

# BP Statistical Review of World Energy

## June 2009



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# Natural gas

## Proved reserves

	At end 1988 Trillion cubic metres	At end 1998 Trillion cubic metres	At end 2007 Trillion cubic metres	At end 2008 Trillion cubic feet	At end 2008 Trillion cubic metres	Share of total	R/P ratio
US	4.76	4.65	6.73	<b>237.7</b>	<b>6.73</b>	3.6%	11.6
Canada	2.67	1.75	1.63	<b>57.7</b>	<b>1.63</b>	0.9%	9.3
Mexico	2.08	0.85	0.51	<b>17.6</b>	<b>0.50</b>	0.3%	9.1
<b>Total North America</b>	<b>9.51</b>	<b>7.24</b>	<b>8.88</b>	<b>313.1</b>	<b>8.87</b>	<b>4.8%</b>	<b>10.9</b>
Argentina	0.77	0.69	0.44	<b>15.6</b>	<b>0.44</b>	0.2%	10.0
Bolivia	0.15	0.15	0.71	<b>25.1</b>	<b>0.71</b>	0.4%	51.0
Brazil	0.11	0.22	0.27	<b>11.5</b>	<b>0.33</b>	0.2%	23.6
Colombia	0.13	0.20	0.12	<b>4.0</b>	<b>0.11</b>	0.1%	12.4
Peru	0.34	0.25	0.33	<b>11.8</b>	<b>0.33</b>	0.2%	98.5
Trinidad & Tobago	0.29	0.56	0.48	<b>17.0</b>	<b>0.48</b>	0.3%	12.2
Venezuela	2.86	4.15	4.84	<b>170.9</b>	<b>4.84</b>	2.6%	*
Other S. & Cent. America	0.15	0.14	0.07	<b>2.4</b>	<b>0.07</b>	♦	17.5
<b>Total S. &amp; Cent. America</b>	<b>4.79</b>	<b>6.35</b>	<b>7.27</b>	<b>258.2</b>	<b>7.31</b>	<b>4.0%</b>	<b>46.0</b>
Azerbaijan	n/a	0.81	1.16	<b>42.3</b>	<b>1.20</b>	0.6%	81.3
Denmark	0.08	0.10	0.07	<b>1.9</b>	<b>0.06</b>	♦	5.5
Germany	0.36	0.26	0.14	<b>4.2</b>	<b>0.12</b>	0.1%	9.2
Italy	0.33	0.27	0.13	<b>4.2</b>	<b>0.12</b>	0.1%	14.2
Kazakhstan	n/a	1.81	1.85	<b>64.4</b>	<b>1.82</b>	1.0%	60.3
Netherlands	1.73	1.77	1.39	<b>49.1</b>	<b>1.39</b>	0.8%	20.6
Norway	2.30	3.79	2.88	<b>102.7</b>	<b>2.91</b>	1.6%	29.3
Poland	0.17	0.14	0.11	<b>3.9</b>	<b>0.11</b>	0.1%	27.1
Romania	0.17	0.36	0.63	<b>22.2</b>	<b>0.63</b>	0.3%	54.6
Russian Federation	n/a	43.51	43.32	<b>1529.2</b>	<b>43.30</b>	23.4%	72.0
Turkmenistan	n/a	2.51	2.43	<b>280.6</b>	<b>7.94</b>	4.3%	*
Ukraine	n/a	1.02	0.93	<b>32.6</b>	<b>0.92</b>	0.5%	49.2
United Kingdom	0.59	0.76	0.34	<b>12.1</b>	<b>0.34</b>	0.2%	4.9
Uzbekistan	n/a	1.58	1.59	<b>55.8</b>	<b>1.58</b>	0.9%	25.4
Other Europe & Eurasia	38.81	0.40	0.43	<b>15.6</b>	<b>0.44</b>	0.2%	43.2
<b>Total Europe &amp; Eurasia</b>	<b>44.53</b>	<b>59.09</b>	<b>57.39</b>	<b>2220.8</b>	<b>62.89</b>	<b>34.0%</b>	<b>57.8</b>
Bahrain	0.19	0.14	0.09	<b>3.0</b>	<b>0.09</b>	♦	6.3
