

# Oil and natural gas extraction data

Richard Heede  
 Climate Accountability Institute  
 File started: 11 January 2005  
 Last modified: January 2020

Copyright Climate Accountability Institute

## Canadian Natural Resources, Canada

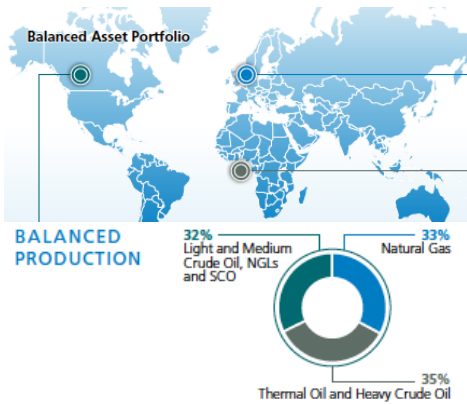
www.cnrl.com Calgary

yellow column indicates original reported units Investor-owned

### Production / Extraction data

| Year | Crude Oil & NGL |                 |                | Natural Gas    |                |                |
|------|-----------------|-----------------|----------------|----------------|----------------|----------------|
|      | Net production  | Net production  | Net production | Net production | Net production | Net production |
|      | Thousand bbl /d | Million bbl /yr |                | Million cf/d   |                | Billion cf/yr  |

- 15
- 16
- 17
- 18
- 19
- 20
- 21
- 22
- 23
- 24
- 25
- 26
- 27
- 28
- 29
- 30
- 31
- 32
- 33
- 34
- 35
- 36
- 37
- 38
- 39
- 40
- 41
- 42
- 43
- 44
- 45
- 46
- 47
- 48
- 49
- 50
- 51
- 52
- 53
- 54
- 55
- 56
- 57
- 58
- 59
- 60
- 61
- 62
- 63
- 64
- 65
- 66
- 67
- 68
- 69
- 70
- 71
- 72
- 73
- 74
- 75
- 76
- 77
- 78
- 79
- 80
- 81
- 82
- 83
- 84
- 85
- 86
- 87



Canadian Natural Resources Annual Report 2010, page 3.

|  | 2018         | 2017         | 2016         |
|--|--------------|--------------|--------------|
| <b>OPERATING</b>   |              |              |              |
| Daily production, before royalties                       |              |              |              |
| Crude oil and NGLs (Mbbbl/d)                             |              |              |              |
| North America – excluding Oil Sands Mining and Upgrading | 351          | 360          | 351          |
| North America – Oil Sands Mining and Upgrading           | 426          | 282          | 123          |
| North Sea  | 24           | 23           | 24           |
| Offshore Africa  | 20           | 20           | 26           |
|  | <b>821</b>   | <b>685</b>   | <b>524</b>   |
| Natural gas (MMcf/d)                                     |              |              |              |
| North America  | 1,490        | 1,601        | 1,622        |
| North Sea  | 32           | 39           | 38           |
| Offshore Africa  | 26           | 22           | 31           |
|  | <b>1,548</b> | <b>1,662</b> | <b>1,691</b> |
| Barrels of oil equivalent (MBOE/d)**                     | <b>1,079</b> | <b>962</b>   | <b>806</b>   |

Canadian Natural Resources Annual Report 2017, page 2

|      |              |       |               |             |       |
|------|--------------|-------|---------------|-------------|-------|
| 1990 | 1.4          | 0.3   | 0.281         | 3.780       | 3.8   |
| 1991 |              | 1.2   | interpolate   | interpolate | 20.4  |
| 1992 |              | 2.0   | interpolate   | interpolate | 36.9  |
| 1993 |              | 2.9   | interpolate   | interpolate | 53.5  |
| 1994 |              | 3.8   | interpolate   | interpolate | 70.1  |
| 1995 | OGJ100       | 4.7   |               | OGJ100      | 86.7  |
| 1996 |              | 6.2   |               |             | 111.2 |
| 1997 |              | 13.7  |               |             | 182.7 |
| 1998 |              | 25.8  |               |             | 228.3 |
| 1999 | gross prod'n | 27.7  |               |             | 245.5 |
| 2000 |              | 31.7  |               |             | 263.2 |
| 2001 | 174          | 63.5  |               | 794         | 289.8 |
| 2002 | 206          | 75.2  |               | 918         | 335.1 |
| 2003 | 215          | 78.5  |               | 1,232       | 449.7 |
| 2004 | 242          | 88.3  |               | 1,299       | 474.1 |
| 2005 | 283          | 103.3 |               | 1,388       | 506.6 |
| 2006 | 313          | 114.2 |               | 1,439       | 525.2 |
| 2007 | 332          | 121.2 |               | 1,492       | 544.6 |
| 2008 | 331          | 120.8 |               | 1,668       | 608.8 |
| 2009 | 316          | 115.3 |               | 1,495       | 545.7 |
| 2010 | 355          | 129.6 |               | 1,315       | 480.0 |
| 2011 | 425          | 155.1 |               | 1,243       | 453.7 |
| 2012 | 329          | 120.1 | 142.0         | 1,209       | 441.3 |
| 2013 | 389          | 142.0 | 141.9         | 1,190       | 434.4 |
| 2014 | 478          | 174.5 | 151.0         | 1,158       | 422.7 |
| 2015 | 531          | 193.8 | OGJ100, mmbbl | 1,555       | 567.6 |
| 2016 | 564          | 205.9 |               | 1,726       | 630.0 |
| 2017 | 524          | 191.3 |               | 1,691       | 617.2 |
| 2018 | 685          | 250.0 |               | 1,662       | 606.6 |
|      | 821          | 299.7 |               | 1,548       | 565.0 |

