



### Cell: 19

### nt: Rick Heede:

NIOC at a Glance Since 1951, National Iranian Oil Company (NIOC) has been directing and making policies for exploration, drilling, production, research and development, refining, distribution and export of oil, gas, petroleum products NIOC, with a vast amount of oil and gas resources, is one of the world's largest oil companies. At the present time, it is estimated that the company holds 137 billion barrels of liquid hydrocarbons and 29 trillion cubic meters of nature.

## Cell: M9

## ent: Rick Heede

World Bank, 2008b, page 436: "The National Iranian Oil Company is the only NOC operating in the upstream petroleum sector under the responsibility of the Ministry of Petroleum." 100 percent government owned. World Bank (2008b) A Citizen's Guide to National Oil Companies, Part B: Data Directory, World Bank, Washington, & Center for Energy Economics, Bureau of Economic Geology Jackson School of Geosciences University of Texas, Austin, 764 pp.

### Cell: D11

## nent: Rick Heede:

On this worksheet we report extractive data for each company or state-owned enterprise. Three columns under crude oil and natural gas allow for data reported in one of three formats (e.g., thousand barrels per day, or million barrels per year, or million tonnes per year). Coal is normally reported in U.S. or metric tonnes per year.

Note: the carbon content of the extracted resources is adjusted by a number of factors before emissions estimates are made in the worksheet 1 to the left. Most important is the subtraction of the fraction typically sequestered in petrochemicals and other noncombusted uses such as road oils, waxes, lubricants, greases, etc. See the comment for each extracted resource for detailed discussions of the combusted vs sequestered fractions

### Cell: D12

### Comment: Rick Heede:

NIOC is 100% state-owned, and we assume that all Iranian oil and gas production is attributable to NIOC.

## Comment: Rick Heede:

Natural gas is typically reported as dry gas; natural gas liquids are reported under crude oil.

Carbon dioxide is normally removed from the gas flow at the production site (see "Vented Carbon Dioxide"). 
"SCM/d" = standard cubic meters per day. "cf/d" = cubic feet per day.

# Cell: F18

### ment: Rick Heede:

We assume that the production reported by Iranian E&P Company (see column L) represents total production in Iran, not the proportion attributable to the government as royalty production. Therefore we attribute 10 percent of Iranian production as royalty production by the Anglo-Persian Oil Company (later British Petroleum); we do not, however, have data on the royalty percentage or details on the crude oil provided the host government.

However, Iranian Exploration and Production Company is a different entity from the Anglo-Persian Oil Company of the train the production reports cited at right.

We attribute 100 percent of the nationalized production, starting in May 1951, to the newly-established NIOC, until 1954 when the Iranian Oil Participants Ltd (IOP) agreement, in which a fifty-fifty split was negotiated. NIOC or energy historians may revise this

allocation with new information on the production-sharing elements of the agreement; we have found no data on the proportion attributable to NIOC (the fifty-fifty is a profit-sharing agreement).

The founding members of IOP included British Petroleum (40%), Gulf (8%), Royal Dutch Shell (14%), and Compagnie Franaise des Pêtroles (later Total S.A., 6%). The four Aramco partners - Standard Oil of California (SoCal, later Chevron) - Standard Oil of New Jersey (later Exuson, then ExxonMobil) - Standard Oil Co. of New York (later Mobil) - Texaso (later Chevron) - each held a 8% stake in the holding company. Wikipedia, viewed March 2013.

NIOC took possession of IOP production in 1974 (see note at 866), and we allocate 10 percent of Iranian oil production to NIOC as of 1974.

## Cell: M18

Comment: Rick Heede: 1 long ton = 1.016054 tonne; 1 tonne = 7.33 bbl.

## Cell: L20

# nent: Rick Heede

Itanian Oil Exploration and Producing Company & Iranian Oil Refining Company, Review of 1959, p. 14-15, shows annual crude oil production annually from 1928 to 1959, in million long tons per year.

### Cell: B24 Comment: Rick Heede:

"In 1932 the government of Iran, led by Reza Khan Shah — unilaterally cancelled its contracts with all foreign companies." "A hear later, the Iranian government neogitated a new contract ... with the newly minted Anglo-Persian Oil Company." (Anglo-Iranian Oil Company as of 1935; the future British Petroleum, now BP.) Mahdavi, 2012, page 240.

Mahdavi, Paasha (2012) "Oil, monarchy, revolution, and theocracy: a study on the National Iranian Oil Company (NIOC), in Victor et al, eds, Oil and Governance, pp. 234-279, Cambridge Univ. Press, 1034 pp.

Also see Yergin, 1991, The Prize, pp. 269-271.

# Cell: E43

"Iran withdrew from from the final negotiations on "participation" on the grounds that it already "owned" the operating company following the 1951 nationalization." Stevens, 2012, page 181.