Iran	14.20	24.10	28.13	<b>1045.7</b>	<b>29.61</b>	16.0%	*
Iraq	2.69	3.19	3.17	<b>111.9</b>	<b>3.17</b>	1.7%	*
Kuwait	1.38	1.48	1.78	<b>62.9</b>	<b>1.78</b>	1.0%	*
Oman	0.28	0.57	0.98	<b>34.6</b>	<b>0.98</b>	0.5%	40.7
Qatar	4.62	10.90	25.46	<b>899.3</b>	<b>25.46</b>	13.8%	*
Saudi Arabia	5.02	6.07	7.30	<b>267.3</b>	<b>7.57</b>	4.1%	96.9
Syria	0.11	0.24	0.28	<b>10.0</b>	<b>0.28</b>	0.2%	51.8
United Arab Emirates	5.66	6.00	6.44	<b>227.1</b>	<b>6.43</b>	3.5%	*
Yemen	0.16	0.48	0.49	<b>17.3</b>	<b>0.49</b>	0.3%	*
Other Middle East	†	†	0.05	<b>1.7</b>	<b>0.05</b>	♦	18.4
<b>Total Middle East</b>	<b>34.34</b>	<b>53.17</b>	<b>74.17</b>	<b>2680.9</b>	<b>75.91</b>	<b>41.0%</b>	*
Algeria	3.23	4.08	4.50	<b>159.1</b>	<b>4.50</b>	2.4%	52.1
Egypt	0.33	1.02	2.07	<b>76.6</b>	<b>2.17</b>	1.2%	36.9
Libya	0.83	1.32	1.54	<b>54.4</b>	<b>1.54</b>	0.8%	96.9
Nigeria	2.48	3.51	5.22	<b>184.2</b>	<b>5.22</b>	2.8%	*
Other Africa	0.82	0.84	1.21	<b>43.3</b>	<b>1.23</b>	0.7%	66.2
<b>Total Africa</b>	<b>7.68</b>	<b>10.77</b>	<b>14.54</b>	<b>517.5</b>	<b>14.65</b>	<b>7.9%</b>	<b>68.2</b>
Australia	1.11	1.65	2.41	<b>88.6</b>	<b>2.51</b>	1.4%	65.6
Bangladesh	0.35	0.30	0.37	<b>13.1</b>	<b>0.37</b>	0.2%	21.4
Brunei	0.32	0.38	0.34	<b>12.4</b>	<b>0.35</b>	0.2%	28.8
China	0.92	1.37	2.26	<b>86.7</b>	<b>2.46</b>	1.3%	32.3
India	0.60	0.67	1.06	<b>38.5</b>	<b>1.09</b>	0.6%	35.6
Indonesia	2.56	2.18	3.00	<b>112.5</b>	<b>3.18</b>	1.7%	45.7
Malaysia	1.49	2.41	2.39	<b>84.3</b>	<b>2.39</b>	1.3%	38.2
Myanmar	0.27	0.29	0.49	<b>17.5</b>	<b>0.49</b>	0.3%	39.9
Pakistan	0.65	0.61	0.85	<b>30.1</b>	<b>0.85</b>	0.5%	22.7
Papua New Guinea	0.13	0.43	0.44	<b>15.6</b>	<b>0.44</b>	0.2%	*
Thailand	0.20	0.42	0.32	<b>10.7</b>	<b>0.30</b>	0.2%	10.5
Vietnam	n/a	0.17	0.48	<b>19.7</b>	<b>0.56</b>	0.3%	70.1
Other Asia Pacific	0.27	0.51	0.40	<b>13.9</b>	<b>0.39</b>	0.2%	22.1
<b>Total Asia Pacific</b>	<b>8.86</b>	<b>11.39</b>	<b>14.80</b>	<b>543.5</b>	<b>15.39</b>	<b>8.3%</b>	<b>37.4</b>
<b>Total World</b>	<b>109.72</b>	<b>148.01</b>	<b>177.05</b>	<b>6534.0</b>	<b>185.02</b>	<b>100.0%</b>	<b>60.4</b>
of which: European Union	3.65	3.77	2.91	<b>101.4</b>	<b>2.87</b>	1.6%	15.1
OECD	16.57	16.17	16.56	<b>587.3</b>	<b>16.63</b>	9.0%	14.6
Former Soviet Union	38.46	51.48	51.50	<b>2013.1</b>	<b>57.00</b>	30.8%	71.8

\*More than 100 years.

