

Availability of Data on HNS Transport by Sea

IOPC Funds Study

Alun Lewis

Two questions

- What are the total quantities of HNS cargo - in each account / sector - currently being received by each State ?
- Where can individual States obtain information about quantities of HNS cargo being imported by sea ?

World seaborne trade

World seaborne trade was 6.758 billion tonnes in 2004

- Liquids 2,316 million tonnes
 - 1,769 million tonnes crude oil
 - 547 million tonnes "petroleum products*"
(*includes LNG, LPG, naphtha, gasoline, jet fuel, kerosene, light oil, heavy fuel oil and others)
- Dry cargo 4,442 million tonnes
 - 1,587 million tonnes of main bulk commodities
(iron, grain, coal, bauxite/alumina and phosphate)
 - 2,855 million tonnes of other dry cargo

Liquid bulks

- Oil

- Crude oil

HNS persistent oil

- Refined oil products

HNS non-persistent oil

- LNG

HNS LNG

- LPG

HNS LPG

- Liquefied chemical gases

HNS Other HNS

- Vegetable oils

Other HNS

- Liquid chemicals

Other HNS / not HNS

Oil account

- Persistent oils
 - Already submitted to IOPC Funds
- Non-persistent oils
 - Will be submitted for HNS

Persistent oils

- Crude oils and heavy fuel oils
 - Total of 1,371 million tonnes contributions as in IOPC Funds Annual Report 2005

Member State	Contributing Oil (Thousand tonnes)	% of Total
Japan	243,816	17.79
Italy	137,435	10.03
Republic of Korea	118,353	8.63
Netherlands	108,995	7.95
India	104,977	7.66
France	101,787	7.43

Non-persistent oils

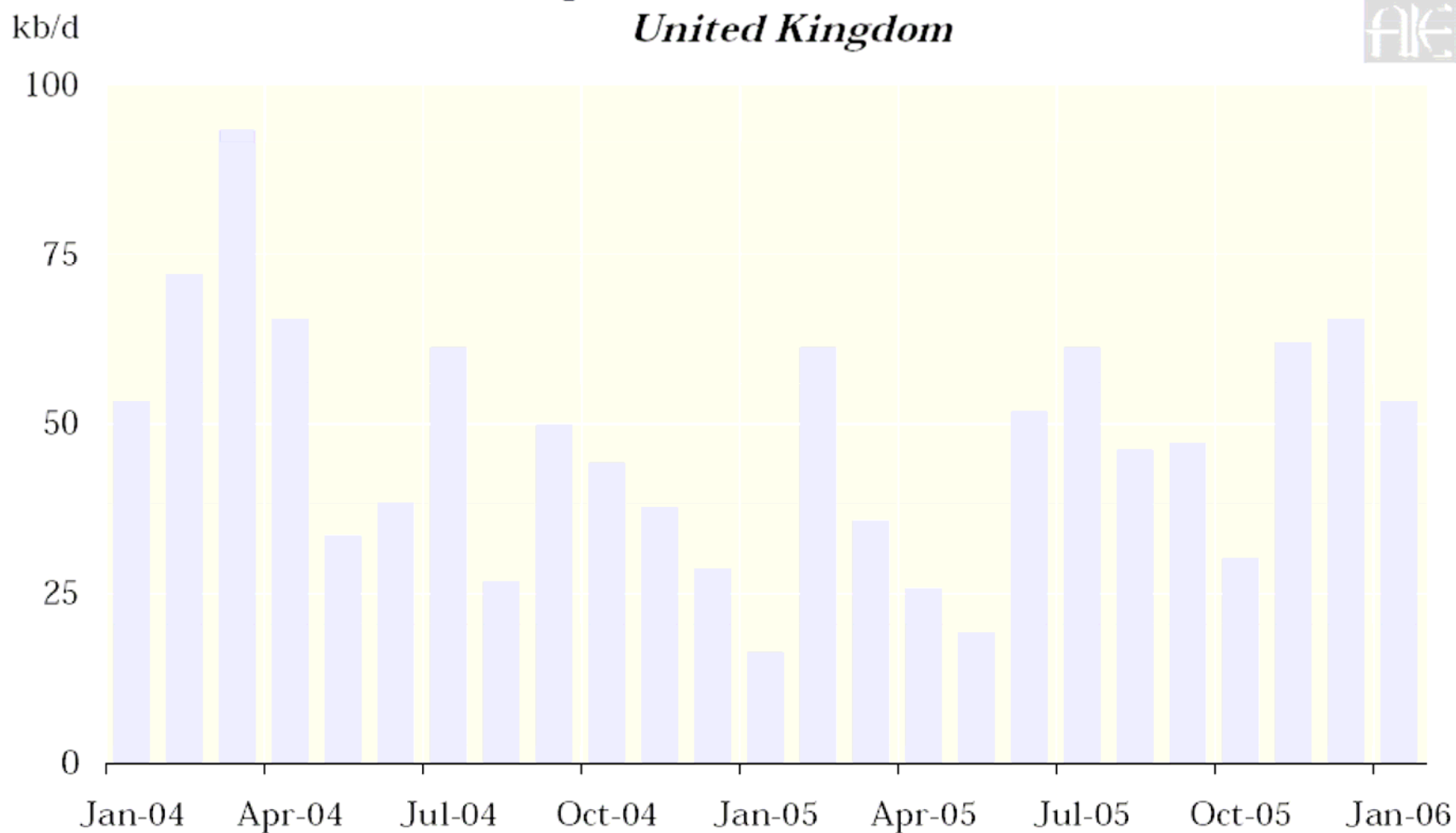
- IEA (International Energy Agency) publishes information on production, export, import and consumption of:

