The use of the UN FDES in Qatar

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Qatar Facts

- Total area: 11,580 km^2
- Population (August 2013): 1,864,817
  - Male: 1,419,678
  - Female: 445,139
- Precipitation: 82 mm/year (1990-2008)
- Temperature (mean max):
  - Summer: 41.3 °C
  - Winter: 23.6 °C
- GDP per capita: $80,440 (2011)
- CO_2 emitted/person: 46.1 t/year
- Water use: ~310 l per capita per day

Baseline

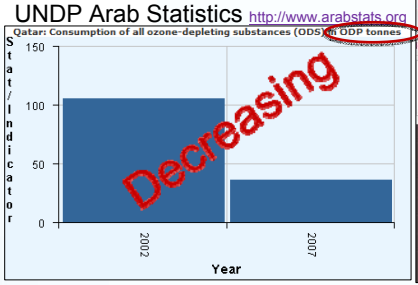
- Major policy needs are defined by
  - Qatar National Vision 2030
  - Qatar National Development Strategy 2011-2016
- Annual Environment Statistics available:
  - QSA website
  - Environment Statistics Report
  - Main data source: Ministry of Environment
- Needs:
  - Classifications, Terminology, units of measurements
  - Data quality (coverage, coherence, consistency)
  - Metadata
  - Better adressing national and international information needs
  - Coordination with users and producers

Main stumbling blocks in the past

- **Comprehensive view missing:**
  - e.g. total use of groundwater from different resources for water statistics
- **Different classifications used by data providers:**
  - Municipal, Agricultural, Industrial...
  - International Standard Industry Classification (ISIC)
  - Residential Flat, Residential Villa, Commercial, Big Hotels, Small Hotels, Industries, Government, Special Rate
- **National classifications deviating from internationally used classifications:**
  - E.g. IUCN red list categories versus a nationally used classifications system
- **Different units of measurements:**
  - Imperial Gallons versus Metric System
  - Cubic meters per person per year versus liters per capita per day
- **Terminology, indicators and definitions, e.g.:**
  - Water per Capita Consumption and Per Capita Household Use of Water are used with several meanings and definitions

Example: Ozone Depleting Substances: Increasing or decreasing consumption in Qatar?

UNDP Arab Statistics http://www.arabstats.org



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Use of ozone depleting substances surges 43%

By Santhosh V. Perumal/Business Reporter

Qatar's total consumption of ozone depleting substances surged 43% to 2,027 metric tonnes (MT) in 2010 mainly due to a three-fold rise in hydrochlorofluorocarbons (HCFC), official figures show.

However, the use of ozone depleting substances in the country showed a highly uneven growth pattern with their consumption peaking in 2009, according to Qatar Statistics Authority (QSA) data for 2005-10.

The consumption of HCFC jumped more than three-fold year-on-year to 580.80MT in 2010, while it had risen 20% to 192.30MT in 2009 but more than quadrupled to 148.50MT in 2008, the environmental statistics, released by the QSA, stated.

Increasing

Montreal Protocol: Metric tonnes <> ODP metric tonnes!

QSA, Environment Statistics 2010

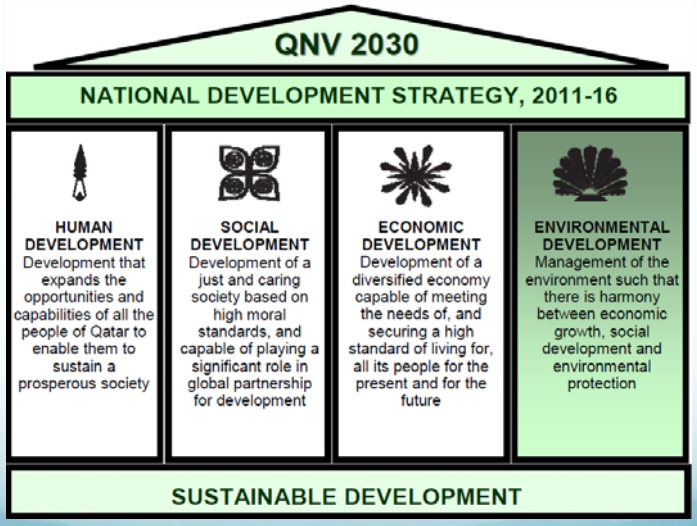
CONSUMPTION OF OZONE DEPLETING SUBSTANCES
- 2010

TABLE (2.7) (Unit:Metric Ton)

Substance \ Year	2010	2009	2008	2007	2006	2005
CFC-11 [1]	0.00	0.00	1.78	3.03	4.35	6.09
CFC-12 [1]	0.00	0.00	3.27	10.00	27.08	30.91
HCFC-22	1,446	1,225	604.00	427.78	325.85	272.22
HYDRO CHLOROFLUOROCARBON (134A)	580.80	192.30	148.50	35.44	0.00	0.00
Total	2,027	1,417	757.55	476.25	357.28	309.22

[1] Importation of (CFC-11 ,CFC-12) has been stopped by 2010, in accordance to Montreal Protocol.

