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Appendix

CEN

- Nuclear power saved 1.8 million lives and save millions in the future
- Nuclear power generation 1971 to 2009 caused over 5000 deaths
- Two estimates of other power generation methods came to 1.8 million

Now-2050

- Natural gas will cause 420,000 deaths
- Coal will cause 7,000,000

Emissions 1971-2009

- 64 gigatonnes of carbon

Emissions 2009-2050

- Nuclear energy - 80-240 gigatonnes of carbon
- Coal energy - 500 gigatonnes of carbon

Next Big Future

Energy source	Death rate (deaths per TWh)	Percentage of global energy
Coal (elect, heat, cook –world)	100	26% of world energy, 50% of electricity
Coal electricity	60	26% of world energy, 50% of electricity
Oil	36	36%
Natural Gas	4	21%
Biofuel/Biomass	12	
Peat	12	
Solar (rooftop)	0.44	0.2%
Wind	0.15	1.6%
Hydro	1.4	2.2%
Nuclear	0.04	5.9%

ES&T

Year	World	OECD Europe	USA	Russia/FSU15	Japan	China	India
1971	3000	2000	2000	0	0	0	0
1975	9000	4000	2500	1000	500	0	0
1980	17000	7000	7000	2000	2000	0	0
1985	36000	10000	15000	5000	4000	0	0
1990	42000	15000	20000	6000	5000	0	0
1995	61000	17000	18000	6000	6000	1000	0
2000	69000	20000	23000	6000	6000	1000	0
2005	79000	21000	24000	6000	6000	3000	0
2009	77000	21000	22000	6000	6000	7000	0

Forbes

Energy Source	Mortality Rate (deaths/trillion kW/hr)	Percentage of global energy
Coal	100,000	(50% global electricity)
Oil	36,000	(36% of energy, 8% of electricity)
Natural Gas	4,000	(20% global electricity)
Biofuel/Biomass	24,000	(21% global energy)
Solar (rooftop)	440	(< 1% global electricity)
Wind	150	(~ 1% global electricity)
Hydro	1,400	(15% global electricity)
Nuclear	90	(17% global electricity)

Toronto Public Health

Deaths

Traffic	Residential/ Commercial	Industrial	Mobile Non-Road
280	90	120	80

Hospitalizations

Traffic	Residential/ Commercial	Industrial	Mobile Non-Road
1090	400	280	200

International Atomic Energy Agency

Cumulative prevented deaths (millions)

Historical

World	China	OECD Europe	USA	India	Russian/FSU15	Japan
1.8	0.04	0.67	0.58	0.008	0.18	0.16

2016-2050 (High-end estimate)

World	Far East	Western Europe	North America	South Asia	Eastern Europe
7	2.4	1.3	1.4	0.56	0.93

2016-2050 (Low-end estimate)

World	Far East	Western Europe	North America	South Asia	Eastern Europe
4.4	1.5	0.75	1.1	0.25	0.66

Cumulative prevented GHG emissions

Historical

World	China	OECD Europe	USA	India	Russian/FSU15	Japan
64	0.54	23	20	0.3	6.1	6.2

2016-2050 (High-end estimate)

World	Far East	Western Europe	North America	South Asia	Eastern Europe
240	82	44	48	19	32

2016-2050 (Low-end estimate)

World	Far East	Western Europe	North America	South Asia	Eastern Europe
82	51	26	37	9	23

2012

Energy source	Deaths per trillion kWh	Percentage power
Coal	100,000	50%
Oil	36,000	36%
Natural Gas	4,000	20%
Biofuel/biomass	24,000	21%
Solar (rooftop)	440	<1%
Wind	150	~1%
Hydro	1,400	15%
Nuclear	90	17%

Nuclear Power? Yes Please

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