

Comparison of Countries' Maximum-Possible Oil Extraction

United States, Russia, Saudi Arabia, Canada, Iran and Brazil

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This is a comparison of the protected extraction of oil in six major countries assuming that they all continue their increasing extraction in a symmetric peak and then extraction declines at the same rate as it increased. Of course, that probably will not be the case, especially for Iran because of sanctions against it, and possibly for Saudi Arabia because of terrorism and unrest.

Because of increasing social interest in curbing global warming the peaks may be truncated in most or all of the six countries.

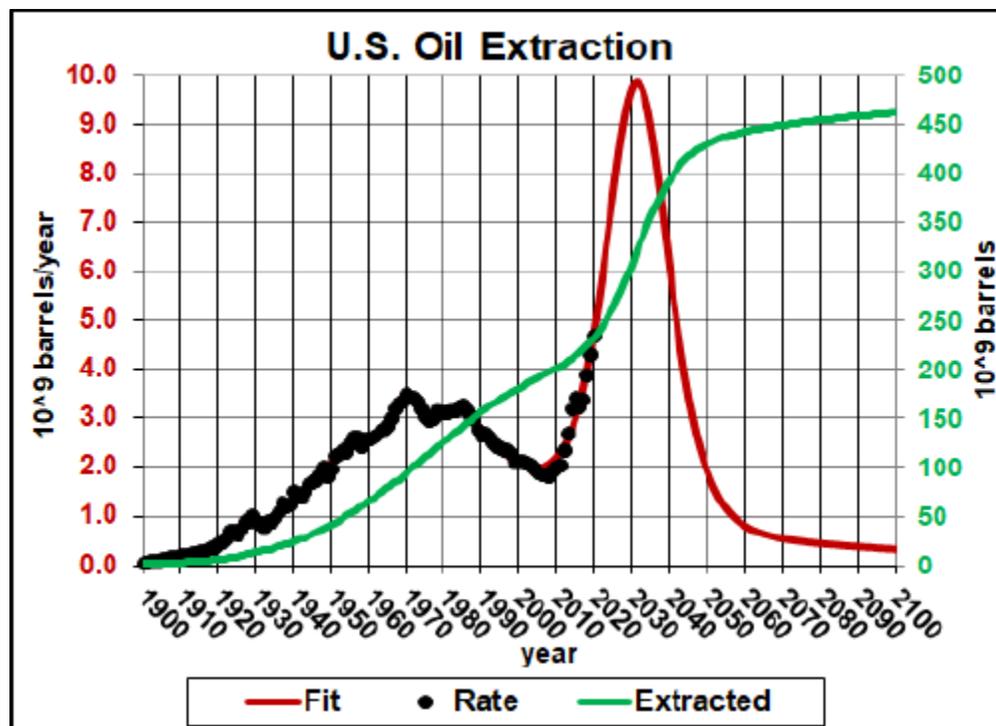
Maximum Recoverable Oil Resources

Country	United States	Russia	Saudi Arabia	Canada	Iran	Brazil
Billion Barrels	264	256	212	167	143	120

“Ranking nations by the most likely estimate for existing fields, discoveries and **as-of-yet undiscovered** fields (proved, probable, possible and **undiscovered**).” Using these numbers for “reserves” gives the most optimistic future extraction possible. For the world the resources number is 2092. The six countries listed above are 55.54% of the world total.