†Less than 0.05%.

♦Less than 0.05%.

n/a not available.

**Notes:** Proved reserves of natural gas – Generally taken to be those quantities that geological and engineering information indicates with reasonable certainty can be recovered in the future from known reservoirs under existing economic and operating conditions.

Reserves-to-production (R/P) ratio – If the reserves remaining at the end of any year are divided by the production in that year, the result is the length of time that those remaining reserves would last if production were to continue at that rate.

Source of data – The estimates in this table have been compiled using a combination of primary official sources and third-party data from Ceditaz and the OPEC Secretariat.

## Proved reserves at end 2008

Trillion cubic metres



7.31  
S. & Cent. America

8.87  
North America

14.65  
Africa

15.39  
Asia Pacific

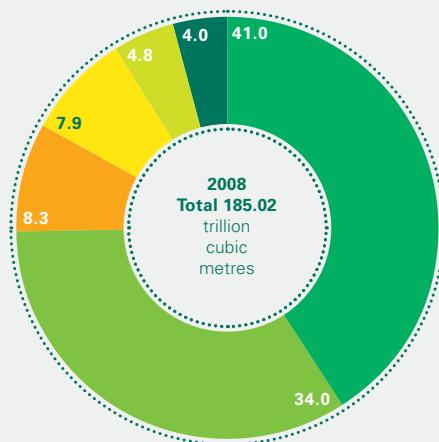
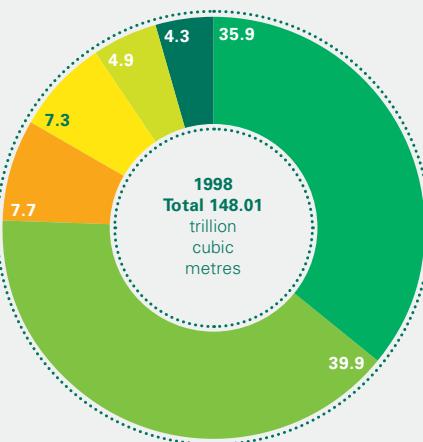
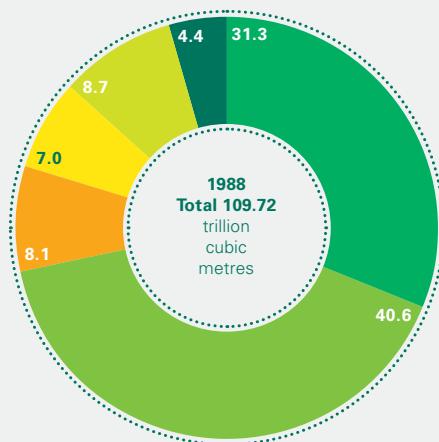
62.89  
Europe & Eurasia

75.91  
Middle East

## Distribution of proved reserves in 1988, 1998 and 2008

Percentage

- Middle East
- Europe & Eurasia
- Asia Pacific
- Africa
- North America
- S. & Cent. America