Sevens, Paul (2012) "Saudi Aramoo: the jewel in the crown," in Victor et al, eds, oil and Governance, p. 173-233, Cambridge Univ. Press, 1034 pp.

Mossadea, the new Prime Minister, succeeded in canceling Anglo-Iranian Oil Company's (AIOC, later BP) "prior oil concession and fully expropriated its assets. Thus, NIOC came to be nationalized, for the sake of creating revenue for the government and protecting Iran's oil from foreign development." Mahdavi, 2012, page 241.

Mahdavi, Paasha (2012) "Oil, monarchy, revolution, and theocracy: a study on the National Iranian Oil Company (NIOC), in Victor et al, eds, Oil and Governance, pp. 234-279, Cambridge Univ. Press, 1034 pp.

CMS thus attributes 67 percent (May-Dec 1951) of 1951 to NIOC, and 100 percent thereafter.

# Cell: J43

# Comment: Rick Heede

See, for example, www.iranchamber.com/history/oil\_nationalization/oil\_nationalization.php

# Cell: G46

# nment: Rick Heede:

While ownership over Iranian production is far less than crystal clear -- see cell note at B-66 -- CMS assumes 60 percent allocation to NIOC from 1954 to 1973, and 100 percent from 1974-2010. This may be revised if NIOC provides data on their equity production 1951-forward.

## Cally D50

## Comment: Rick Heede:

U.S. Bureau of Mines, Minerals Yearbook 1970, page 764, gross and marketed production 1968-1970.

## Cell: D52

# nent: Rick Heede:

Energy Information Administration International Energy Annual 2003, Table G.1 World Production of Crude Oil, NGPL, and Other Liquids, 1980-2003. Also: Oil production data from EIA (2004) Annual Energy Review 2003, Table 11.5.

## Cell: 1.52 nent: Rick Heede:

Iranian Oil Operating Companies, Annual Review for years 1960 through 1972, crude oil production tables. No mention is made of natural gas production (albeit, CMS has partial copies of each year's report). Annual report courtesy of University of Exeter's Arab World Documentation Unit, www.ex.ac.uk/awdu

# Cell: 163

## Comment: Rick Heede

U.S. Bureau of Mines, Minerals Yearbook 1972, page 846, gross and marketed production 1970.

# Cell: 164

Imment: Rick Heede:
U.S. Bureau of Mines Minerals Yearbook 1974, page 887, reports both gross and marketed production for 1972-1973.

### Cell: B66 nt: Rick Heede

# The proportion of Iranian oil production "owned" by NIOC, whether through concessions, royalties, shared productin contracts, and similar joint (or sole) ventures, is not clear from 1954 (the Shah was restored to power in 1953); the Majlis approved the creation of an international consortium in 1954 "to explore, produce, refine, and distribute Iranian oil." Consortium included members of the Seven Sisters (Gulf, Exxon, Texaco, Chevron, Shell, Mobil, and BP, plus CFP at 6 percent [now Total]) write Consortium entered a fifty-fifty contract to split profits from the sale of oil with NIOC." "The nationalization process in 1951 actually allocated reserve rights to NIOC allone whereare the consortium was granted exploration and production rights but not full ownership." All quotes above from Mahdavi, 2012, pages 241-242.

"Only in 1974 did NIOC gain monopoly control over exploration, production, and operations of Iranian oil fields." Mahdavi, page 242.
Mahdavi, Paasha (2012) "Oil, monarchy, revolution, and theocracy: a study on the National Iranian Oil Company (NIOC), in Victor et al, eds, Oil and Governance, pp. 234-279, Cambridge Univ. Press, 1034 pp.

# Cell: 166

## ent: Rick Heede:

U.S. Bureau of Mines Minerals Yearbook 1976, page 887, reports both gross and marketed production for 1974-1976.

# Cell: L79

## Comment: Rick Heede:

Oil & Gas Journal, various years

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Oil & Gas Journal, various years,

## Cell: M92 Comment: Rick Heede:

OGJ100 Sep2002 table shows a large discrepancy in gas production: 10.541 Bcf in 2000. 11.01 Bcf in 2001 (vs the data from EIA showing 2.130 and 2.330 BCF, respectively,

Cell: L101

Comment: Rick Heede: OGJ100 6Sep2010 pg 69

Cell: M101

Comment: Rick Heede: OGJ100 6Sep2010 pg 69

Cell: L103

Comment: Rick Heede:
Oil & Gas Journal OGJ100, Sep13 and Sep14.

Cell: L106

ent: Rick Heede:

Oil & Gas Journal, 5Sep12016, OGJ100, National Iranian Oil Co. data for worldwide production of oil and gas, 2014 and 2015.

Cell: L108

Oil & Gas Journal, OGJ100, 3 September 2018, page 45. Shows oil and gas production for 2016 and 2017.

