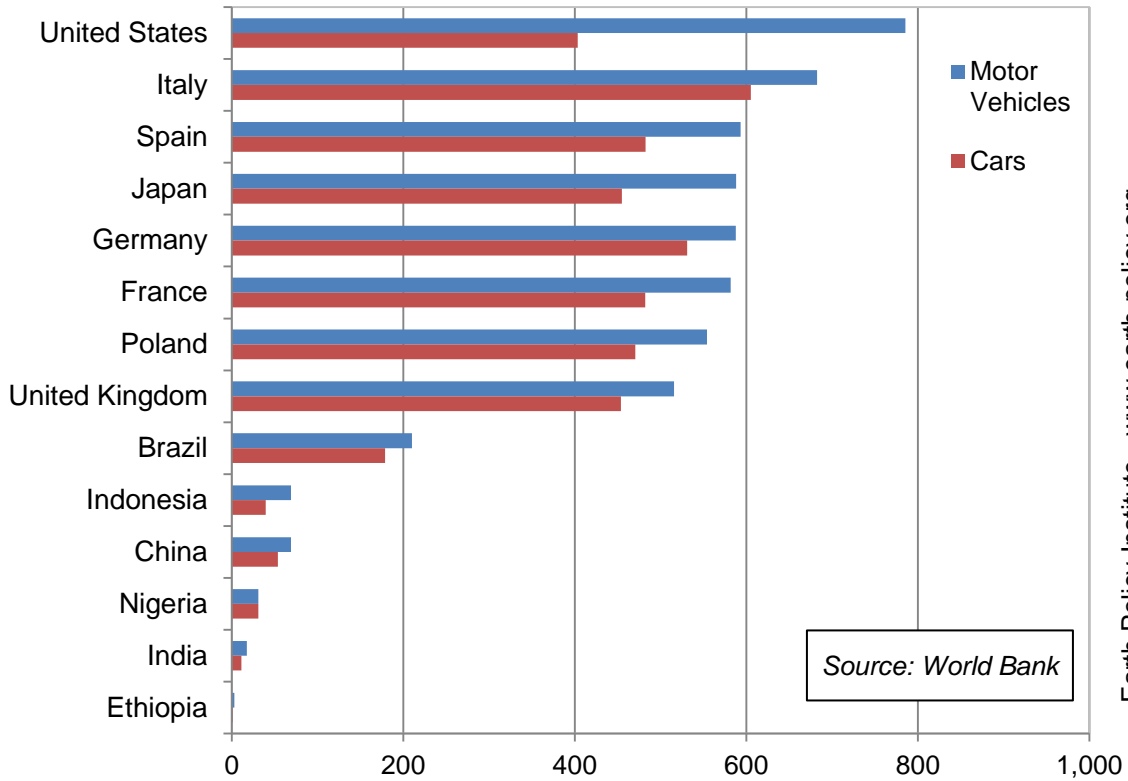
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### Motor Vehicles and Cars Per Person in Key Countries, 2011

Rank	Country	Motor Vehicles Per 1,000 People	Cars Per 1,000 People
4	United States	786	403
10	Italy	682	605
14	Spain	593	482
17	Japan	588	455
18	Germany	588	531
21	France	582	482
27	Poland	554	470
33	United Kingdom	516	454
68	Brazil	210	179
120	Indonesia	69	39
121	China	69	54
136	Nigeria	31	31
154	India	18	11
176	Ethiopia	3	1

Source: Compiled by Earth Policy Institute from World Bank, "Motor Vehicles (per 1,000 people)," *World Development Indicators*, at [data.worldbank.org/indicator](http://data.worldbank.org/indicator), updated 9 April 2014.

## Motor Vehicles and Cars Per Person in Key Countries, 2011



Source: World Bank

Earth Policy Institute - [www.earth-policy.org](http://www.earth-policy.org)