■ Crude oil	Persistent oil
■ Natural Gas Liquids	Non-persistent oil
■ Refinery Feedstocks	Non-persistent oil
■ Naphtha	Non-persistent oil
■ LPG	LPG
■ Motor Gasoline	Non-persistent oil
■ Aviation Gasoline	Non-persistent oil
■ Jet Kerosene	Non-persistent oil
■ Kerosene	Non-persistent oil
■ Gas/Diesel oil	Non-persistent oil
■ Residual Fuel Oil	Persistent oil

IEA Petroleum Product database

- The Energy Statistics Division of IEA maintains and updates databases that detail statistics on:
 - Production, imports, exports and uses of all oil products on a country by country basis.
 - Data is collected by official bodies (often national statistical offices) in OECD Member countries from firms, government agencies and industry. Data also collected for non-OECD countries
- Produces IEA Monthly Market reports

Imports of Motor Gasoline *United Kingdom*



Examples of non-persistent oil imports 2003

	Total non-persistent oil imports '000 tonnes
Netherlands	39,014
Japan	33,309
Germany	29,987
France	23,503
Korea	19,599
UK	19,580
Singapore	15,632
Spain	15,417
Italy	9,642
Sweden	5,554
Australia	5,404

Transport route

- IEA Petroleum Product database does not specify transport route
- EUROSTAT has a searchable database that specifies import route as:
 - **Sea**
 - Road
 - Rail
 - Inland waterway
 - Fixed mechanism
- EU member states only

LNG account

- Relatively few States export and import LNG
 - Will change in near future
- Almost all (~99%) LNG is transported between States by sea
- Several sources of information on quantities
 - US Energy Information Administration
 - BP Statistical Review

2004 LNG imports	Total Imports (billion cubic feet)
Japan	2,874
Korea	1,049
United States	652
Spain	618
Taiwan	332
France	269
Italy	215
Turkey	146
Belgium	109
India	93
Portugal	49
Puerto Rico	24
Greece	17
Dominican Republic	6

LPG account

- LPG transported by sea in bulk and in packaged form (cylinders)
- More diffuse data on quantities available:
 - IEA Energy Information Centre
 - Compiled from data supplied official bodies, firms, government agencies and industry
 - LPG World (industry journal)

2003 LPG imports	Total imports (thousand tonnes)
Japan	14,029
China	6,367
Korea	4,338
Turkey	3,088
Mexico	2,793
Poland	1,779
India	1,732
Italy	1,690
France	1,674
Netherlands	1,664
Egypt	1,303
Morocco	1,219
Spain	995

Availability of information

- Information on quantity of imports of:
 - Persistent oils (crude oils and heavy fuel oils)
 - Non-persistent oils (oil products)
 - LNG
 - LPG
- Is already routinely collected by official bodies in all countries
- Openly-available data has been aggregated and some detail (e.g. transport route) has been lost
 - But will be available to government agencies