The National Development Strategy defines the Policy Information Needs



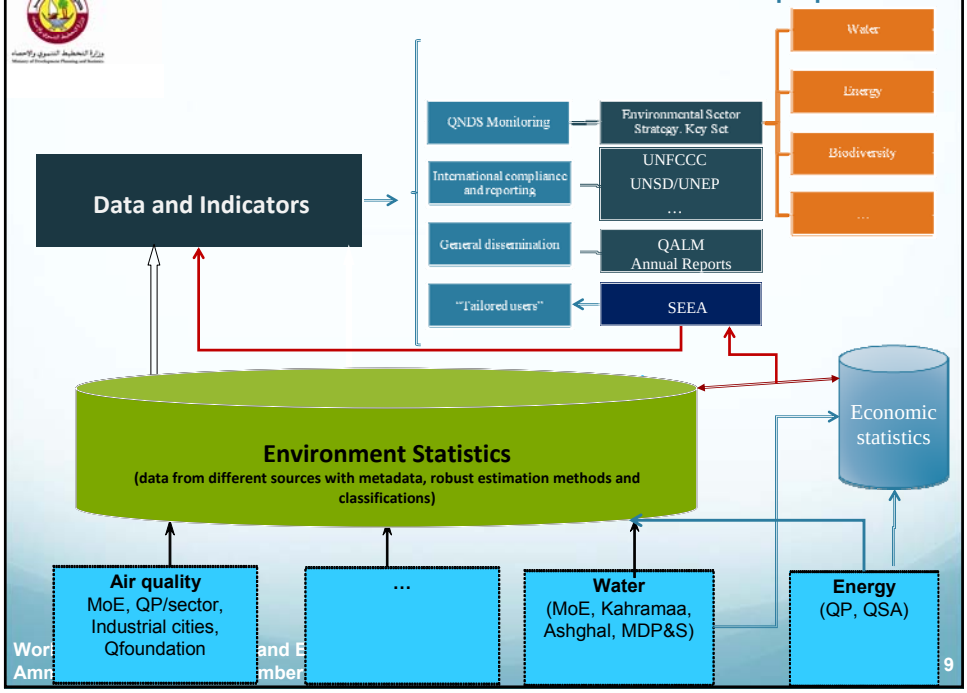
Policy Objectives and Information Needs (QNDS 2011-2016)

- **Water:** Cleaner water and sustainable use
- **Air quality and air pollution**: Cleaner air and effective climate change responses
- **Waste:** Reduced waste, more recycling and more efficient use
- **Biodiversity:** Nature and natural heritage conserved, protected and sustainably managed
- **Human habitat**: More sustainable urbanization and a healthier living environment
- **Awareness raising:** An increasingly environmentally aware population
- **Governance and cooperation:** Improved governance and regional and international cooperation

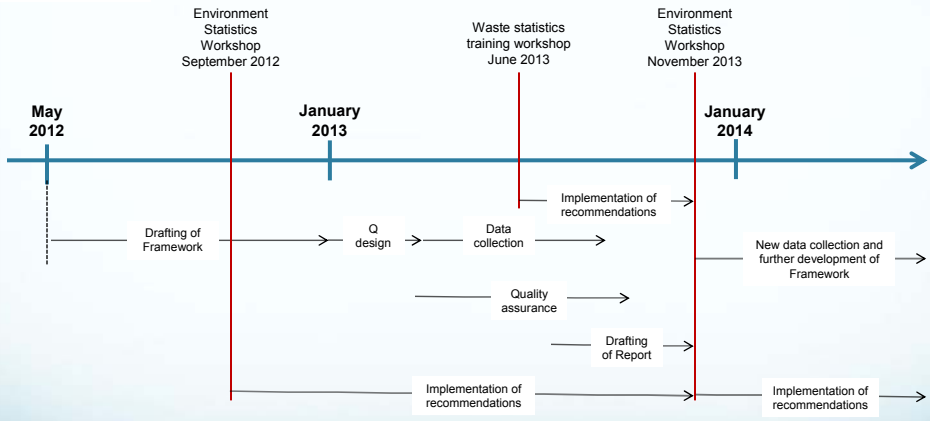
Use of the UN FDES in Qatar

- **Identification of a structured list of statistics with priority for implementation.**
- Top down: structured matching of various information needs with required environmental statistics
- Bottom-up: analyzing the international comparability of existing statistics (terminology, classifications, units of measurement, comprehensiveness, etc.)
- Matching the statistics framework with other (e.g. institutional) frameworks of main data providers (e.g. Kahramaa, Qatar Petroleum, etc.)
- Providing the foundation for the implementation of Environmental-Economic Accounts