Motor Vehicles and Cars Per 1,000 People

### Oil Consumption in India, 1965-2013

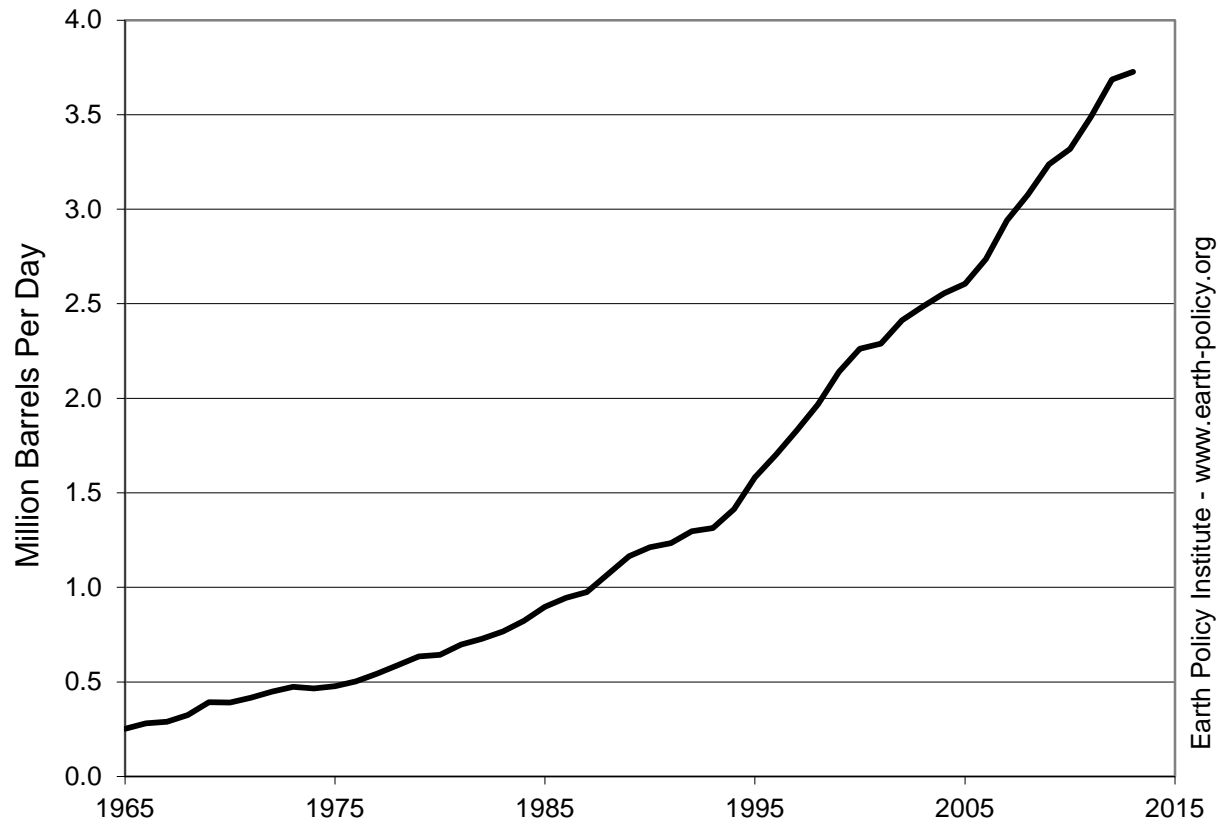
Year	Consumption*
	Million Barrels Per Day
1965	0.3
1966	0.3
1967	0.3
1968	0.3
1969	0.4
1970	0.4
1971	0.4
1972	0.4
1973	0.5
1974	0.5
1975	0.5
1976	0.5
1977	0.5
1978	0.6
1979	0.6
1980	0.6
1981	0.7
1982	0.7
1983	0.8
1984	0.8
1985	0.9
1986	0.9
1987	1.0
1988	1.1
1989	1.2
1990	1.2
1991	1.2
1992	1.3
1993	1.3
1994	1.4
1995	1.6
1996	1.7
1997	1.8
1998	2.0
1999	2.1
2000	2.3
2001	2.3
2002	2.4
2003	2.5
2004	2.6
2005	2.6
2006	2.7
2007	2.9
2008	3.1
2009	3.2
2010	3.3
2011	3.5
2012	3.7
2013	3.7

\* Includes ethanol and biodiesel.

Source: BP, *Statistical Review of World Energy June 2014* (London: 2014).