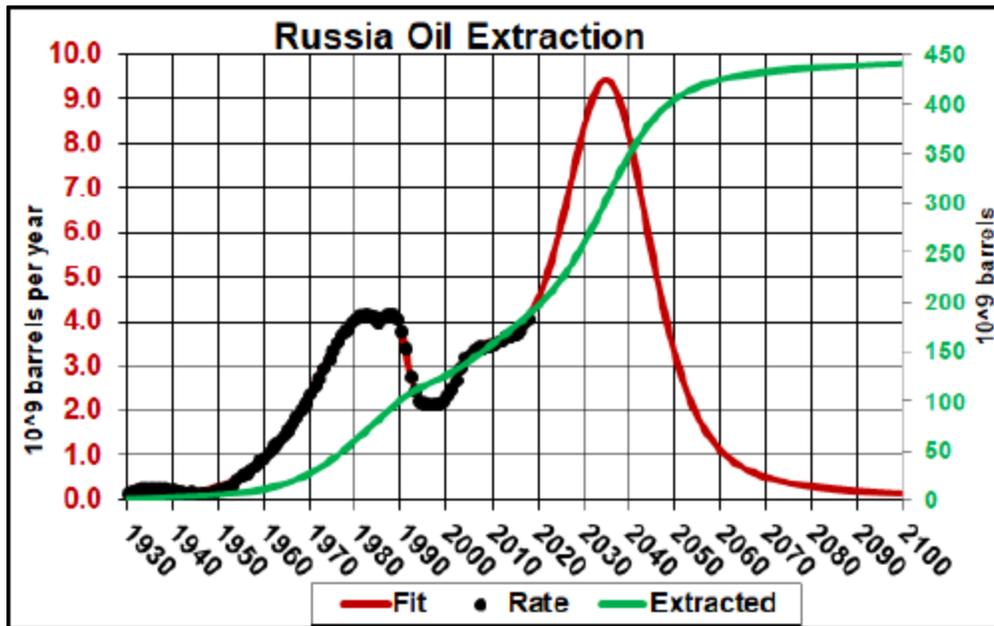
Fits to the extraction data

The fits are done using a series of [Verhulst functions](#).

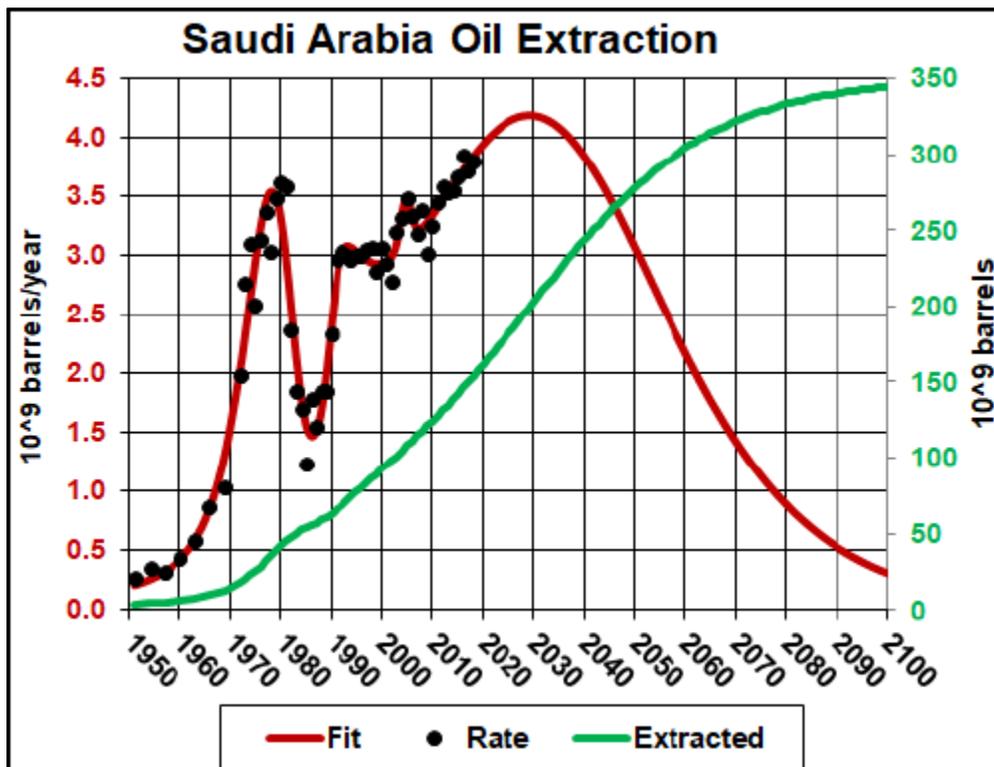


[Projections “data” for 2019 and 2020 are included.](#)

