

Information from GOOGLE

Electricity Generated by Nuclear Reactors

Countries	nos. reactors	(GWh)	Share of total consumption
1. USA	98	809,359	23.9%
2. France	58	382,403	70.6%
3. China	48	330,122	4.9%
4. Russia	39	195,535	19.7%
5. Japan	38	65,682	7.5%
6. S. Korea	25	138,809	26.2%
7. India	22	40,740	3.2%
8. Canada	19	94,854	14.9%
⋮	⋮	⋮	⋮
Total: 2560 TWh			

1 kg of Uranium-235

can generate 49,600 kWh

$$\text{Therefore, } \frac{2560 \times 10^{12}}{49600 \times 10^3} = 51612 \text{ tonnes}$$

$$\text{At this rate, } \frac{7,641,600}{51612} = 148 \text{ years}$$

Power Consumption

Countries	(TWh)
1. China	6,230
2. USA	3,953
3. India	1,227
4. Japan	960
5. Russia	918
6. S. Korea	560
7. Canada	543
⋮	⋮
Total: 22350 TWh (2017)	

Uranium Reserves (2015)

Countries	(tonnes)
1. Australia	1,780,800
2. Kazakhstan	941,600
3. Canada	703,600
4. Namibia	463,000
5. South Africa	449,300
6. Niger	411,300
7. Russia	395,200
8. China	272,500
⋮	⋮
Total: 7,641,600 tonnes	

At current rate of usage, reserve can last:-

$$\begin{aligned} \text{China: } & 6230 \text{ TWh} \times \underline{4.9\%} = 309 \text{ TWh} \\ & \frac{309 \times 10^{12} \text{ Wh}}{49600 \times 10^3 \text{ Wh/kg}} \times \frac{1 \text{ ton}}{1000 \text{ kg}} = 6230 \text{ tonnes} \\ & \frac{272500 \text{ t}}{6230 \text{ t/year}} = 43 \text{ years Ans.} \end{aligned}$$

$$\begin{aligned} \text{Russia: } & 918 \text{ TWh} \times \underline{19.7\%} = 180 \text{ TWh} \\ & \frac{180 \times 10^{12} \text{ Wh}}{49600 \times 10^3 \text{ Wh/kg}} = 3630 \text{ tonnes} \\ & \frac{395200 \text{ t}}{3630 \text{ t/year}} = 108 \text{ years Ans.} \end{aligned}$$