### Oil Consumption in India, 1965-2013



Source: BP

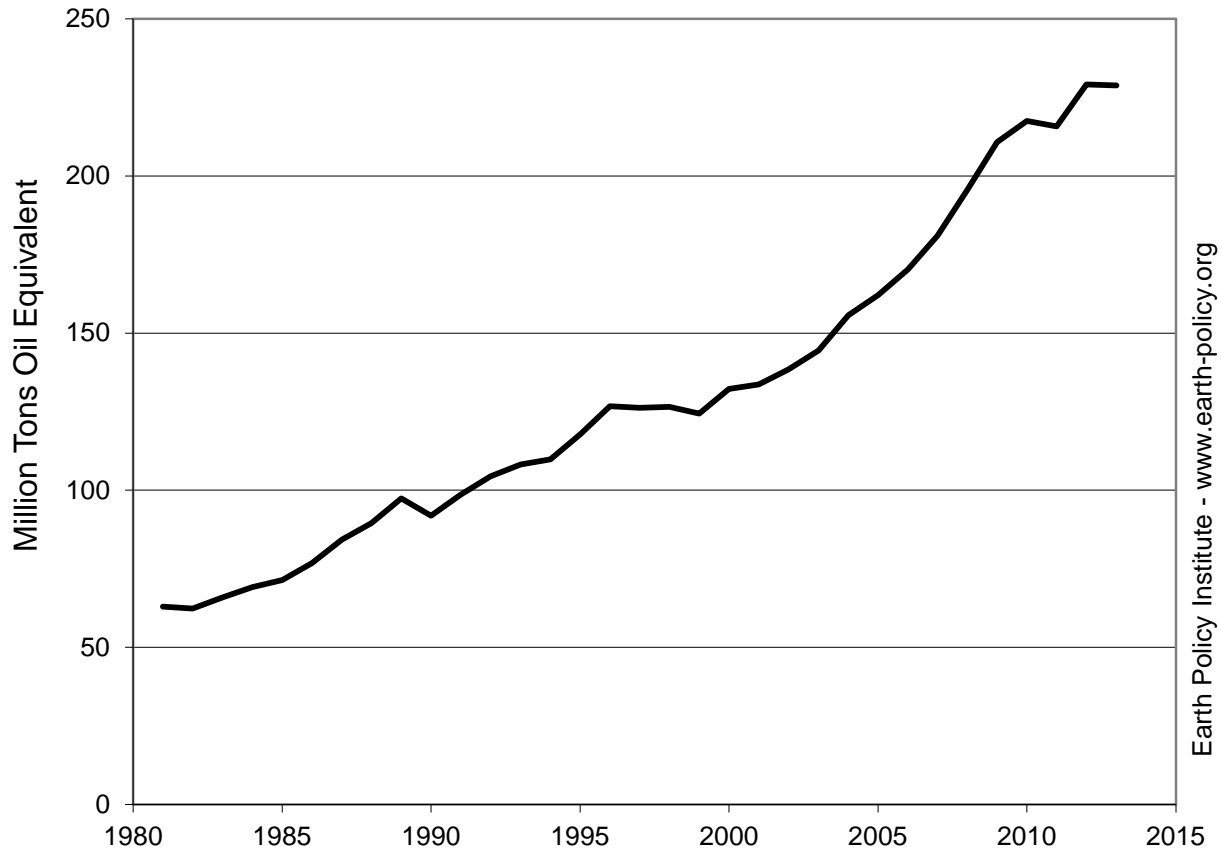
Earth Policy Institute - [www.earth-policy.org](http://www.earth-policy.org)

### Coal Production in India, 1981-2013

<u>Year</u>	<u>Production</u> Million Tons Oil Equivalent
1981	63
1982	62
1983	66
1984	69
1985	71
1986	77
1987	84
1988	90
1989	97
1990	92
1991	99
1992	104
1993	108
1994	110
1995	118
1996	127
1997	126
1998	126
1999	124
2000	132
2001	134
2002	138
2003	144
2004	156
2005	162
2006	170
2007	181
2008	196
2009	211
2010	218
2011	216
2012	229
<u>2013</u>	<u>229</u>

Source: BP, *Statistical Review of World Energy June 2014* (London: 2014).

