

# Guide to environment statistics 2010

This booklet contains a selection of statistics published by Statistics Norway in 2010. More information can be found in reports, in articles on our web-site, and in StatBank Norway.

The booklet is available in electronic format at http://www.ssb.no/english/subjects/01/sa\_nrm

In the electronic version, a click on the web addresses in the "More information-boxes" will give direct access to the statistics.



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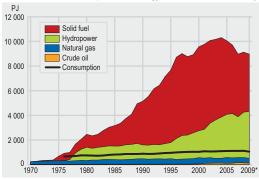
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#### Standard symbols in the tables

Category not applicable
Data not variable
Data not yet available
Not for publication
Nil
Less than 0.5 of the unit employed
Less than 0.5 of the unit employed
OProvisional or preliminary figure
Break in the homogeneity of a vertical
series
Break in the homogeneity of a horizontal series
Preak in the homogeneity of a horizontal series
Preak in the homogeneity of a horizontal series

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### Extraction and consumption1 of energy commodities in Norway



<sup>1</sup> Including the energy sectors, excluding ocean transport.

# Production of oil, gas and coal. World total and selected countries. 2009

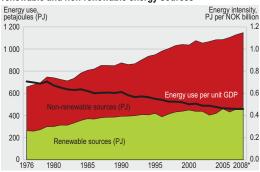
	Total		Oil	Gas	Coal
	mtoe	Per cent	Million tonnes	mtoe	mtoe
World, total	9 925.1	100	3 820.5	2 696.0	3 408.6
China	1 818.6	18.3	189.0	76.7	1 552.9
USA	1 407.1	14.2	325.3	541.8	539.9
Russia	1 109.7	11.2	494.2	474.8	140.7
Saudi Arabia	529.2	5.3	459.5	69.7	-
Canada	333.8	3.4	155.7	145.3	32.8
Iran	320.4	3.2	202.4	118.1	-
Australia	289.7	2.9	23.6	38.1	228.0
India	282.2	2.8	35.4	35.3	211.5
Indonesia	269.0	2.7	49.0	64.7	155.3
Mexico	205.2	2.1	147.5	52.4	5.3
Norway	201.4	2.0	108.3	93.1	1.8

Source: BP - Statistical Review of World Energy 2010 and Store Norske Spitsbergen Kulkompani.

Latest article	http://www.ssb.no/energiregn_en/ http://www.ssb.no/ogprodre_en/
StatBank Norway	http://www.ssb.no/en/table/energiregn/
BP	http://www.bp.com

Source: Statistics Norway, Norwegian Petroleum Directorate and Norwegian Water Resources and Energy Directorate.

# Energy use per unit GDP¹ and total energy use (PJ) for renewable and non-renewable energy sources



<sup>&</sup>lt;sup>1</sup> GDP at constant 2008 prices. Ocean transport not included.

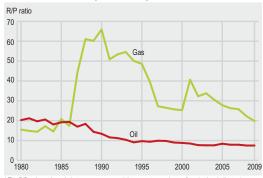
Source: Statistics Norway.

### Energy use per capita. Selected countries. kWh per capita

	1990	2000	2008
World	19 623	19 388	21 503
EU-27	40 655	41 008	41 243
Iceland	96 234	129 617	193 561
USA	89 939	94 584	88 116
Finland	66 882	72 891	77 969
Norway	58 190	67 674	73 117
Sweden	64 794	62 982	62 954
Japan	41 760	48 041	45 626
Denmark	39 643	40 904	40 673
China	8 930	10 223	18 800
India	4 465	5 288	6 345

Source: International Energy Agency - IEA.

### R/P-ratio1,2 for Norwegian oil and gas reserves



¹ The RIP ratio, or the ratio between reserves and the current annual rate of production, indicates how many years it will take before the reserves are exhausted. ¹ Because of a change in the classification system for petroleum resources, there is a break in the time series between 2000 and 2001. Source: Statistics Norway and Norwegian Petroleum Directorate.

Source. Statistics Norway and Norwegian Petroleum Directorate.

### Proven reserves of fossil energy commodities

	Oil Billion barrels	Gas Billion m³	Coal Billion tonnes
World, 31 December 1989	1 006.4	122.4	
World, 31 December 1999	1 085.6	148.6	
World, 31 December 2009	1 333.1	187.5	826.0
North America <sup>1</sup>	73.3	9.2	246.1
Latin America	198.9	8.1	15.0
Europe incl. former Soviet Union	136.9	63.1	272.2
Middle East	754.2	76.2	1.4
Africa	127.7	14.8	32.0
Asia og Oceania	42.2	16.2	259.3
Norway <sup>2</sup>	7.1	2.0	0.0

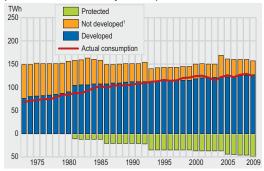
<sup>&</sup>lt;sup>1</sup>North America includes Mexico.

Overview	http://www.ssb.no/olje_gass_en/
Latest article	http://www.ssb.no/ogprodre_en/

<sup>&</sup>lt;sup>2</sup> Norwegian coal reserves in Svalbard were 25 million tonnes in 2009.

Source: BP - Statistical Review of World Energy 2010 and Store Norske Spitsbergen Kulkompani.

# Hydropower resources: developed, not developed and protected. Actual electricity consumption



<sup>&</sup>lt;sup>1</sup> From 2004 onwards, power plants of capacity 50-10 000 kW were included. As a result, the resource estimate was revised upwards.