Cell: D116

Comment: Rick Heede:

NIOC Annual Report 2017 Scant production data

Trans oil production, along with gas condensate, reached 4.6 million barrels per day in 2016, which represents an increase of 703,000 barrels per day or 18 percent of Iran's oil production compared to 2015.

"The National Iranian Oil Company, in its 5th Development Plan, aims to increase its daily oil production capacity to 4.7 million barrels, with a daily gas production capacity of 1.3 billion cubic meters, and a capacity to produce liquids and gas condensates of 1.1 million barrels per day.

Cell: M133

Tanaka, Kiokirio (2007) "Upstream Development Strategy of the National Iranian Oil Company (NIOC)," Director JIME Center Institute of Energy Economics, Japan, in: The Changing Role of National Oil Companies in International Energy Markets, James Baker III Institute for Public Policy, Rice University, 1 March 2007.

Cell: B194

NIOC Oil & Gas Production (http://en.nioc.ir/Portal/Home/Default.aspx?CategoryID=95949051-0d6f-4ca9-be99-45b894630ca5&TabNo=3): Operations / Exploration & Production)
NIOC has successfully increased its production capacity of crude oil to 4.335 million barrels per day from March 2007 to March 2008, compared with 4.275 million barrels per day in the same period last year. This was achieved by implementation of development

NIOC has successfully increased its production capacity of crude oil to 4.335 million barrels per day from March 2007 to March 2008, compared with 4.275 million barrels per day in the same period last year. This was achieved by implementation of development projects of offshore and onshore oilfields through buyback or its natural resources.
6.1. Production of crude oil and NGL was 4.093 million barrels per day from March 2007 to March 2007 to March 2007 to March 2008 was 505.8 million cubic meters per day, having increased by 9 percent compared with the last year, which was 464/2 million cubic meters. Additionally, the average production of gas condensates reached 40.99.9 thousand barrels per day, having increased by 9 percent in comparison with last year, which was 383.4 thousand barrels.
6.3. 53 percent of hydrocarbons production from March 2007 to March 2008 was in the form of liquid hydrocarbon and 43.7 percent was in form of natural gas, which shows a 4.7 percent increase in gas proportion in production of hydrocarbons in comparison with the last year. Long-term trends in crude oil production reveal a cumulative crude oil production eved a cumulative crude oil production and a cumulative crude oil production eved a cumulative crude oil production was near 2.394 million barrels, while it has been increased to 3.318 million barrels per day over the 30 years after the Islamic Revolution. Another key role that crude oil production was near 2.394 million barrels per day over the 30 years after the Islamic Revolution. Another key role that crude oil production even a cumulative crude oil pro

Cell: B197

ww.en.nioc.ir / Publications / Fact Book:

Having 10% and 18% of the world's oil and gas reserves respectively, Iran was the Opec's second largest oil producer in the Iranian year (ending late March 2008). The country also enjoys an outstanding status in meeting the world's energy demands with a

production capacity of over 4 million barrels of crude oil per day. It is expected that fran will supply over 12% of the world's hydrocarbon productions by the next 20 years.

Possessing huge reserves of hydrocarbons, National Iranian Oil Company (NIOC) is considered as one of the world's giant oil companies. For the time being the in place oil and gas of the company are estimated over 137 billion barrels of crude oil and 28 trillion cubic meters of gas. National franian Oil Company (NIOC) managed to increase 2,840 million barrels of crude oil, 1,045 billion cubic meters of gas, and 898 million barrels of NGL and condensates to the country's in place reserves by developing its explorations of 5 oil and gas fields in the year ending late March 2008.

Cell: B200

NICK Heebee: NICK Carried out the drilling operation is a basic and essential activity in National Iranian Oil Company (NICC). In the Iranian year ending late March 2008, NICC carried out the drilling operations of 7 wells and testing 6 exploratory wells, and started drilling 5 new exploratory wells using 6.64 drilling rigs. The overall expected + producible in place reserves was 2,841 million barrels of roude oil, 898 million barrels of NGL and condensates, and 1,045 billion cubic meters of dry gas. This amount was explored in the year ending late March 2008. A comparison of exploration with production of hydrocarbon from 21 March 2007 to 21 March 2008. The total amount of hydrocarbon production (oil, NGL, gas, and condensates) was 2,809.24 million barrels. The total amount of explored producible hydrocarbon (oil, NGL, gas, and condensates) was 5,553.3 million barrels

Cell: B203

ment: Rick Heede:

Our Operations: Crude Oil

Long-term trends in crude oil production reveal a cumulative crude oil production equal to 2.25 billion barrels over the 30 years before the Islamic Revolution. This value increased to 36.5 billion barrels over the 30 years after the Islamic Revolution. Furthermore, average daily crude oil production was near 2.394 million barrels, while it has been increased to 3.318 million barrels per day over the 30 years after the Islamic Revolution