Coal Production in India, 1981-2013



Source: BP

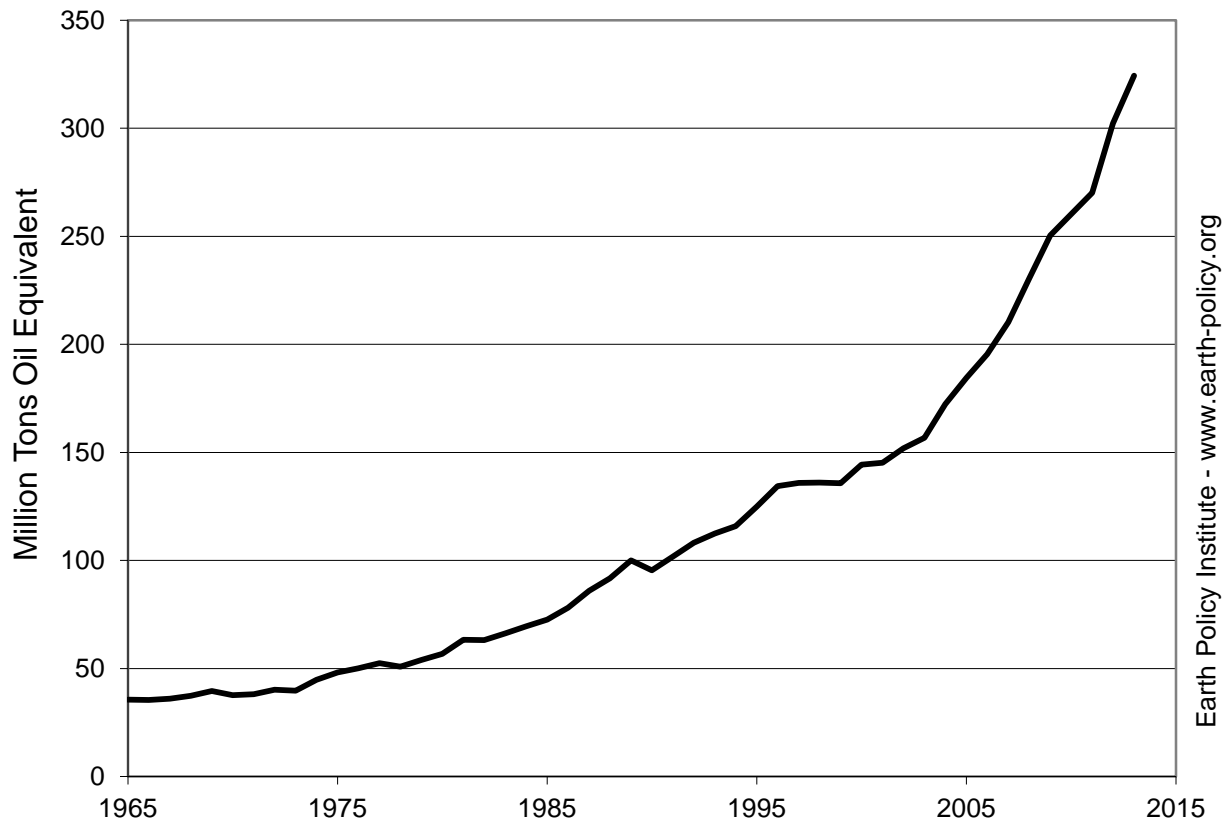
Earth Policy Institute - [www.earth-policy.org](http://www.earth-policy.org)

### Coal Consumption in India, 1965-2013

Year	Consumption	
	Quadrillion Btu	Million Tons Oil Equivalent
1965	1.4	36
1966	1.4	35
1967	1.4	36
1968	1.5	37
1969	1.6	40
1970	1.5	38
1971	1.5	38
1972	1.6	40
1973	1.6	40
1974	1.8	45
1975	1.9	48
1976	2.0	50
1977	2.1	52
1978	2.0	51
1979	2.1	54
1980	2.3	57
1981	2.5	63
1982	2.5	63
1983	2.6	66
1984	2.8	69
1985	2.9	73
1986	3.1	78
1987	3.4	86
1988	3.6	92
1989	4.0	100
1990	3.8	95
1991	4.0	102
1992	4.3	108
1993	4.5	113
1994	4.6	116
1995	5.0	125
1996	5.3	134
1997	5.4	136
1998	5.4	136
1999	5.4	136
2000	5.7	144
2001	5.8	145
2002	6.0	152
2003	6.2	157
2004	6.8	172
2005	7.3	184
2006	7.8	195
2007	8.3	210
2008	9.1	230
2009	9.9	250
2010	10.3	260
2011	10.7	270
2012	12.0	302
2013	12.9	324

Source: Compiled by Earth Policy Institute from BP, *Statistical Review of World Energy June 2014* (London: 2014); million tons oil equivalent converted to BTU using conversion factor from International Energy Agency, "Unit Converter," at [www.iea.org/stats/unit.asp](http://www.iea.org/stats/unit.asp).