#### Analysis of Daily Production, Net of Royalties

|  | 2013           | 2012           | 2011           |
|--|----------------|----------------|----------------|
| <b>Crude oil and NGLs (BOE/d)</b>              |                |                |                |
| North America – Exploration and Production     | 287,428        | 273,374        | 240,006        |
| North America – Oil Sands Mining and Upgrading | 95,098         | 82,171         | 38,721         |
| North Sea                                      | 18,279         | 19,772         | 29,919         |
| Offshore Africa                                | 12,973         | 13,628         | 20,532         |
|  | <b>413,778</b> | <b>388,945</b> | <b>329,178</b> |
| <b>Natural gas (MMBOE/d)</b>                   |                |                |                |
| North America                                  | 1,080          | 1,171          | 1,186          |
| North Sea                                      | 4              | 2              | 7              |
| Offshore Africa                                | 20             | 17             | 16             |
|  | <b>1,104</b>   | <b>1,190</b>   | <b>1,209</b>   |
| <b>Total barrels of oil equivalent (BOE/d)</b> | <b>597,835</b> | <b>587,246</b> | <b>530,576</b> |

The Company's business approach is to maintain large project inventories and production diversification among each of the commodities it produces, namely light and medium crude oil and NGLs, primary heavy crude oil, Pelican Lake heavy crude oil, bitumen (thermal oil), SCO and natural gas.

Total 2013 production averaged 671,162 BOE/d, a 3% increase from 654,665 BOE/d in 2012 (2011 – 598,526 BOE/d).

Total production of crude oil and NGLs before royalties increased 6% to 478,240 bbl/d for 2013 from 451,378 bbl/d in 2012 (2011 – 389,053 bbl/d). The increase in crude oil and NGLs production from 2012 was primarily due to strong production in Horizon and Pelican Lake and the impact of the drilling program. Crude oil and NGLs production for 2013 was slightly below the Company's previously issued guidance of 482,000 to 513,000 bbl/d.

Canadian Natural | 2013 Annual Report | 27

Canadian Natural Ann Rpt 2013, page 27.

|             |
|-------------|
| 458.8       |
| 434.4       |
| 422.7       |
| OGJ100, Bcf |

|              |    |       |   |    |    |        |    |    |
|--------------|----|-------|---|----|----|--------|----|----|
| <b>Total</b> | na | 2,862 | 0 | na | na | 10,800 | na | na |
|--------------|----|-------|---|----|----|--------|----|----|

**Cell:** I9**Comment:** Rick Heede:

Canadian Natural is one of the largest independent crude oil and natural gas producers in the world. The Company continually targets cost effective alternatives to develop our portfolio of projects and to deliver our defined growth plan, thereby creating value for shareholders. We have an effective and efficient, diversified combination of assets in North America, the North Sea and Offshore Africa, which enables us to generate significant value, even in challenging economic environments. Our balanced mix of natural gas, light oil, heavy oil, in situ oil sands production, oil sands mining and associated upgrading facilities, represents one of the strongest and most diverse asset portfolios of any energy producer in the world. [www.cnrl.com/about-cnq/corporate-profile.html](http://www.cnrl.com/about-cnq/corporate-profile.html)

In 1989, Canadian Natural was an oil and natural gas company operating only in Alberta which employed 9 people, produced about 1,400 barrels (220 m3) of oil equivalent per day and had a market capitalization of about \$1 million. Through growth and acquisitions, it has grown to approximately 5000 employees, production of over 565,000 barrels (89,800 m3) of oil equivalent per day and a market capitalization of approximately \$40 billion. wikipedia.