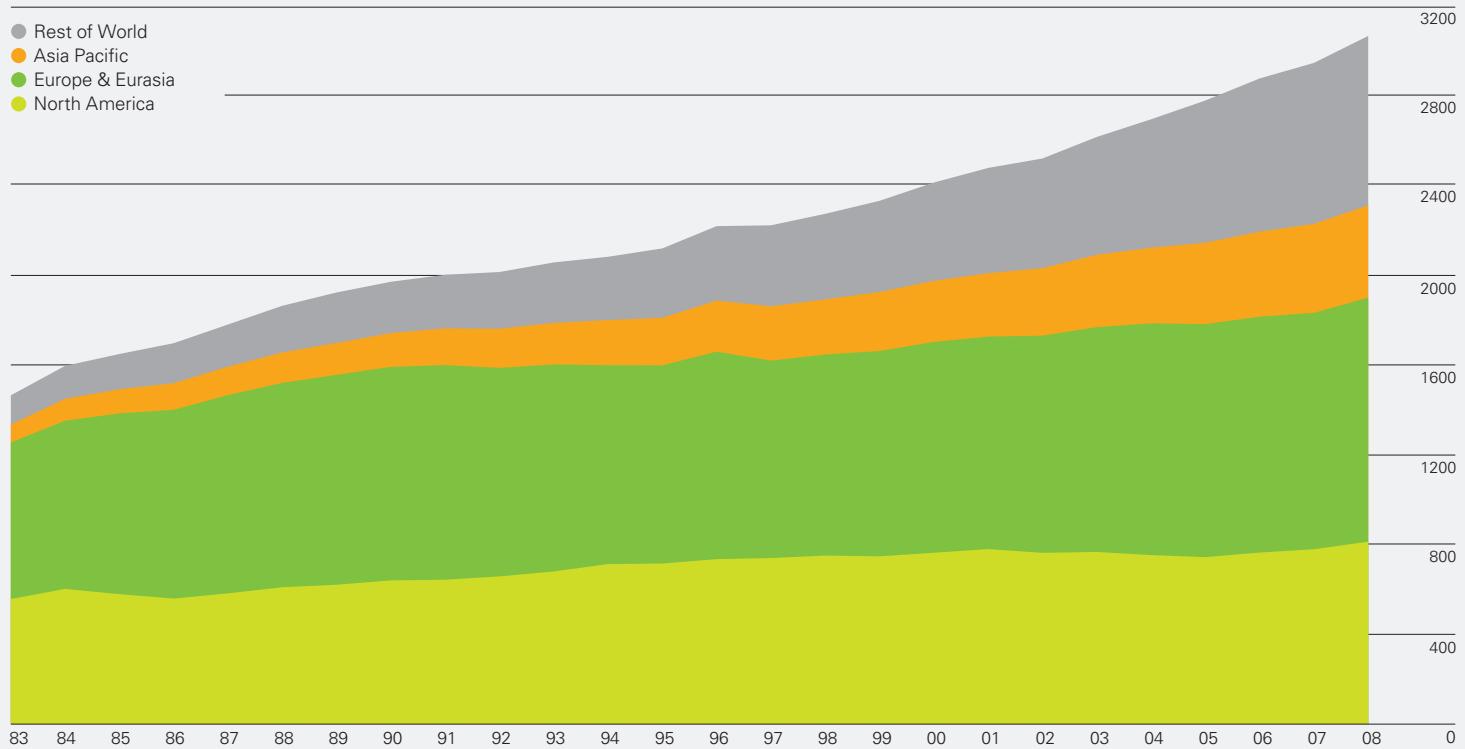






## Production by region

Billion cubic metres

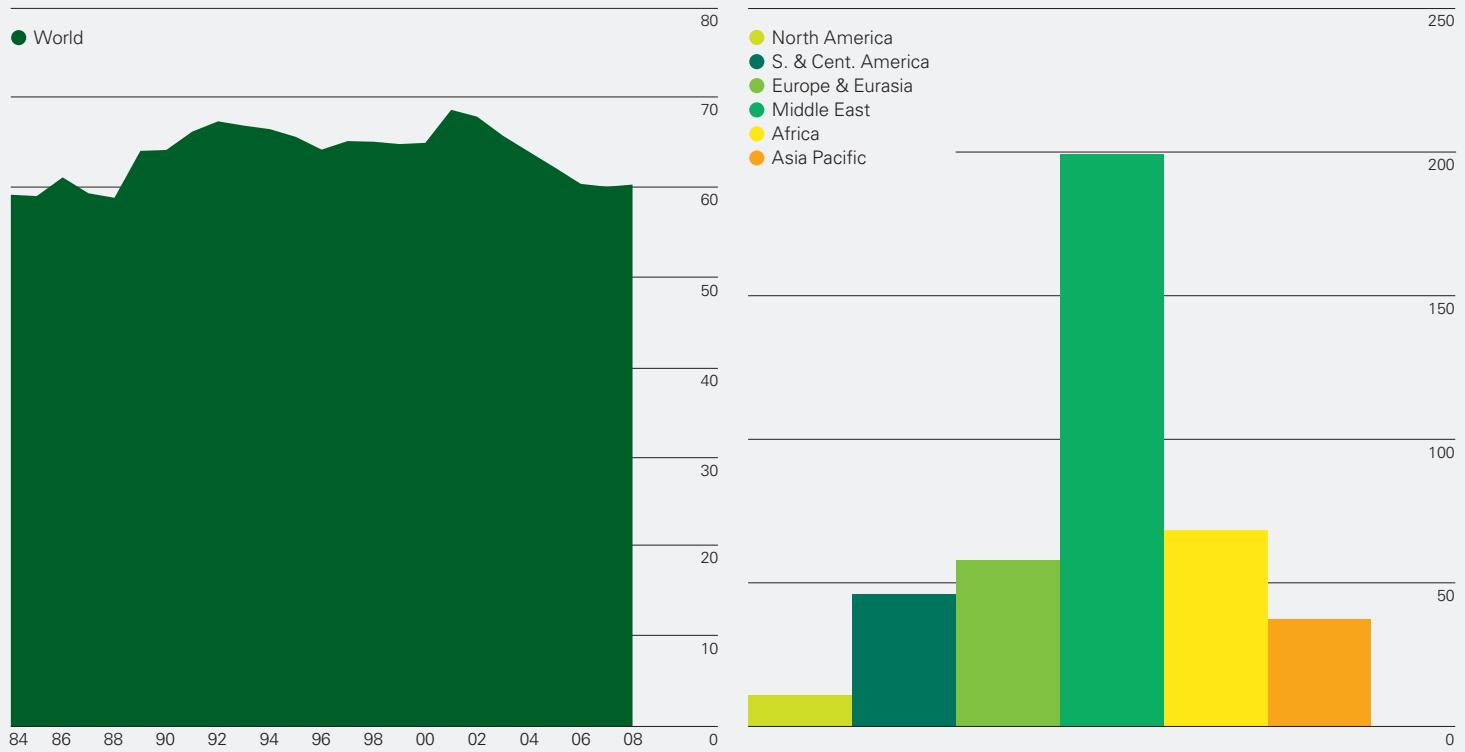


World natural gas production grew by a robust 3.8% in 2008, the strongest volumetric growth since 1984. For the second consecutive year, the US recorded the largest increase, with growth of 41.7bcm. Growth was below the 10-year average for all regions except North America and Europe and Eurasia. Canada recorded the world's largest decline.

## Reserves-to-production (R/P) ratios

Years

2008 by region



Global proved reserves of natural gas increased by 7.97tcm in 2008, and the R/P ratio increased to 60.4 years. Increases in Turkmenistan and Iran accounted for most of the growth.