# Coal Consumption in India, 1965-2013



Source: BP

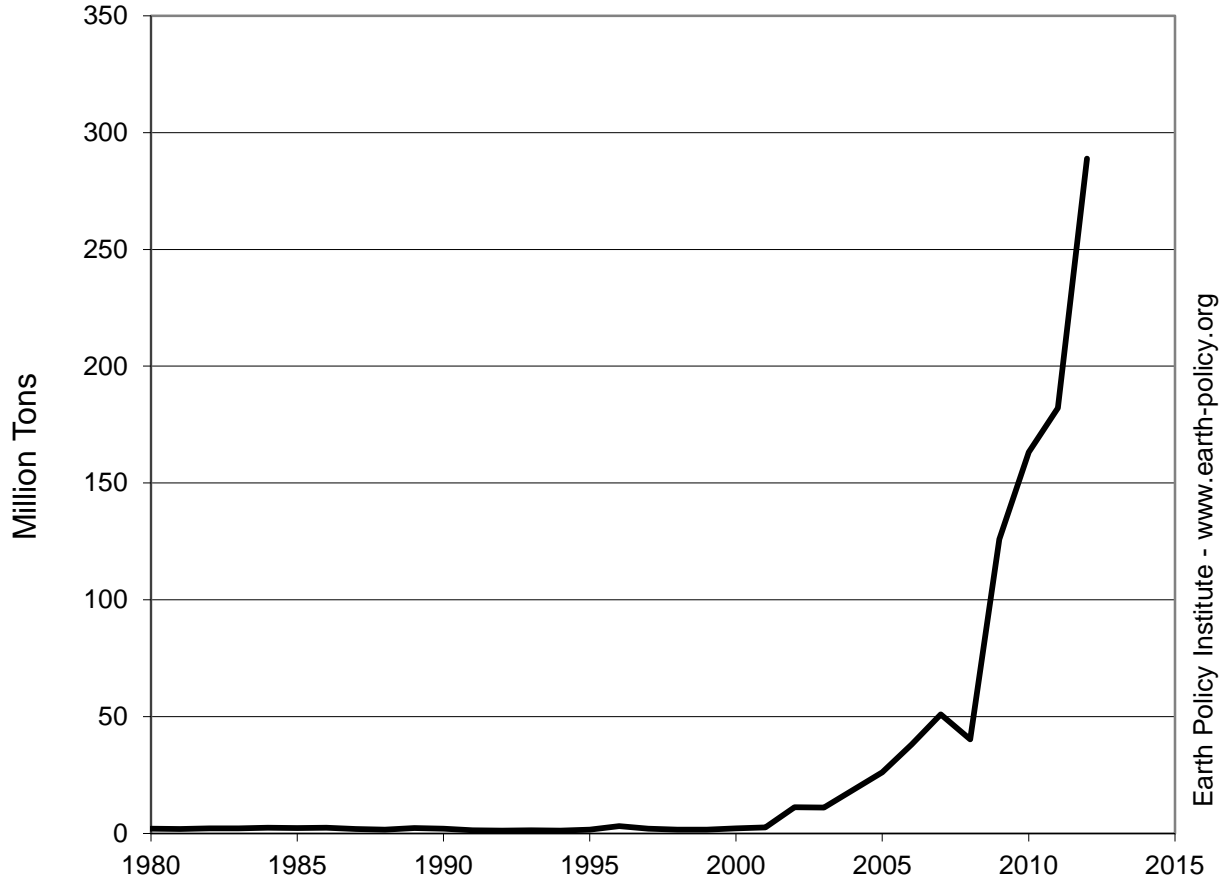
Earth Policy Institute - [www.earth-policy.org](http://www.earth-policy.org)

## Coal Imports in India, 1980-2012

Year	Imports	
	Quadrillion Btu	Million Tons
1980	0.01	0.3
1981	0.02	0.7
1982	0.03	1.4
1983	0.01	0.5
1984	0.01	0.6
1985	0.05	2.0
1986	0.05	2.1
1987	0.07	3.0
1988	0.08	3.7
1989	0.10	4.4
1990	0.11	5.1
1991	0.15	6.6
1992	0.15	6.7
1993	0.24	7.5
1994	0.36	11.2
1995	0.38	13.7
1996	0.39	14.4
1997	0.48	18.7
1998	0.47	18.1
1999	0.57	22.1
2000	0.60	23.4
2001	0.59	22.8
2002	0.66	25.5
2003	0.61	23.6
2004	0.82	31.8
2005	1.06	41.2
2006	1.23	47.8
2007	1.39	54.0
2008	1.45	56.5
2009	1.99	77.7
2010	2.10	82.0
2011	2.14	83.5
2012	2.26	88.2

Source: Compiled by Earth Policy Institute from U.S. Department of Energy, Energy Information Administration, *International Energy Statistics*, at [www.eia.gov/cfapps/ipdbproject](http://www.eia.gov/cfapps/ipdbproject), viewed 8 July 2014; short tons converted to metric tons using International Energy Agency, "Unit Converter," at [www.iea.org/statistics/resources/unitconverter](http://www.iea.org/statistics/resources/unitconverter), viewed 30 March 2015.

Coal Imports in India, 1980-2012



Source: EIA

Earth Policy Institute - [www.earth-policy.org](http://www.earth-policy.org)