**Cell:** D55**Comment:** Rick Heede:

"In 1989, Canadian Natural was an oil and natural gas company operating only in Alberta which employed 9 people, and produced about 1,400 barrels of oil equivalent per day." ([www.cnrl.com/history](http://www.cnrl.com/history)). Assuming 55 percent of total production was crude oil & NGLs (as it is in 2004), and 45 percent is natural gas (at 6,000 cf per bbl), we estimate production in 1989, and interpolate between 1989 and 1994.

**Cell:** E60**Comment:** Rick Heede (Dec09):

Oil & Gas Journal, various years, OGJ100. Includes NGL; after royalty production.

**Cell:** J60**Comment:** Rick Heede (Dec09):

Oil & Gas Journal, various years, OGJ100.

**Cell:** D66**Comment:** Rick Heede:

Oil and gas production data from Energy Intelligence (2003) Top 100: Ranking the World's Oil Companies, p. 118.

**Cell:** D67**Comment:** Rick Heede:

CNR Annual Report for 2004, p. 8. Includes crude and NGLs, heavy tar sand bitumen production (139k bbl per day), and crude from North Sea and offshore West Africa. Gas production in units of oil equivalent: 217 k bbl per day in 2003 and 231 k bbl per day in 2004. Conversion of 6kcf per bbl.

Lists 2001-2004 gas production before royalties in million cf per day (listed at right) and crude oil and NGL production before royalties in thousand bbl per day (listed below).

**Cell:** H67**Comment:** Rick Heede:

CNR Annual Report for 2004, p. 8.

**Cell:** D76**Comment:** Rick Heede:

Canadian Natural Annual report 2010, page 95, shows crude oil and NGL "Daily Production (before royalties)" in thousand bbl per day for 2001 through 2010. For 2010 (425 k bbl per day), conventional production in North America totaled 271 k bbl per day, North America oil sands 91 k bbl per day, North Sea 33 k bbl per day, and offshore west Africa 30 k bbl per day.

**Cell:** H76**Comment:** Rick Heede:

Canadian Natural Annual report 2010, page 95, shows natural gas "Daily Production (before royalties)" in million cf per day for 2001 through 2010. Of 2010, North America accounted for 1,217 MMcf, North Sea 10, and offshore west Africa 16 million cf per day.

**Cell:** D77**Comment:** Rick Heede:

Canadian Natural Resources, Annual Report 2013, page 27. Crude oil and NGLs, thousand bbl per day, net of royalties.

**Cell:** H77**Comment:** Rick Heede:

Canadian Natural Resources, Annual Report 2013, page 27. Natural gas, million cf per day, net of royalties.

**Cell:** D79**Comment:** Rick Heede:

CNR SEC Form 40-F for 2014, March 2015, page 30. 478 thousand bbl per day in 2013, and 531 thousand bbl per day in 2014.

**Cell:** H79**Comment:** Rick Heede:

CNR SEC Form 40-F for 2014, March 2015, page 30. 1.158 Bcf/d in 2013, and 1.555 Bcf/d in 2014.

**Cell:** D80**Comment:** Rick Heede:

CNR 40-F rpt for 2014 also shows 531 thousand bbl per day.

**Cell:** D81**Comment:** Rick Heede:

Canadian Natural Resources Annual Report 2015, page 2. North America (excl oil sands): 400 kbbl /day, plus oil sands 123 kbbl /day, plus North Sea 22 kbbl /day, plus offshore Africa 19 kbbl /day, total 564 kbbl /day.

**Cell:** H81**Comment:** Rick Heede:

Canadian Natural Resources Annual Report 2015, page 2. Total 1,726 mmcf/day (of which 1,663 mmcf/day North America).

**Cell:** D82**Comment:** Rick Heede:

Canadian Natural Resources Annual Report 2018, Performance Highlights for 2016, 2017, and 2018, in thousand bbl per day.

**Cell:** H82**Comment:** Rick Heede:

Canadian Natural Resources Annual Report 2018, Performance Highlights, in thousand bbl per day 2016, 2017, and 2018, in million cf per day.

**Cell:** D84**Comment:** Rick Heede:

CNRL AnnRpt 2018, page 2 (see table above) shows productuin by type. In 2018:North America oil and NGL: 351 kbpd, oil sands and synthetic oil: 426 kbpd, North Sea 24 kbpd, offshore Africa 20 kbpd, Total 2018: 821 thousand bbl per day (300 Mb).