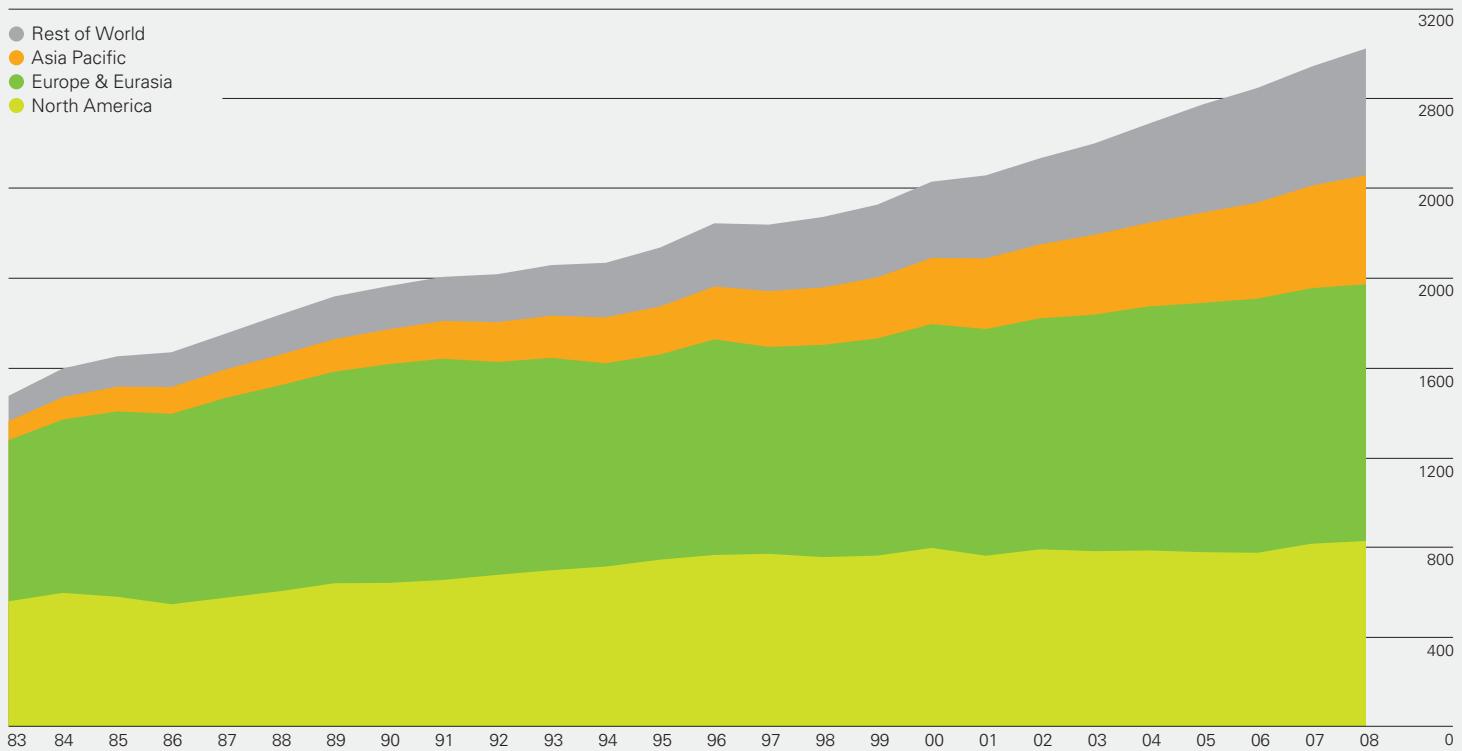




## Consumption by region

Billion cubic metres

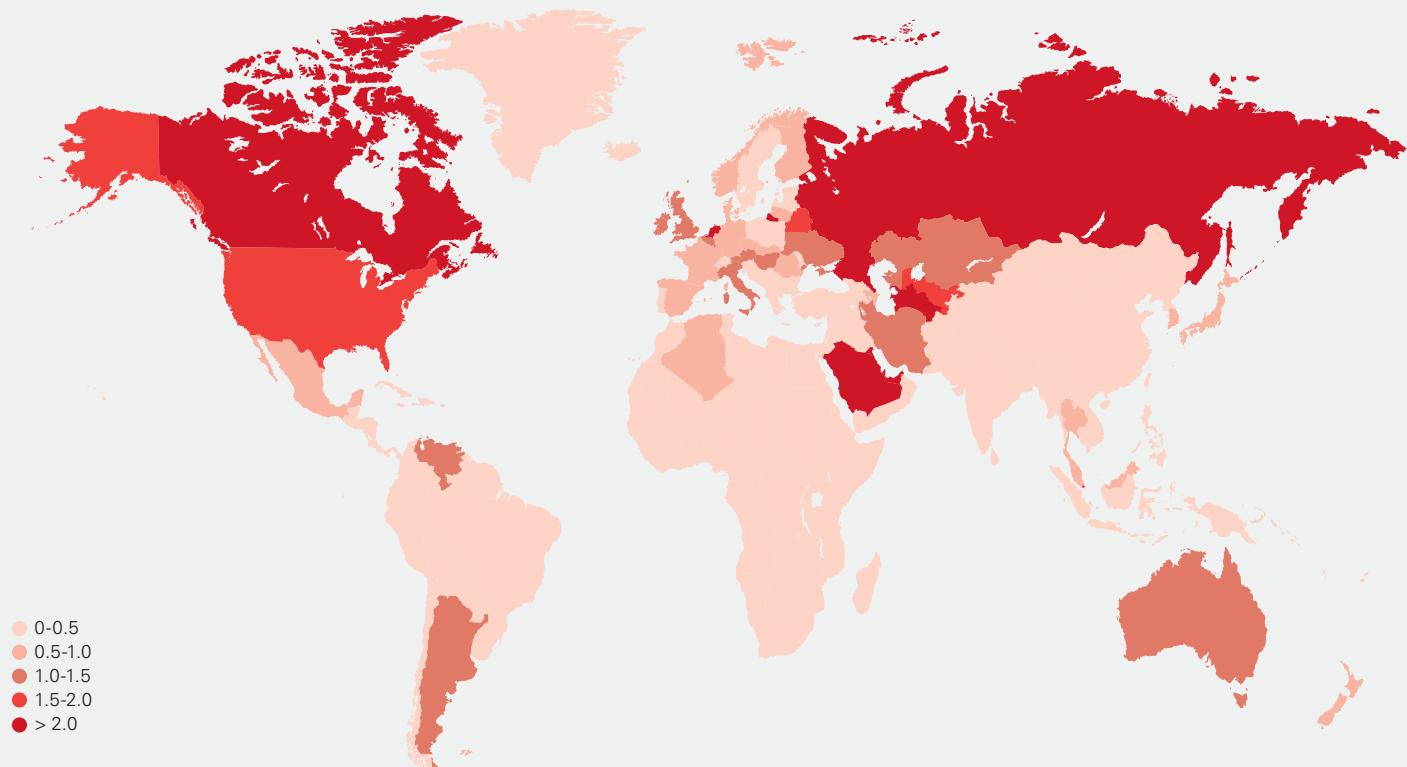
- Rest of World
- Asia Pacific
- Europe & Eurasia
- North America



World natural gas consumption grew by 2.5% in 2008, below the historical average. Growth was broadly distributed, although only North America and the Middle East saw above average growth in aggregate. China accounted for the largest increment to gas consumption, while Russia recorded the largest decline.