Source: Norwegian Water Resources and Energy Directorate.

### Electricity trade between Norway and other countries. GWh

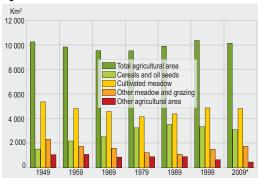
Total         16 401         20 529         17 275         14 633           Denmark         3 958         4 634         4 806         3 834           Finland         114         131         159         1112           Netherlands         0         0         3 369         2 920           Sweden         12 329         15 763         8 941         7 768           To Norway from other countries           Total         408         1474         3 412         5 650           Denmark         7         146         427         1 453           Finland         2         174         59         126           Netherlands         0         0         326         1215           Russia         0         236         1215           Sweden         399         919         2 424         2634					
Total         16 401         20 529         17 275         14 633           Denmark         3 958         4 634         4 806         3 834           Finland         114         131         159         1112           Netherlands         0         0         3 369         2 920           Sweden         12 329         15 763         8 941         7 768           To Norway from other countries           Total         408         1474         3 412         5 650           Denmark         7         146         427         1 453           Finland         2         174         59         126           Netherlands         0         0         326         1215           Russia         0         236         1215           Sweden         399         919         2 424         2634		1990	2000	2008	2009
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Finland         114         131         159         112           Netherlands         0         0         3 369         2 920           Sweden         12 329         15 763         8 941         7 768           To Norway from other countries           Total         408         1 474         3 412         5 650           Denmark         7         146         427         1 453           Finland         2         174         59         126           Netherlands         0         0         326         1 215           Russia         0         236         176         223           Sweden         399         919         2 424         2634	Total	16 401	20 529	17 275	14 633
Netherlands         0         0         3 369         2 920           Sweden         12 329         15 763         8 941         7 768           To Norway from other countries           Total         408         1 474         3 412         5 650           Denmark         7         146         427         1 453           Finland         2         174         59         126           Netherlands         0         0         326         1 215           Russia         0         236         176         223           Sweden         399         919         2 424         2 634	Denmark	3 958	4 634	4 806	3 834
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To Norway from other countries           Total         408         1 474         3 412         5 650           Denmark         7         146         427         1 453           Finland         2         174         59         126           Netherlands         0         0         326         1 215           Russia         0         236         176         223           Sweden         399         919         2 424         2 634	Netherlands	0	0	3 369	2 920
Total         408         1 474         3 412         5 650           Denmark         7         146         427         1 453           Finland         2         174         59         126           Netherlands         0         0         326         1 215           Russia         0         236         176         223           Sweden         399         919         2 424         2 634	Sweden	12 329	15 763	8 941	7 768
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Finland         2         174         59         126           Netherlands         0         0         326         1 215           Russia         0         236         176         223           Sweden         399         919         2 424         2 634	Total	408	1 474	3 412	5 650
Netherlands         0         0         326         1 215           Russia         0         236         176         223           Sweden         399         919         2 424         2 634	Denmark	7	146	427	1 453
Russia 0 236 176 223 Sweden 399 919 2 424 2 634	Finland	2	174	59	126
Sweden 399 919 2 424 2 634	Netherlands	0	0	326	1 215
	Russia	0	236	176	223
Net export from Norway 15 993 19 055 13 863 8 983	Sweden	399	919	2 424	2 634
	Net export from Norway	15 993	19 055	13 863	8 983

Source: Statistics Norway.

Latest article	http://www.ssb.no/elektrisitetaar_en/ http://www.ssb.no/muh_en/
StatBank Norway	http://www.ssb.no/en/table/elektrisitetaar/ http://www.ssb.no/en/table/muh/

## **Agriculture**

### Agricultural area in use



Source: Statistics Norway.

#### Areas farmed ecologically or in the process of conversion in the Nordic countries. Percentage of total agricultural area

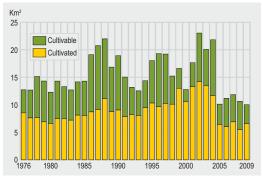
	Norway	Sweden	Denmark	Finland
1991	0.2	1.0	0.6	0.3
1995	0.6	2.6	1.4	2.1
2000	2.0	5.4	6.0	6.6
2005	4.2	6.9	5.4	6.5
2009	5.6	12.7	6.0	7.1

Source: Debio and Statistics Norway (Norway); KRAV, Statistics Sweden and Swedish Board of Agriculture (Sweden); Danish Plant Directorate and Statistics Denmark (Denmark); KTTK/Evira and TIKE (Finland).

Latest article	http://www.ssb.no/stjord_en/
StatBank Norway	http://www.ssb.no/en/table/stjord/

## **Agriculture**

### Irreversible conversion of cultivated and cultivable land



Source: KOSTRA (Municipality-State-Reporting) and Norwegian Agricultural Authority.

# Nitrogen and phosphorus in commercial fertilisers<sup>1</sup> and manure. Tonnes

	Nitroge	n	Phosphor	us
	Commercial fertilisers	Manure	Commercial fertilisers	Manure
1990	110 418	33 978	16 002	11 723
1995	110 851	34 467	13 291	11 761
2000	107 410	35 822	13 325	12 381
2005	106 882	35 316	12 660	12 283
2008	116 351	34 474	13 403	12 186
2009	82 459	34 103	7 071	12 035

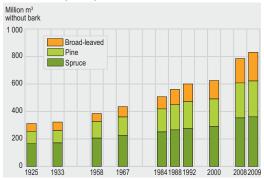
One of the commercial fertilisers refer to sold quantity from wholesalers and importers. Sales in 2008 and 2009 are significantly affected by stockpiling due to expected price increase in 2009.