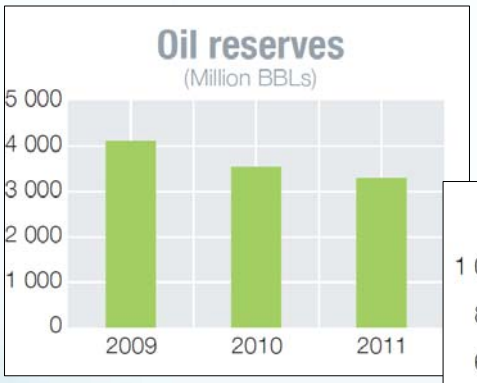
Qatari Framework for Environmental Statistics and multi-purpose uses

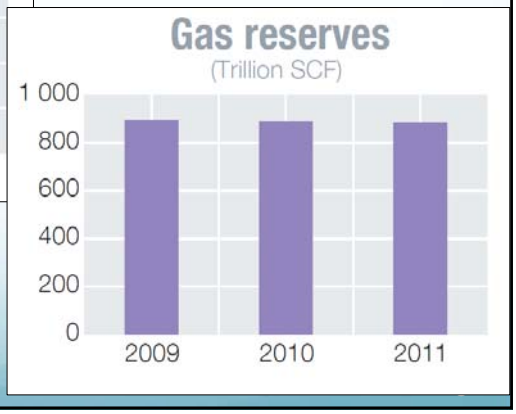


Timeline

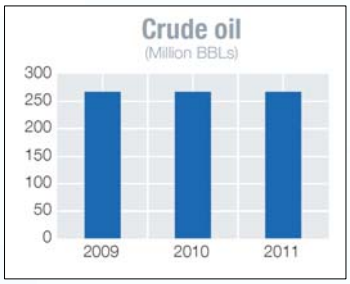


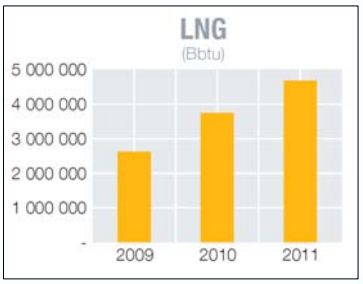
Energy – Environment
Examples for Energy Resources





Energy – Environment
Examples for Extraction of Energy Minerals, Energy Production and Consumption

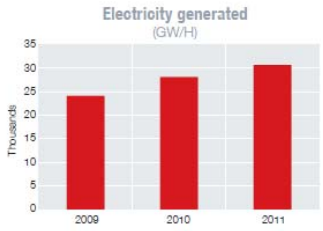




Electricity

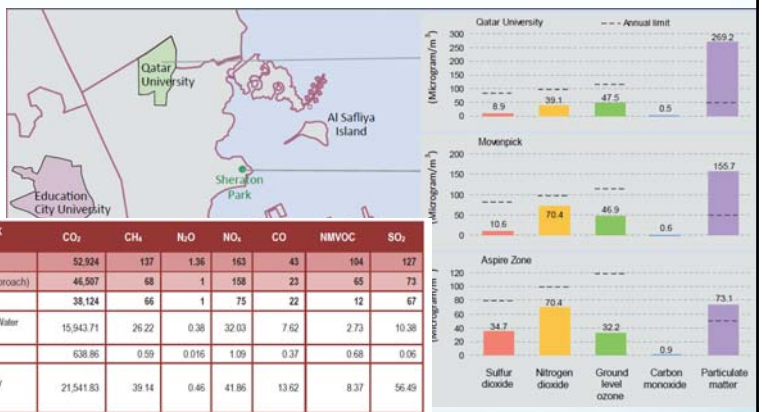
Particulars	2009	2010	2011
Electricity generated (GW/H)	24 158	28 144	30 731
Yearly change	11.8%	16.5%	9.2%
No. of customers	234 658	255 055	272 745
Electricity consumption (GW/H)	14 947	16 844	17 393
Yearly change	10.5%	12.7%	3.3%
Per capita consumption (KW/H)	12 727	14 485	15 053