## Consumption per capita 2008

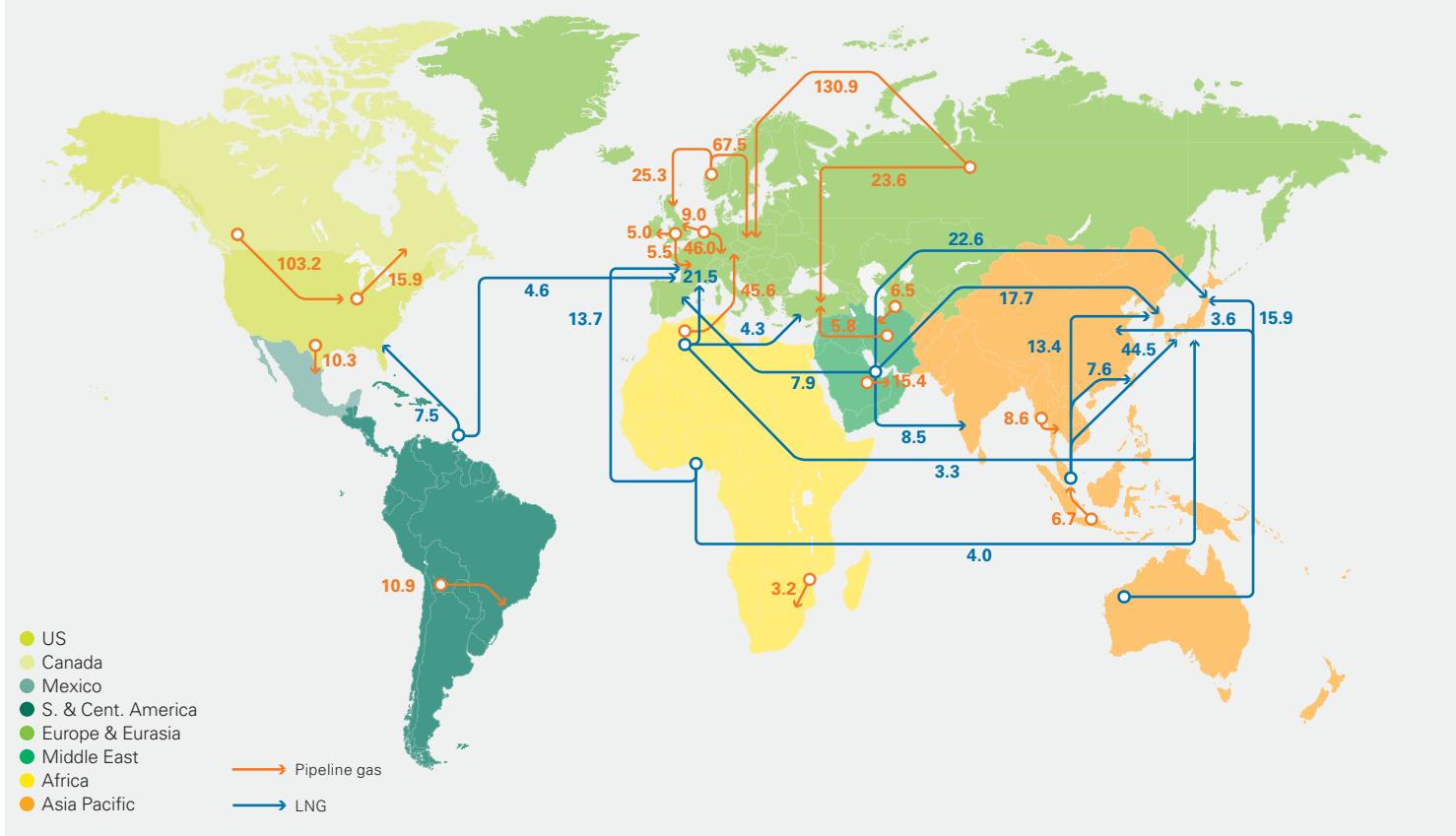
Tonnes oil equivalent





## Major trade movements

Trade flows worldwide (billion cubic metres)



## Prices

US dollars per million Btu	LNG Japan cif	Natural gas				Crude oil OECD countries cif
		European Union cif	UK Heren NBP Index†	US Henry Hub‡	Canada Alberta‡	
1985	5.23	3.83	—	—	—	4.75
1986	4.10	3.65	—	—	—	2.57
1987	3.35	2.59	—	—	—	3.09
1988	3.34	2.36	—	—	—	2.56
1989	3.28	2.09	—	1.70	—	3.01
1990	3.64	2.82	—	1.64	1.05	3.82
1991	3.99	3.18	—	1.49	0.89	3.33
1992	3.62	2.76	—	1.77	0.98	3.19
1993	3.52	2.53	—	2.12	1.69	2.82
1994	3.18	2.24	—	1.92	1.45	2.70
1995	3.46	2.37	—	1.69	0.89	2.96
1996	3.66	2.43	1.87	2.76	1.12	3.54
1997	3.91	2.65	1.96	2.53	1.36	3.29
1998	3.05	2.26	1.86	2.08	1.42	2.16
1999	3.14	1.80	1.58	2.27	2.00	2.98
2000	4.72	3.25	2.71	4.23	3.75	4.83
2001	4.64	4.15	3.17	4.07	3.61	4.08
2002	4.27	3.46	2.37	3.33	2.57	4.17
2003	4.77	4.40	3.33	5.63	4.83	4.89
2004	5.18	4.56	4.46	5.85	5.03	6.27
2005	6.05	5.95	7.38	8.79	7.25	8.74
2006	7.14	8.69	7.87	6.76	5.83	10.66
2007	7.73	8.93	6.01	6.95	6.17	11.95
2008	12.55	12.61	10.79	8.85	7.99	16.76

†Price is for NBP Day-Ahead Index. Source: ICIS Heren Energy Ltd.

‡Source: *Natural Gas Week*.

Note: Btu = British thermal units; cif = cost+insurance+freight (average prices).