Source: Norwegian Food Safety Authority and Statistics Norway.

Overview	http://www.ssb.no/jordbruk_en/
Latest article	http://www.ssb.no/kofola_en/
StatBank Norway	http://www.ssb.no/en/table/kofola/

## **Forest**

### Volume of the growing stock1



<sup>&</sup>lt;sup>1</sup> As from the inventory cycle 2005-2009, forest areas above the coniferous forest line are included. Source: Statistics Norway and National Forest Inventory.

# Forest area and other wooded area in selected European countries

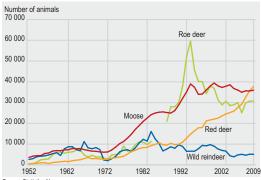
	Forest area. 1 000 km <sup>2</sup>	Other wooded area. 1 000 km <sup>2</sup>	Forest area per capita. Decares
Norway	94	26	20.5
Sweden	275	33	30.6
Finland	225	8	43.1
Denmark	5	1	0.9
UK	28	0	0.5
Germany	111	0	1.3
France	156	17	2.6
Spain	179	103	4.3

Source: The Global Forest Resources Assessment 2005, FAO.

Latest article	http://www.ssb.no/lst_en/
StatBank Norway	http://www.ssb.no/en/table/lst/
FAO	http://www.fao.org/forestry/fra/en/

## **Game species**

### Number of moose, red deer, wild reindeer and roe deer killed



Source: Statistics Norway.

### Average number of large predators killed per year

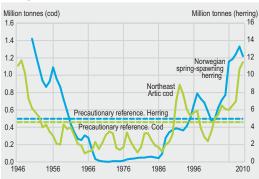
	Wolf	Bear	Wolverine	Lynx
1866-1875	42	122	59	157
1926-1935	4	3	12	4
1966-1975	-	-	17	43
1996-2005	4	5	37	87
2006/07	2	4	79	82
2007/08	5	13	77	111
2008/09	5	12	90	136
2009/10	8	18	89	147

Source: Statistics Norway.

wore imormat	More information at www.55b.no		
Latest article	http://www.ssb.no/rovdyravg_en/		
	http://www.ssb.no/elgjakt_en/		
	http://www.ssb.no/hjortejakt_en/		
	http://www.ssb.no/reinjakt_en/		
	http://www.ssb.no/srjakt_en/		
StatBank Norway	Click on "More tables in StatBank" in Latest articles above		

## Fish and fisheries

#### Spawning stock biomass and precautionary reference point for Northeast Artic cod and Norwegian spring-spawning herring



Source: The International Council for the Exploration of the Sea - ICES.

# Norwegian catches by groups of fish species, molluscs and crustaceans. Sales of farmed salmon and trout. 1 000 tonnes

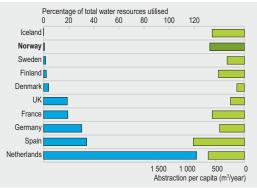
	1980	1990	2000	2009*
Fisheries. Fish and shellfish, total	2 400	1 592	2 699	2 529
Pelagic fish	1 703	1 101	2 079	1 799
Cod fish	599	315	479	586
Flatfish and other demersal fish	27	88	63	51
Other fish	21	15	8	4
Molluscs and crustaceans	50	73	71	88
Fish farming, salmon and trout	8	150	489	935

Source: Directorate of Fisheries and Statistics Norway.

Latest article	http://www.ssb.no/fiskeri_en/ http://www.ssb.no/fiskeoppdrett_en/
StatBank Norway	http://www.ssb.no/en/table/fiskeri/ http://www.ssb.no/en/table/fiskeoppdrett/
Other data sources	http://www.fiskeridir.no/ http://www.imr.no http://www.icos.dk

### Water

# Percentage of total freshwater resources utilised and abstraction per inhabitant. Selected countries



Source: OECD and Statistics Norway.

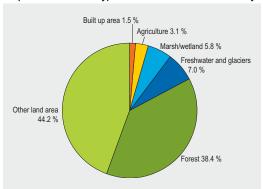
# Use of fresh water, by industries and households<sup>1</sup>. Norway. 2006 or latest available year

	Estimated water use Million m <sup>3</sup>
Total	2 817
Households	354
Primary industries	935
Manufacturing industries	1 191
Mining and quarrying	41
Services	115
Others	179

<sup>&</sup>lt;sup>1</sup>Leakages not included. Source: Statistics Norway.

Latest article	http://www.ssb.no/vann_kostra_en/
StatBank Norway	http://www.ssb.no/en/table/vann_kostra/

### Proportion of different types of land cover. Mainland Norway



Source: Norwegian Mapping Authority, The Norwegian Forest and Landscape Institute and Statistics Norway.