General Account

- Bulk solids account
 - BC Code
- Other HNS account
 - IGC Code (except LNG and LPG)
 - IBC Code
 - Marpol
 - Flash Point
 - Packaged: IMDG

Major dry bulks

- Coal Not HNS
- Iron ore Not HNS
- Grain Not HNS
- Bauxite & alumina Not HNS
- Phosphate rock Not HNS

Minor dry bulks and others

Minor dry bulks

- Steel products Not HNS
- Forest products Not HNS
- Fertilizers **HNS**
- Cement Not HNS
- Scrap Not HNS
- Sugar Not HNS
- Soya meal Not HNS
- Rice Not HNS
- Pig iron Not HNS
- Coke Not HNS
- Manganese Not HNS

Only minor and very specific dry bulks are HNS

- Some metal products and by-products
- Some nitrates
- Fertilizers
- Some beans, seeds and fish
- Some radioactive material
- Sulphur in some forms

- Information on imports is available from specialist trade bodies
 - For example; (IFIA) International Fertilizer Industry Association - IFA Production and International Trade Committee

General account

- Other HNS account
 - IGC Code (except LNG and LPG)
 - IBC Code
 - Marpol
 - Flash Point
 - Packaged: IMDG

Other HNS

- 2810 substances
 - Liquids (IBC Code) are mainly petrochemicals
 - Some are internationally traded in large volumes
 - Many are trade name additives or surfactants (removing trade names reduces number to 1087)
 - Most are traded in very small volumes
 - Very few bulk inorganic chemicals
 - IGC Code (gases)
 - Except LNG and LPG,
 - Mainly petrochemicals

Of the 2,810 “Other HNS” substances, how many are actually traded in volume?

- About 50 chemicals are traded in bulk as commodities
 - Traded prices quoted in Platts and other trader’s journals
- Divided into:
 - Petrochemicals
 - Intermediates and monomers
 - polymers
 - Solvents
 - Others

Availability of information

- Does an openly available database of seaborne transport of these “Other HNS” cargoes exist?
 - No
- Sources of relevant information:
 - Industry / Commodity traders / Specialist market information companies
 - Government / Customs

International trade statistics

- All modern, computerized Customs declaration systems depend on the HS Code (Harmonized System) classification
- Every substance or article traded around the world can be identified by a code number:
 - SITC Rev 3, NAICS, CN or HS 6- or 10-digit HS Code
- 190 countries and Customs or Economic Unions representing about 98 % of world trade, currently use the HS Codes
- Could this be used for HNS contributing cargo ?

CN Code	Description
2902	Cyclic hydrocarbons
	- Cyclanes, cyclenes and cycloterpenes
2902 11 00	- - Cyclohexane
2902 19	- - Other
2902 19 10	- - - Cycloterpenes
2902 19 80	- - - Other
2902 20 00	- Benzene
2902 30 00	- Toluene
	- Xylenes
2902 41 00	- - o-Xylene
2902 42 00	- - m-Xylene
2902 43 00	- - p-Xylene
2902 44 00	- - Mixed xylene isomers
2902 50 00	- Styrene
2902 60 00	- Ethylbenzene
2902 70 00	- Cumene

Public searchable databases

- Public databases using HS Codes are available at different levels:
 - Global - UN
 - <http://unstats.un.org/unsd/default.htm>
 - European - EUROSTAT
 - <http://epp.eurostat.ec.eu.int/>
 - National trade statistics
 - For example: <http://www.uktradeinfo.com/>
- Anyone can track imports of HNS substances between States

Packaged HNS

- IMDG Code (packaged) 2251 entries
 - Extremely wide variety of substances
 - But, in most cases, received in very small individual quantities
 - Total quantities would need to be totalised to determine trade in these substances and articles
- Packaged HNS imports can also be tracked by using the HS Code system

Conclusions

- High volume of HNS contributing cargo will be:
 - Persistent oils (crude oils and heavy fuel oils)
 - Information already obtained by IOPC Funds
 - Non-persistent oils
 - Information is readily available
 - LNG
 - Information is readily available
 - LPG
 - Information is readily available
- Information for these sectors of General Account is readily available

Conclusions

- Lower volume HNS contributing cargo in the General Account will be:
 - Bulk solids
 - Limited and very specific cargo
 - “Other HNS” bulk liquids
 - Dominated by major petrochemicals and a few inorganic chemicals
 - Packaged
- Information on imports of these substances can be found by using Customs HS Code data