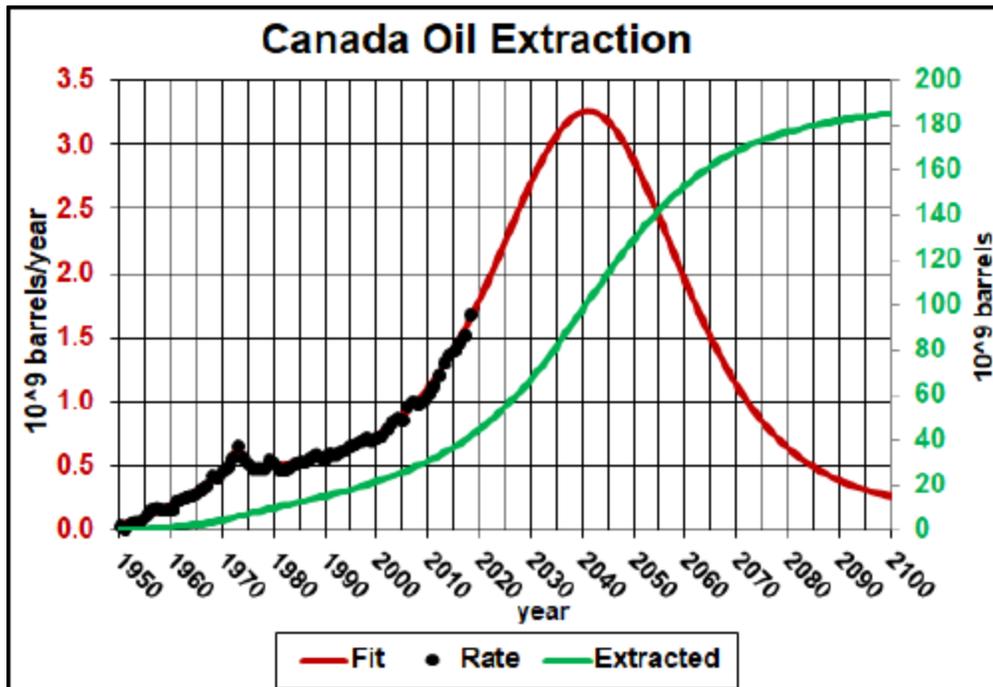
The future peak is almost entirely due to [fracking](#) of oil wells. The maximum extraction will decline in about a decade.



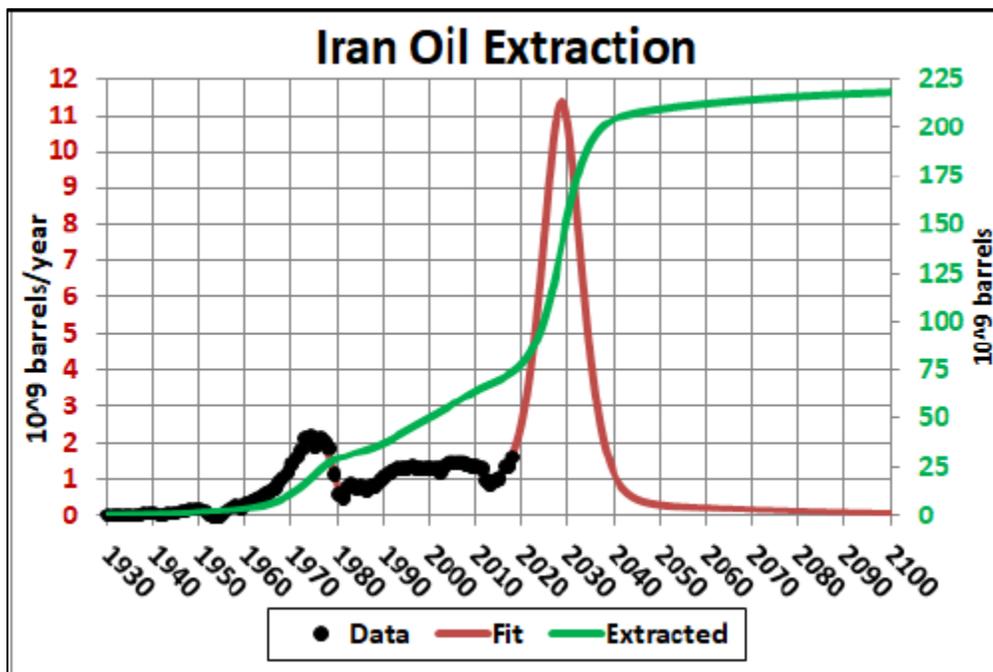
<https://thehill.com/policy/energy-environment/423476-russian-oil-output-hit-record-high-in-2018>