### Total area and distribution of area1. 2010. Km2

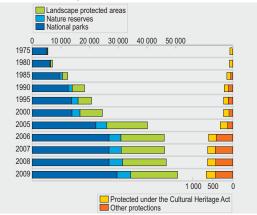
Land         Freshwater         Continental the ocea         Islands in the ocea           Kingdom of Norway         385 186         365 246         19 940         301 483         83 67           Mainland         323 787         304 248         19 539         301 483         22 27           Svalbard         61 022         60 627         395         .         61 02		Total	Distribution of area, land/freshwater		Distribution of area, continental/islands	
Mainland         323 787         304 248         19 539         301 483         22 27           Svalbard         61 022         60 627         395         61 02	Total		Land	Freshwater	Continental	Islands in the ocean
Svalbard 61 022 60 627 395 . 61 02	Kingdom of Norway	385 186	365 246	19 940	301 483	83 672
	Mainland	323 787	304 248	19 539	301 483	22 275
Jan Mayen 377 371 6 . 37	Svalbard	61 022	60 627	395		61 020
	Jan Mayen	377	371	6		377

<sup>&</sup>lt;sup>1</sup> The figures for land and freshwater have been quality improved and the sum differs from sum of the continental/islands distribution.

Source: Norwegian Mapping Authority.

Latest article	http://www.ssb.no/arealdekke_en/
StatBank Norway	http://www.ssb.no/en/table/arealdekke/
Norwegian Mapping Authority	http://www.statkart.no/eng/Norwegian_Mapping_Authority/

### Protected areas1 by conservation form. Km2. 31 December



<sup>&</sup>lt;sup>1</sup> Areas on Svalbard are protected according to the Svalbard law and are not included. Source: Directorate for Nature Management.

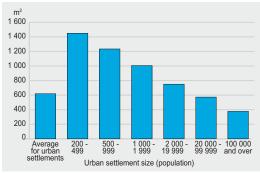
# Proportion of the coastal area accessible for outdoor activities as of 1 January 2010 and change 2000-2010

Groups of counties	2010 Per cent	Change 2000-2010 Percentage points
Whole country	27.4	-0.6
Østfold – Hordaland	20.5	-0.8
Oslofjord area Telemark and the Agder counties	25.4 19.6	-1.0 -1.0
Rogaland and Hordaland Sogn og Fjordane and northwards	19.7 29.7	-0.7 -0.5

Source: Statistics Norway.

Overview	http://www.ssb.no/areal_en/
Latest article	http://www.ssb.no/strandsone_en/ http://www.ssb.no/arealvern_en/ http://www.ssb.no/fysplan_en/
StatBank Norway	http://www.ssb.no/en/table/arealvern http://www.ssb.no/en/table/strandsone/

# Urban settlement area per capita, by size of population. 1 January 2009



Source: Statistics Norway.

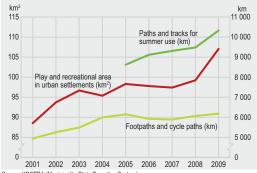
### Urban settlements, area and residents

	Area. km²	Residents	Share of total population resident in urban settlements. Per cent
2000	2 139	3 396 382	76
2002	2 194	3 474 623	77
2003	2 225	3 514 417	77
2004	2 218	3 536 454	77
2005	2 219	3 560 137	77
2006	2 263	3 607 813	78
2007	2 294	3 655 391	78
2008	2 334	3 722 786	79
2009	2 340	3 780 068	79

Source: Statistics Norway.

Latest article	http://www.ssb.no/beftett_en/
StatBank Norway	http://www.ssb.no/en/table/beftett/

# Play and recreational area in urban settlements. Footpaths and cycle paths and paths and tracks for summer use administered by municipalities



Source: KOSTRA (Municipality-State Reporting System).

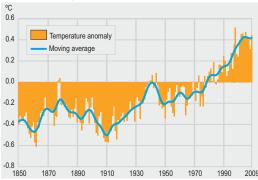
### Approval of applications for exemptions. 2001 and 2009

Type of area and activity	Year	Applications that include exemptions, approved	Percentage of applications for exemptions approved
New buildings in agricultural areas, areas of natural environment and outdoor recreation areas	2001	3 646	74
natural environment and outdoor recreation areas	2009	1 525	79
New buildings in areas along rivers and lakes	2001	269	80
where building is prohibited	2009	173	70
New buildings in the coastal zone where building	2001	1 096	67
is prohibited	2009	900	66
Projects in areas set aside for protection of the	2001	96	55
cultural heritage	2009	308	66
Motor traffic in outlying fields and waterways	2001	11 863	94
	2009	12 021	97

Source: KOSTRA (Municipality-State Reporting System).

Latest article	http://www.ssb.no/fysplan_en/
	http://www.ssb.no/miljo_kostra_en/
StatBank Norway	http://www.ssb.no/en/table/miljo kostra/

### Global mean temperature



<sup>&</sup>lt;sup>1</sup> Deviation from the normal value for the period 1961-1990.

Source: Climate Research Unit - University of East Anglia og Hadley Centre - UK Meteorological Office.

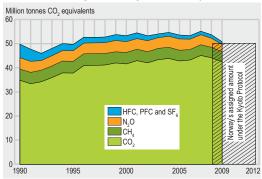
### CO2 emissions, selected countries. 2007 and change from 1990

	world total	Per cent
6 538	22.3	165.7
5 838	19.9	20.0
1 537	5.2	-25.9
1 255	4.3	8.8
788	2.7	-18.0
540	1.8	-5.4
372	1.3	-6.8
318	1.1	-48.1
64	0.2	26.0
50	0.2	-0.8
49	0.2	-4.8
43	0.1	36.5
	5 838 1 537 1 255 788 540 372 318 64 50 49	5 838 19.9 1 537 5.2 1 255 4.3 788 2.7 540 1.8 372 1.3 318 1.1 64 0.2 50 0.2 49 0.2

Source: UN Statistics Division/CDIAC (Carbon Dioxide Information Analysis Center).