Source: Kahramaa



Energy – Environment
Examples for Environmental Effects

Ambient Air Quality



GREENHOUSE GAS SOURCE AND SINK CATEGORIES	CO_2	CH_4	N_2O	NO_x	CO	NMVOC	SO_2
Total Energy	52,924	137	1.36	163	43	104	127
A Fuel Combustion Activities (Sectoral Approach)	46,507	68	1	158	23	65	73
1 Energy Industries	38,124	66	1	75	22	12	67
a. Public Electricity and Heat Production (plus Water Production)	15,943.71	26.22	0.38	32.03	7.62	2.73	10.38
b. Petroleum Refining	638.86	0.59	0.016	1.09	0.37	0.68	0.06
c. Manufacture of Solid Fuels and Other Energy Industries (Oil & Gas)	21,541.83	39.14	0.46	41.86	13.62	8.37	56.49
2 Manufacturing Industries and Construction	3,106	1	0	39	1	6	6
a. Iron and Steel	57.61	0.22	0.0045	0.39	0.24	0.06	0.79
b. Non-Ferrous Metals							
c. Chemicals	0	0	0	0	0	0	0
d. Pulp, Paper and Print							
e. Food Processing, Beverages and Tobacco							
f. Other (please specify: Cement + construction engines)	3,048.36	0.55	0.12	38.15	0.42	5.79	5.41
3 Transport	5,277	1	0	45	1	48	0
a. Civil Aviation	595	0	0	3	1	0	0

GHG Inventory

Core Set of Statistics (FDES)
Energy Resources

2.2.1.a: Mineral energy resources

- ✔ **2.2.1.a.1: Stocks of commercially recoverable resources**
- ✔ **2.2.1.a.5: Extraction**
- ✔ **2.2.1.a.11: Imports of energy minerals**
- ✔ **2.2.1.a.12: Exports of energy minerals**

Core Set of Statistics (FDES)
Energy Production and Consumption

2.2.2.a: Production of energy from non-renewable and renewable sources

- ✔ **2.2.2.a.1: Total**
- ✔ **2.2.2.a.2: Non-renewable sources**
- **2.2.2.a.3: Renewable sources**

2.2.2.b: Production of energy

- ✔ **2.2.2.b.1: Primary energy production**
- ✔ **2.2.2.b.2: Secondary energy production**

2.2.2.c: Total consumption of energy

2.2.2.d.: Electric energy

- ✔ **2.2.2.d.1: Electricity production**
- ✔ **2.2.2.d.2: Installed capacities**

Core Set of Statistics (FDES)
Environmental Effects

1.3.1.a: Breathable particles

- ✔ **1.3.1.a.1: Concentration levels of particulate matter (PM_{10})**
- ✔ **1.3.1.a.2: Concentration levels of particulate matter ($PM_{2.5}$)**

1.3.1.b: Breathable gases

- ✔ **1.3.1.b.1: Concentration levels of tropospheric ozone (O_3)**
- ✔ **1.3.1.b.2: Concentration levels of carbon monoxide (CO)**

1.3.1.c: Ambient concentrations of other relevant pollutants

- ✔ **1.3.1.c.1: Concentration levels of sulphur dioxide (SO_2)**
- ✔ **1.3.1.c.2: Concentration levels of nitrogen oxides (NO_X)**

2.3.1.a: Land use (related to energy production and consumption)

2.3.1.i.3: Change of land use category by origin and destination

Core Set of Statistics (FDES) Environmental Effects (cont.)

3.1.1.a: Total emissions of direct greenhouse gases (GHGs), by gas:

- ✔ **3.1.1.a.1: Carbon dioxide (CO_2)**
- ✔ **3.1.1.a.2: Methane (CH_4)**
- ✔ **3.1.1.a.3: Nitrous oxides (N_2O)**

3.1.1.b: Total emissions of indirect greenhouse gases (GHGs), by gas:

- ✔ **3.1.1.b.1: Sulphur dioxide (SO_2)**
- ✔ **3.1.1.b.2: Nitrogen oxides (NO_x)**

3.2.1.a: Volume of wastewater generated (related to energy production and consumption)

3.3.1.a: Amount of waste generated by economic activity (related to energy production and consumption)

Core Set of Statistics (FDES) Protection and Mitigation Activities

.1.1.a: Government environment protection and resource management expenditure (related to energy production and consumption)

6.1.1.a.1: Annual government environment protection expenditure

6.2.2.a: Direct regulation

6.2.2.a.1: List of regulated water pollutants and description

Conclusions

- Qatari Framework on Environment Statistics (QFES) and UN FDES:
  - Information priorities derived from QNDS and other national and international information needs
  - Information needs matched with UN FDES Core Set of Statistics
  - FDES enabled common understanding between QSA, key ministries and other institutions
  - FDES helped to harmonize and link existing national frameworks and concepts with international standards and designing of questionnaires
- Further development of QFES based on:
  - Results and experiences of 2012/2013 data collection
  - New policy needs (e.g. on renewable energy)
  - Results of communication with stakeholders

Thank you for your attention!

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