<https://www.forbes.com/sites/ellenwald/2019/01/09/why-it-matters-how-much-oil-saudi-arabia-has/#26fa5e5d5137>

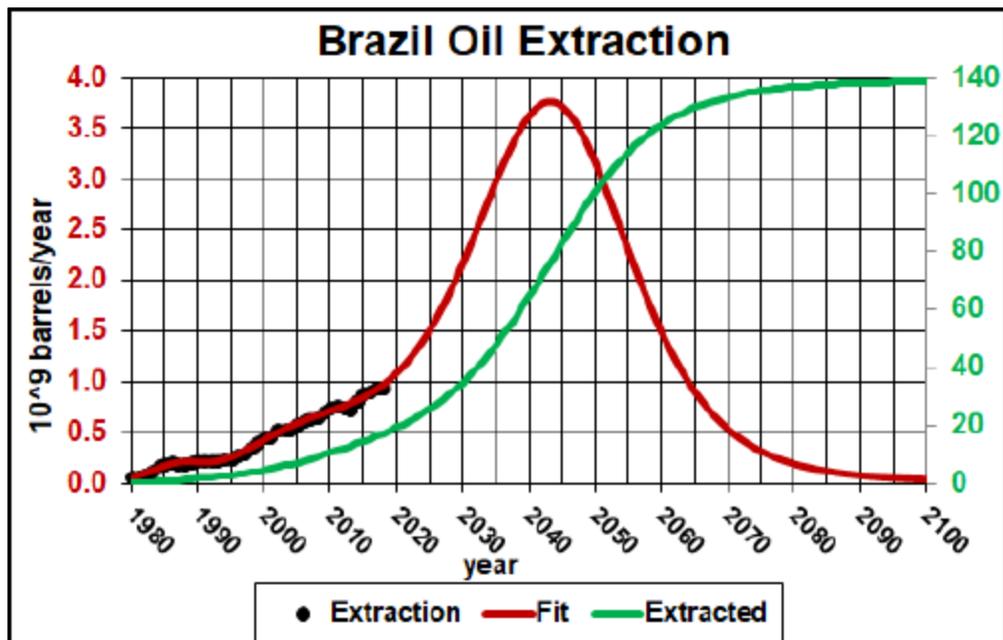


<https://www.nrcan.gc.ca/crude-oil-facts/20064>



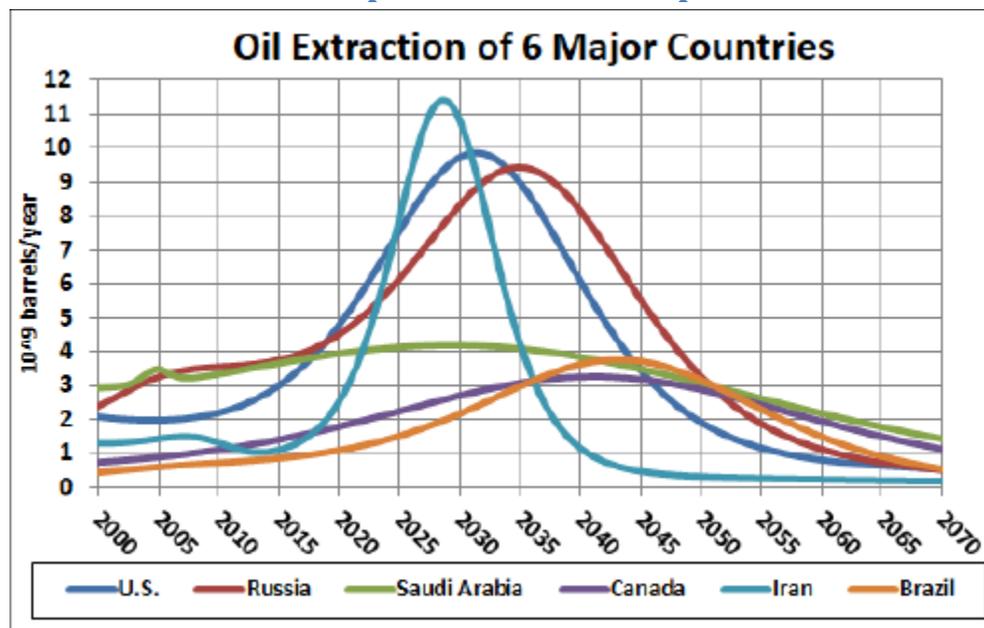
<https://www.eia.gov/beta/international/country.php?iso=IRN>