Emissions	http://mdgs.un.org/unsd/mdg/SeriesDetail.aspx?srid=749&crid=
Temperature	http://hadobs.metoffice.com/hadcrut3/diagnostics/global/nh+sh/

### Total emissions of greenhouse gases in Norway



Source: Statistics Norway and Norwegian Climate and Pollution Agency.

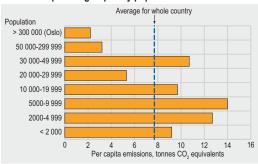
# Emissions of greenhouse gases by source. Million tonnes $\text{CO}_2$ equivalents

	1990	2000	2009*
Total	49.7	53.3	50.8
Manufacturing industries <sup>1</sup>	19.4	17.4	12.5
Oil and gas activities	7.7	12.3	13.3
Road traffic	7.7	8.5	9.9
Other transport <sup>2</sup>	5.7	6.6	6.9
Agriculture, non-combustion	4.5	4.5	4.0
Other emission sources	4.8	3.9	4.0

<sup>&</sup>lt;sup>1</sup> Including electricity supply, mining and quarrying. <sup>2</sup> Including motor equipment etc. Source: Statistics Norway and Norwegian Climate and Pollution Agency.

Overview	http://www.ssb.no/klima_en/
Latest article	http://www.ssb.no/klimagassn_en/
StatBank Norway	http://www.ssb.no/en/table/luft/

# Average per capita greenhouse gas emissions in Norway, from municipalities grouped by population size. 2008



Source: Statistics Norway and Norwegian Climate and Pollution Agency.

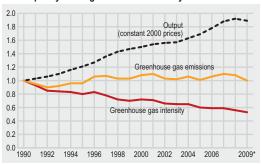
# Greenhouse gas emission intensity, by industry<sup>1</sup>. Tonnes CO<sub>2</sub> equivalents per NOK million output

	1990	2000	2009*
Total for industries incl. in Norwegian economic activities	35.8	25.8	18.9
Agriculture, forestry and fishing	165.5	117.6	87.9
Oil and gas extraction, incl. mining	41.9	36.1	37.0
Manufacturing industries	54.0	36.3	18.6
Energy, water supply and construction	16.2	13.2	14.3
Transport	128.2	113.4	108.8
Services <sup>2</sup>	3.4	1.8	1.3
General government <sup>3</sup>	4.1	2.5	2.1

¹ Greenhouse gas intensity is the ratio between emissions and output. ² Services incl. Wholesale, Maintenance, Hotels and Restaurants. ³ General government incl. Education and Health and social work. Source: Statistics Norway.

Latest article	http://www.ssb.no/nrmiljo_en/ http://www.ssb.no/klimagassr_en/
StatBank Norway	http://www.ssb.no/en/table/nrmiljo/ http://www.ssb.no/en/table/klimagassr/

# Greenhouse gas intensity<sup>1</sup>, emissions of greenhouse gases and output by Norwegian economic activity<sup>2, 3</sup>. Index 1990=1



¹ Greenhouse gas intensity is the ratio between emissions and output. ² Greenhouse gas emissions from Norwegian economic activity differ from the national data on air emissions that are published by Statistics Norway and the Norwegian Climate and Pollution Agency since both ocean transport and international air transport are included. ³ Excl. households.

Source: Statistics Norway.

## Greenhouse gas emissions and output, by households and industries. Per cent of total. 2009\*

	Emissions of greenhouse gases. Per cent	Output. Per cent
Agriculture, forestry and fishing	10	2
Oil and gas extraction, incl. mining	22	15
Manufacturing industries	19	18
Energy, water supply and construction	5	9
Transport	32	8
Services <sup>1</sup>	2	31
General government <sup>2</sup>	2	17
Households	8	

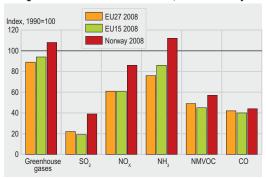
<sup>&</sup>lt;sup>1</sup> Services incl. Wholesale, Maintenance, Hotels and Restaurants.

Source: Statistics Norway.

Latest article	http://www.ssb.no/nrmiljo_en/ http://www.ssb.no/knr_en/
StatBank Norway	http://www.ssb.no/en/table/nrmiljo/ http://www.ssb.no/en/table/knr/

<sup>&</sup>lt;sup>2</sup>General government incl. Education and Health and social work.

### Changes in emissions from 1990 to 2008, EU1 and Norway



<sup>1</sup> The EU provides figures for SO<sub>X</sub> rather than SO<sub>X</sub>.

Source: European Environment Agency - EEA, Statistics Norway and Norwegian Climate and Pollution Agency.

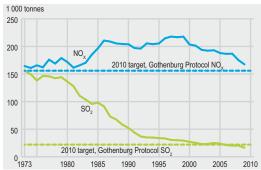
# Emissions of (CO<sub>2</sub>), methane (CH<sub>4</sub>) and nitrous oxide (N<sub>2</sub>O), percentage change and GWP value of the gases

	CO <sub>2</sub> Million tonnes	CH <sub>4</sub> 1 000 tonnes	N <sub>2</sub> O 1 000 tonnes
1990	34.8	221.7	15.2
1995	37.8	231.7	14.2
2000	41.6	225.6	14.5
2005	42.8	211.6	15.1
2009	42.4	203.0	9.6
Change 1990-2009 (per cent)	21.9	-8.4	-37.0
. , ,			
GWP value <sup>1</sup>	1	21	310
1 Impact on greenhouse effect of emissi	on of 1 tonne of the ga	s compared with that o	f 1 tonne CO <sub>2</sub> .

<sup>&</sup>lt;sup>1</sup>Impact on greenhouse effect of emission of 1 tonne of the gas compared with that of 1 tonne CO<sub>2</sub>. Source: Statistics Norway and Norwegian Climate and Pollution Agency.

Latest article	http://www.ssb.no/klimagassn_en/
StatBank Norway	http://www.ssb.no/tabell/luft_en/
International data	http://www.eea.europa.eu/publications/european-union- greenhouse-gas-inventory-2010/
	http://www.eea.europa.eu/publications/european-union- emission-inventory-report

# Emissions of NO<sub>X</sub> and SO<sub>2</sub> and 2010 target, Gothenburg Protocol



Source: Statistics Norway and Norwegian Climate and Pollution Agency.

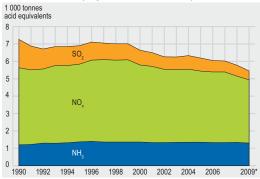
### Emissions of NO<sub>X</sub> and SO<sub>2</sub> by source. 1 000 tonnes

	NO <sub>x</sub>		SO <sub>2</sub>	
	1980	2009	1980	2009
Total	172	168	136	16
Stationary combustion	27	50	58	4
Process emissions	12	7	61	8
Mobile combustion	132	111	18	4

Source: Statistics Norway and Norwegian Climate and Pollution Agency.

Latest article	http://www.ssb.no/agassn_en/
StatBank Norway	http://www.ssb.no/en/table/luft/

### Emissions of acidifying substances in Norway



Source: Statistics Norway and Norwegian Climate and Pollution Agency.

### Emissions of SO<sub>2</sub> and NO<sub>X</sub> per capita, selected countries

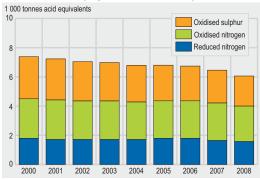
	SO <sub>2</sub> Kg per capita		NO <sub>x</sub> Kg per capita	
	1990	2008	1990	2008
UK	63	9	50	24
Germany	64	6	35	17
Russia <sup>1</sup>	42	12	25	24
Sweden	13	3	34	17
Denmark	33	4	50	28
Norway	12	4	50	38

<sup>&</sup>lt;sup>1</sup> Figures according to "Expert emissions used in EMEP models". The figures apply to the European part within the EMEP area.

Source: EMEP - European Monitoring and Evaluation Programme.

Latest article	http://www.ssb.no/agassn_en/
StatBank Norway	http://www.ssb.no/en/table/luft/
EMEP	http://www.ceip.at/

### Deposition of acidifying substances in Norway



Source: EMEP.

### Imports of ozone-depleting substances to Norway. ODP tonnes1

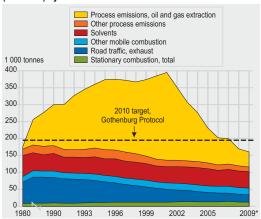
	ODP-tonnes
1986	2 911
1990	2 196
1995	97
2000	60
2005	15
2009	16

<sup>&</sup>lt;sup>1</sup>The ozone-depleting potential (ODP) varies from one substance to another, and the figures are totals weighted according to the ODP of each substance (ODP factors).

Source: Norwegian Climate and Pollution Agency.

EMEP	http://www.emep.int/publ/reports/2010/Country_Reports/ report_NO.pdf
	http://www.environment.no/Goals-and-indicators/Goals-and-
Norway	indicators/Depletion-of-the-ozone-layer/

# Emissions of non-methane volatile organic compounds (NMVOCs) by source



Source: Statistics Norway and Norwegian Climate and Pollution Agency.

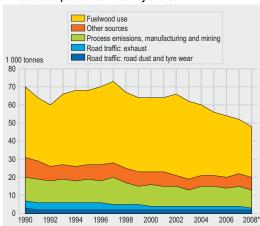
#### Emissions of carbon monoxide by source, 1 000 tonnes

		,		
	1990	1995	2000	2008*
Total	868	735	566	383
Road traffic: exhaust	553	434	277	150
Housing	152	159	163	126
Other sources	162	142	126	107

Source: Statistics Norway and Norwegian Climate and Pollution Agency.

Latest article	http://www.ssb.no/agassn_en/
StatBank Norway	http://www.ssb.no/en/table/luft/

### Emissions of particulate matter by source



Source: Statistics Norway and Norwegian Climate and Pollution Agency.

### Emissions of heavy metals. kg

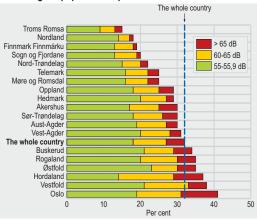
	1990	1995	2000	2008*
Lead	187 457	23 459	9 015	6 786
Mercury	1 506	877	756	624
Cadmium	1 112	985	690	547
Copper	22 131	19 001	19 494	22 685
Chromium	12 603	11 176	8 498	2 339
Arsenic	3 144	2 947	2 439	1 529

Source: Statistics Norway and Norwegian Climate and Pollution Agency.

Latest article	http://www.ssb.no/milgiftn_en/
StatBank Norway	http://www.ssb.no/en/table/luft/

## Noise

### Percentage of population exposed to road traffic noise. 2007



Source: Statistics Norway and Directorate of Public Roads.

### Noise annoyance index1, by source

	Index 2007	Percentage 2007	Change 1999-2007. Per cent
Total – all identified sources	603 900	100	9
Road traffic	476 700	79	15
Manufacturing Other industry	27 100 15 100	4	5 -1
Air traffic	25 100	4	-13
Railways	21 900	4	-31
Other sources <sup>2</sup>	38 000	6	

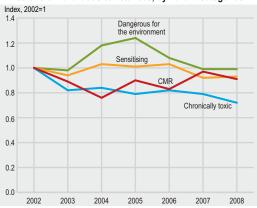
<sup>&</sup>lt;sup>1</sup>The index is calculated by multiplying the number of exposed person within each sound level with an average degree of annoyance for the sound level in question.

Source: Statistics Norway.

<sup>&</sup>lt;sup>2</sup> Construction, motor racing tracks and shooting ranges.

### Hazardous substances

### Emissions of hazardous substances, by hazard categories



Source: Statistics Norway.

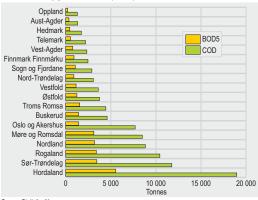
# Consumption and emissions of hazardous substances, by hazard categories. 1 000 tonnes

	2002	2004	2008
Consumption			
CMR (carcinogenic, mutagenic and reprotoxic)	5 883	7 474	5 576
Chronically toxic	264	219	194
Sensitising	141	126	149
Long-term environmental effects	588	418	643
Emissions			
CMR (carcinogenic, mutagenic and reprotoxic)	15,4	11,7	13,9
Chronically toxic	1,1	0,9	0,8
Sensitising	3,7	3,8	3,5
Long-term environmental effects	4,8	5,7	4,8

Source: Statistics Norway.

## Water pollution

Municipal waste water. Discharges of organic material measured as biochemical oxygen demand (BOD5) and chemical oxygen demand (COD). Counties. 2008



Source: Statistics Norway.

# Inputs of phosphorus and nitrogen to the North Sea region. Tonnes

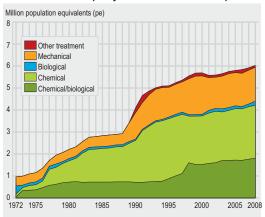
	Phosp	Phosphorus		Nitrogen	
Year	Total	Of this from municipal waste water	Total	Of this from municipal waste water	
1985	1 465	928	32 231	11 929	
1995	836	344	26 855	10 362	
2005	653	216	21 107	7 123	
2007	630	203	22 400	7 839	
2008	622	209	22 389	8 753	

Source: Norwegian Institute for Water Research.

Latest article	http://www.ssb.no/avlut_en/
StatBank Norway	http://www.ssb.no/en/table/avlut/
State of the Environment Norway	http://www.environment.no/Topics/Water-pollution/

## Water pollution

### Trend in treatment capacity at waste water treatment plants



Source: Statistics Norway.

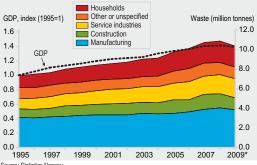
# Discharges of phosphorus and nitrogen from waste water treatment plants

	2000	2007	2008
Phosphorus			
Total (tonnes)	825	785	801
Discharges per inhabitant connected (kg)	0.2	0.2	0.2
Treatment efficiency (per cent)	66.8	69.3	70.1
Nitrogen			
Total (tonnes)	13 191	12 604	12 701
Discharges per inhabitant connected (kg)	3.7	3.3	3.2
Treatment efficiency (per cent)	27.7	31.4	32.7

Source: Statistics Norway.

Latest article	http://www.ssb.no/avlut_en/
StatBank Norway	http://www.ssb.no/en/table/avlut/

### Waste in Norway, by source. Change in GDP



Source: Statistics Norway.

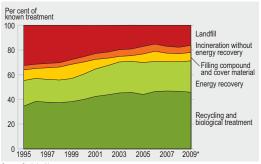
### Waste in Norway, by material. 1 000 tonnes

	1995	2000	2005	2009*1
Total	7 342	8 408	9 747	10 400
Paper, cardboard and pasteboard	887	1 081	1 177	1 200
Wood waste	1 328	1 311	1 481	1 600
Biodegradable waste	1 070	1 270	1 490	1 700
Plastic	327	380	437	510
Metals	919	936	1 054	1 100
Hazardous waste	632	672	966	1 100
Other materials	2 179	2 758	3 142	3 200

<sup>&</sup>lt;sup>1</sup> The total sum differs from the sum of the categories due to rounding off of figures. Source: Statistics Norway.

Overview	http://www.ssb.no/avfall_en/
Latest article	http://www.ssb.no/avfregno_en/
StatBank Norway	http://www.ssb.no/en/table/avfregno/

### Non-hazardous waste by treatment/disposal



Source: Statistics Norway.

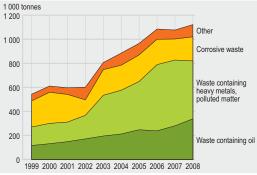
### Emissions from waste incineration and landfills. Percentages of total Norwegian emissions in 2008 and change since 1990

	Percentage of total Norwegian emissions	Percentage change from 1990
Incineration plants	-	
Sulphur dioxide	0.6	-65
Nitrogen oxides	0.4	-24
Carbon dioxide1	0.4	95
Lead	0.5	-98
Cadmium	0.4	-98
Mercury	13.0	-52
Arsenic	0.2	-98
Chromium	0.2	-98
Copper	0.1	-94
Total PAH	0.8	-26
Dioxins	1.3	-98
Landfills		
Methane (greenhouse gas)1	2.0	-37

<sup>&</sup>lt;sup>1</sup>Calculated as a percentage of total greenhouse gas emissions in CO<sub>2</sub> equivalents. Source: Statistics Norway and Norwegian Climate and Pollution Agency.

Latest article	http://www.ssb.no/avfhand_en/ http://www.ssb.no/avfregno_en/
StatBank Norway	http://www.ssb.no/en/table/avfhand/ http://www.ssb.no/en/table/avfregno/ http://www.ssb.no/en/table/luft/

### Hazardous waste for approved treatment, by material<sup>1</sup>



<sup>&</sup>lt;sup>1</sup> Based on register data from 1999 to 2002, and on survey of treatment facilities from 2003 to 2008. Source: Statistics Norway.

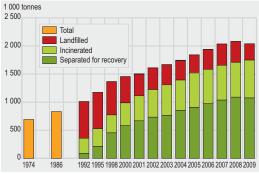
# Hazardous waste handled at approved facilities, by type of treatment. 1 000 tonnes

Treatment	2003	2008
Total	808	1 123
Recycling and energy recovery	95	164
Final disposal <sup>1</sup>	637	833
Exported	77	123
Stock changes <sup>2</sup>		2

Includes all types of landfilling, permanent storage, incineration without energy recovery and treatment that results only in non-hazardous products. <sup>2</sup> Stock changes 2003 included in final disposal. Source: Statistics Norway.

Latest article	http://www.ssb.no/avfhand_en/
	http://www.ssb.no/avfregno_en/
	http://www.ssb.no/spesavf_en/
StatBank Norway	http://www.ssb.no/en/table/avfhand/
	http://www.ssb.no/en/table/avfregno/
	http://www.ssb.no/en/table/spesavf/

### Household waste by method of recovery or disposal



Source: Statistics Norway.

### Quantity of household waste and percentage for recovery. The 10 largest municipalities. 2009

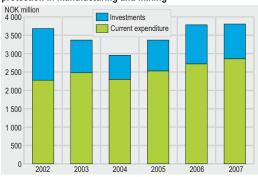
Municipalities by decreasing population	Household waste per capita. Kg	Separated for recovery. Per cent
Oslo	381	43
Bergen	360	39
Trondheim	388	47
Stavanger	377	63
Bærum	423	54
Kristiansand	490	61
Fredrikstad	580	45
Tromsø	316	49
Sandnes	377	63
Drammen	519	60

Source: Statistics Norway.

Latest article	http://www.ssb.no/avfkomm_en/
StatBank Norway	http://www.ssb.no/en/table/avfkomm/

## **Environmental protection expenditure**

# Investments and current expenditure for environmental protection in manufacturing and mining



Source: Statistics Norway.

# Environmental protection expenditure in manufacturing, mining and quarrying, by environmental domain. 2007

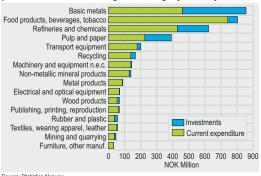
NOK Billion	Per cent
3.8	100
1.5	39.8
1.2	32.1
0.8	21.4
0.1	2.3
0.0	0.3
0.2	4.1
	3.8 1.5 1.2 0.8 0.1 0.0

Source: Statistics Norway.

Latest article	http://www.ssb.no/miljokostind_en/
StatBank Norway	http://www.ssb.no/en/table/miljokostind/

## **Environmental protection expenditure**

Investments and current expenditure for environmental protection in manufacturing and mining, by industry. 2007



Source: Statistics Norway.

# Environmental protection expenditure in the manufacturing industry, as percentage of GDP. Norway, the EU and selected countries

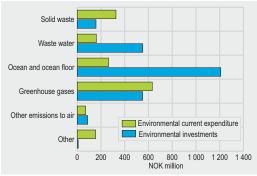
	2002	2005	2006	2007
Norway	0.2	0.2	0.2	0.2
EU-27	0.4	0.3	0.3	
EU-15	0.4	0.3	0.3	
Italy	0.7	0.6		
Czech Republic	0.0	0.6	0.6	0.6
Poland	0.7	0.5	0.5	0.5
Finland	0.4	0.3	0.3	
Netherlands	0.4	0.3		
Austria	0.3	0.3		
Sweden	0.3	0.3	0.3	0.3
Portugal	0.2	0.2	0.2	
Spain	0.2	0.2	0.2	
UK	0.2	0.2	0.2	

Source: Eurostat and Statistics Norway.

Latest article	http://www.ssb.no/miljokostind_en/
StatBank Norway	http://www.ssb.no/en/table/miljokostind/

## **Environmental protection expenditure**

# Environmental expenditure at Norwegian offshore oil and gasfields. 2008



Source: Statistics Norway.

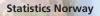
# Environmental expenditure in Norwegian oil and gas extraction by environmental domain. 2008. NOK Million

	Current environmental expenditure	Environmental	
Total	1 862	2 778	4 640
Solid waste	392	205	597
Waste water	201	557	758
Soil, groundwater, ocean and ocean floor	267	1 230	1 497
Greenhouse gas emissions	738	555	1 294
Other emissions to air	91	223	314
Other	171	8	180

Source: Statistics Norway.



2005-2010. Municipalities. Decares



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