Of course, such a smooth future peak will depend on whether Iran becomes politically stable.



<https://www.ceicdata.com/en/indicator/brazil/crude-oil-production>

Comparison of countries' maximum-possible extraction peaks

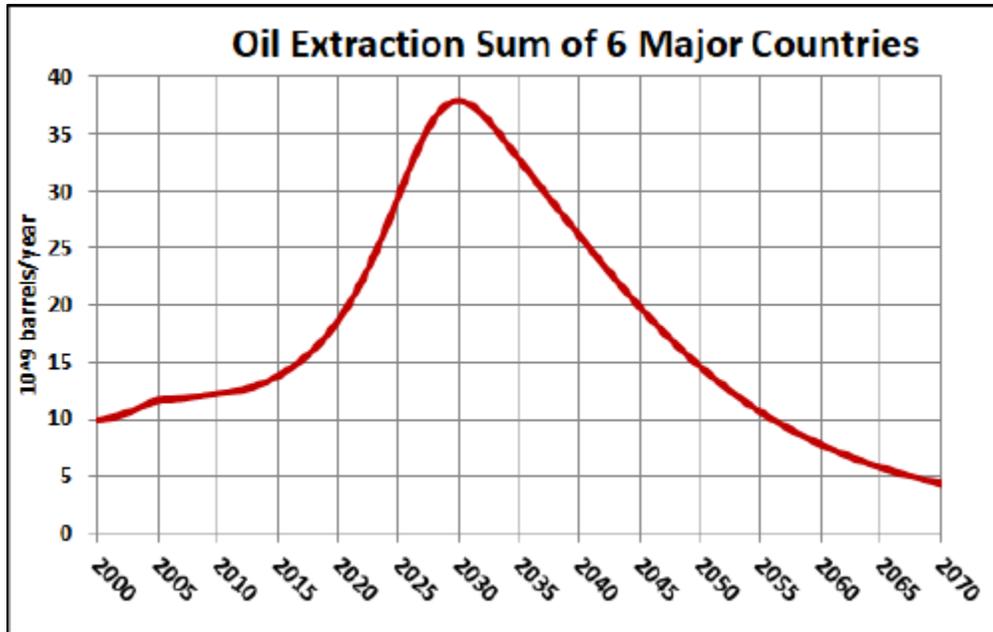


Country	Iran	Saudi Arabia	United States	Russia	Canada	Brazil
Peak Year	2029	2030	2031	2035	2041	2043

Of course, if there is only one future peak for a country, it may not be symmetric; one could argue that the peak would be skewed toward the future as a country tries to keep extracting more difficult-to-extract oil or that it would be skewed toward the past as social restrictions are put on extraction because of global warming and/or plastic pollution.

Of course, there may be more than one future peak for a country due to physical and social factors.

Here is the sum of maximum-possible extraction for all 6 countries:



When world oil-extraction data are fitted with 3000-billion-barrels resources and a symmetrical peak, the curve is broader requiring a somewhat smaller peak:

