MOS OIL AND EMERGENCY STOCKS – IMPLEMENTATION AND CHALLENGES

Christian Kröppl
Eurostat, Unit E.5 Energy

10th Oil Forum of the Energy Community
25 September 2018
Eurostat's mission: to be the leading provider of high quality statistics on Europe.

Key task: to provide the European Union with statistics at European level that enable comparisons between countries and regions.

Data comparisons between countries is possible if, and only if statistical methodologies are harmonised!
Overview

• Situation of the Energy Community
• Legal basis
• Are you ready for emergency oil stocks reporting?
• Workflow
• Typical problematic issues
• Emergency Oil Stocks available in Eurobase
Situation in the Energy Community Contracting Parties

Albania  no MOSOIL sent
Bosnia and Herzegovina  no MOSOIL sent
Kosovo*  no MOSOIL sent
Georgia  no MOSOIL sent
The Former Yugoslav Republic Of Macedonia  MOS OIL sent, but Table 5b_5c & stocks breakdown not filled

Republic of Moldova  no MOSOIL sent
Montenegro  no MOSOIL sent
Serbia  no MOSOIL sent
Ukraine  no MOSOIL sent

* (under United Nations Security Council Resolution 1244/99)
General framework legislation for Eurostat

- Regulation (EC) No 223/2009 on European statistics
  - laying out the way the European Statistical System (ESS) should be organised and outlining the main duties of its members (Statistical Confidentiality)

- Commission decision on Eurostat (2012/504/EU)
  - defines the role and responsibilities of Eurostat
Legal basis for MOSOIL

  - covers energy data collection for all fuels
  - harmonized at international level

Amended by:
- Commission Regulation (EU) No 844/2010
- Commission Regulation (EU) No 147/2013
- Commission Regulation (EU) No 431/2014

Legal basis for MOSOIL

Directive 2009/119/EC of 14 September 2009 imposing an obligation on Member States to maintain minimum stocks of crude oil and/or petroleum products

- Lays down certain end results that must be achieved in every Member State
- National authorities have to adapt their laws to meet these goals, but are free to decide how to do so
- Amendment is coming soon
Are you ready for emergency oilstocks reporting? (1)

- Which type of emergency stocks?
- Which organisation will send the questionnaire?
- Is the work to be done each month/year allocated?
- Is the transposition of the Directive done completely?
Are you ready for emergency oilstocks reporting? (2)

- Are you in contact with all the participants in the domestic oil market?
- All stakeholders are trained or at least informed?
- Is the calculation and reporting methodology clear?
- Do you have the necessary resources?
Which type of emergency stocks?

Who to hold?
• Government/Agency/Industry

What to hold?
• Crude oil / products
  Some restrictions

Where to hold it?
• In the country/abroad
  Availability and physical accessibility to be taken into account
• Own/rented storage
• Commingled/segregated
Which type of emergency stocks? Stockholding Regimes in Europe

**Government Stocks**
- Financed by government budget
- Held exclusively for emergency purposes

**Stocks held by stockholding organizations**
- Held by dedicated bodies/agencies/entities
- Usually held exclusively for emergency purposes

**Industry Stocks**
- Stocks held under an obligation imposed on companies (compulsory stocks)
- (Commercial stocks)

Most Member States have a mixed system
Which type of emergency stocks? Central stockholding entity (CSE)

Each Member State may set up one CSE
- Can be an industry-related entity but the Member State should designate it as the CSE

A body or service without profit objective, acting in the general interest
Main purpose: to acquire, maintain and sell oil stocks

Can delegate tasks relating to the management of stocks to other CSEs, Member States and economic operators

Economic operators can delegate their obligation to CSEs
CSEs to publish volumes it can maintain for economic operators and the conditions

An obligation to establish a CSE when
- the right of economic operators to delegate is limited to less than 10% (30% after 5 years) of their stockholding obligation (Article 8(2))
Which type of emergency stocks? Delegations - 1

What is a delegation?
- For a fee, the economic operator is relieved from (all or part of) its stockholding obligation
- The entity "receiving" the delegation has to hold the stocks

What is a subdelegation?
- The "receiving" entity delegates the obligation further
Which type of emergency stocks?
Delegations - 2

*MS shall ensure that economic operators can effectively delegate at least a part of their stockholding obligation*

*Economic operators can freely choose the way of delegation among a)-d) of Article 8 as there is no priority order*

*No subdelegation in certain cases*

*The right to delegate can be restricted*

*Member States can require economic operators to delegate at least part of the obligation to its (national) CSE*
Which organisation will send the questionnaire?

- National Statistical offices (NSI’s)
- Ministries
- ONA's (Other National Authorities) e.g. CSE
Which organisation will send the questionnaire?

ONAs – Other National Authorities

List of National Statistical Institutes and other national authorities responsible for the development, production and dissemination of European statistics as designated by Member States (updated: 9 June 2015)

The list above is published for information only in accordance with Article 5(2) of Regulation (EC) No 223/2009 of the European Parliament and of the Council of 11 March 2009 on European statistics (OJ L 87, 31.3.2009, p. 164). It is updated regularly. Where necessary, the names of the National statistical institutes and other national authorities have been translated into English by Eurostat.

For further information:

Procedure to update the list

Other National Authorities – Practical considerations, agreed on ESS Committee meeting on 15 May 2014

link to ESS page: http://ec.europa.eu/eurostat/c/portal/layout?p_l_id=747716&p_v_l_s_g_id=0

link to the ONAs list: http://ec.europa.eu/eurostat/documents/747709/753176/List_ONAs.SK.09062015/266c54b6-f9b7-48f5-acf8-dbf7db22d2b2
Is the work to be done each month/year allocated? - 1

Monthly reporting of emergency and commercial stocks

- Through the MOS questionnaire
- Reported to Eurostat under Regulation 1099/2008 on energy statistics and Directive 2009/119/EC
- To be submitted to Eurostat 55 days after the reference month
- Questionnaire and reporting instructions are available at Eurostat
  https://ec.europa.eu/eurostat/web/energy/methodology/monthly
Is the work to be done each month/year allocated? - 2

**MOS Oil questionnaire**

**Developed and used jointly with the IEA**

**Covers production, exports, imports, refining, stocks ...**

**Covers also stocks-related data under the oil stocks directive (Article 12, Article 14 and Annex IV)**

- **Table 5b "EU-Emergency Stocks"**
- **Table 5c "EU-Commercial Stocks"**
- **Table 8c "Stocks held abroad, of which pursuant to government / CSE delegation"**
- **Days Equivalent Calculation sheet to calculate compliance**
| (EU-a) Emergency stocks (Total) on national territory Opening 1 | Crude oil A | Natural gas liquids B | Refinery feedstocks C |
|---|---|---|
| (EU-b) Stocks held for other EU Opening 3 |
| Member States under official agreement Closing 4 | 0 | 0 | 0 |
| (EU-c) Stocks with known foreign EU destination Opening 5 |
| foreign EU destination Closing 6 | 0 | 0 | 0 |
| (EU-g) Stocks held by government on national territory Opening 7 |
| Closing 8 |
| (EU-h) Stocks held by the Central Stockholding Entity (CSE) on national territory Opening 9 |
| Closing 10 |
| (EU-ie) Stocks held by Economic Operators on national territory Opening 11 |
| Closing 12 |
| (EU-j) Stocks held abroad in other EU Opening 13 |
| Member States under official agreement Closing 14 | 0 | 0 | 0 |
| (EU-k) Stocks held abroad in EU, designated definitely for import into your country Opening 15 |
| Closing 16 | 0 | 0 | 0 |
| (EU-l) Total Emergency Stocks held by the MS in accordance with the EU Directive 2006/119/EC Opening 17 | 0 | 0 | 0 |
| Closing 18 | 0 | 0 | 0 |
Are you in contact with all the participants in the domestic oil market?

- Producers
- Importers
- Traders
- Whole salers
- Refiners
- Large consumers
Is the work to be done each month/year allocated? - 3

Register of emergency stocks (Article 6)
- Continually updated
- Quantity, nature, owner and location of stocks
- Summary copy to be sent to Commission by 15 March

Annual report for Member State with less than 30 days of specific stocks (Article 9(5))
- measures taken by national authorities to ensure and verify the availability and physical accessibility of emergency stocks
- Arrangements allowing the Member State to control the use of these stocks in case of oil supply disruptions
- to be sent to the Commission by the end of January

Imposing stockholding obligations
Verifying the availability and physical accessibility
Is the calculation and reporting methodology clear?

Interaction Table 1/Table 2 – Table 3/Table 4

<table>
<thead>
<tr>
<th>Country</th>
<th>2007</th>
<th>2008</th>
</tr>
</thead>
<tbody>
<tr>
<td>Algeria</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Benin</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Bolivia</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Burkina</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Cameroon</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Côte d'Ivoire</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Czech Republic</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Denmark</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Egypt</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Estonia</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Fiji</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Finland</td>
<td></td>
<td></td>
</tr>
<tr>
<td>France</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Georgia</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Germany</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Gibraltar</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Greece</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Hungary</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Iceland</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Ireland</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Israel</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Italy</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Japan</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Latvia</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Lithuania</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Luxembourg</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Malaysia</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Moldavia</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Morocco</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Netherlands</td>
<td></td>
<td></td>
</tr>
<tr>
<td>New Zealand</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Norway</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Oman</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Pakistan</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Panama</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Peru</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Portugal</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Qatar</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Russia</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Saudi Arabia</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Senegal</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Singapore</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Slovenia</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Spain</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Sri Lanka</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Sweden</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Switzerland</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Taiwan</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Turkey</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Ukraine</td>
<td></td>
<td></td>
</tr>
<tr>
<td>United Arab Emirates</td>
<td></td>
<td></td>
</tr>
<tr>
<td>United Kingdom</td>
<td></td>
<td></td>
</tr>
<tr>
<td>United States</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Uzbekistan</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Vietnam</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Yemmen</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Imports = Total Imports
Exports = Total Exports

Table 1, Direct use = Table 2, Primary product receipts
Table 1, Refinery intake >= Table 2, Refinery gross output

Table 2, Product transferred = Table 1, Product transferred
Is the calculation and reporting methodology clear?
Interaction in Table 2

Interproduct Transfers
reclassification of products

- e.g. 10 kt Naphtha to Motor gasoline
- Total products = 0

Naphtha
Interproduct Transfers: -10 kt
Motor gasoline
Interproduct Transfers: +10 kt
Is the calculation and reporting methodology clear?

Petrochemical Industry (Table 2)

Table 1, Refinery intake

Table 2, Refinery output

Oil refinery

Table 2, Backflows to refineries
(= Table 1, Backflows)

Table 2, Gross Deliveries
to the petrochemical industry

Covered in MOSOIL

Not covered in MOSOIL

Non-energy use
in the petrochemical industry

Energy use
in the petrochemical industry

Petrochemical industry
Is the calculation and reporting methodology clear?

Interaction Table 1/Table 2 – Table 5

Stock changes =
= Closing stock levels minus opening stock levels on national territory
Is the calculation and reporting methodology clear?
Interaction Table 6b/8b/8c – Table 6/7/8/9 – Table 5/5b_5c
Is the calculation and reporting methodology clear?
Monthly collections for Oil & Petroleum Products

JODI – Joint Organisations Data Initiative – OIL
shared with the IEA, OECD, UNECE, OPEC, OLADE, APEC, IEFS

- **eDAMIS**: ENERGY_JODIOIL_M
- **deadline within one calendar month**

MOS (Monthly Oil & Natural Gas Statistics) – OIL part
shared with the IEA

- **eDAMIS**: ENERGY_MOSOIL_M
- **deadline within 55 days**
Is the calculation and reporting methodology clear?
National Obligations

- 90 days of average daily net imports of oil/oil products, (after deduction of 10% for unavailables);
  or
- 61 days of average daily consumption whatever leads to higher obligation

(article 3, Stockholding Directive)

3 methods for naphtha correction of net imports:
• Standard 4% deduction
• Actual naphtha consumption
• Naphtha production yield correction of net crude imports

(annex III, Stockholding Directive)
Automatic Calculation Sheet
Is the calculation and reporting methodology clear?

Product stockholding obligation

For Member States with less than 30 days of specific stocks

- At least 1/3 of the stockholding obligation to be held in products
- **Product composition to reflect consumption patterns**  
  (article 9 §5, Stockholding Directive)

  In line with the rules for specific stocks (the selected products have to cover at least 75% of inland consumption)  
  (article 9 §3, Stockholding Directive)

*Member States have full flexibility with respect to the rest of the stockholding obligation*
Is the calculation and reporting methodology clear?

**Product categories**

*For emergency stocks*
- As listed in the Regulation (EC) No 1099/2008 on energy statistics

*For 1/3 product stockholding obligation*
- “Ethane, LPG, Motor gasoline, Aviation gasoline, Gasoline-type jet fuel (naphtha-type jet fuel or JP4), Kerosene-type jet fuel, Other kerosene, Gas/diesel oil (distillate fuel oil), Fuel oil (high sulphur content and low sulphur content), White spirit and SBP, Lubricants, Bitumen, Paraffin waxes, Petroleum coke”

(article 9 §2, Stockholding Directive)
Is the calculation and reporting methodology clear? Biofuels and additives

Biofuel = liquid or gaseous fuel for transport produced from biomass, ‘biomass’ being ... (Article 2(c))

When to take biofuels and additives into account? (Article 16)

- **When calculating stockholding obligations**
  only if they have been blended with the petroleum products concerned

- **When calculating the stock levels actually maintained**
  if they have been blended with petroleum products concerned
  or
  they are stored on the territory of the Member State concerned and
  the Member State has adopted rules ensuring that they are to be blended with petroleum products held pursuant to stockholding requirements set out in the Directive and
  they are to be used in transportation
Is the calculation and reporting methodology clear? Calculating stock levels (Article 4)

Calculation methodology in Annex III
- Stock types/locations which can be included
- Stock types/locations which are to be excluded
- 10% deduction

*Stocks subject to a seizure order or enforcement action are to be excluded (Article 12(3))*
Is the calculation and reporting methodology clear?
Quantities which may not be included (Annex III)

in pipelines
in rail tank cars
in seagoing ships’ bunkers
in service stations and retail stores
by other consumers
in tankers at sea
as military stocks
Is the calculation and reporting methodology clear?
Quantities which may be included (Annex III)

*in refinery tanks*
*in bulk terminals*
*in pipeline tankage*
*in barges*
*in intercoastal tankers*
*in oil tankers in port*

*in inland ship bunkers*
*in storage tank bottoms*
*as working stocks*
*by large consumers as required by law or otherwise controlled by governments*
Is the calculation and reporting methodology clear? Availability and physical accessibility

"At all times, Member States shall ensure that emergency stocks and specific stocks are available and physically accessible for the purposes of this Directive"

- **Availability**
  Not defined
  Objective: to guarantee that all stocks can be mobilised in case of a disruption
  Member States to take all necessary measures to prevent all obstacles and encumbrances that could hamper stock availability

- **Physical accessibility**
  "arrangements for locating and transporting stocks to ensure their release or effective delivery to end users and markets within time frames and conditions conducive to alleviating the supply problems which may have arisen"

- **Is pledging of stocks allowed?**
  The bank should not be able to block the release of stocks

- **Cross-border stocks**
  The Member State for whose benefit the stocks are held remains ultimately responsible for the availability and physical accessibility of stocks
Is the calculation and reporting methodology clear? Availability of stocks (Article 5)

"At all times, Member States shall ensure that emergency stocks and specific stocks are available and physically accessible for the purposes of this Directive"

National measures should clearly specify how the availability and physical accessibility of stocks is ensured

- Member States to establish arrangements for the identification, accounting and control of the stocks
- Reporting system
- Physical inspections, audits
Is the calculation and reporting methodology clear? Cross-border stocks

Stocks to be held within the Community (Article 3(1))
Member States may set limits or additional conditions on the possibility of stocks being held abroad (Article 5(1))
No bilateral intergovernmental agreements required
  • Bilateral agreements are not forbidden
  • Existing agreements are not annulled
  • Recital 13: they are "useful instruments"
Prior authorization needed for most cross-border stockholding
The Member State for whose benefit the stocks are held remains ultimately responsible for the availability of stocks
In case of a disruption, Member States to prohibit, and refrain from taking, any measure hindering the transfer, use or release of stocks held within their territory on behalf of another Member State (Article 5(2))
Do you have the necessary resources?

- Sufficient and trained staff
- IT systems
- Access to required data of other organisations (tax office, customs, port authorities, business registers)
Workflow

Eurostat does not make any modifications to data of questionnaires which are officially submitted by reporting countries!
Typical problematic issues - 1

• **Not using the appropriate questionnaire format**
  • "The transmission format shall conform to an appropriate interchange standard specified by Eurostat. Data shall be transmitted or uploaded by electronic means to the single entry point for data at Eurostat."
  (annex c, Energy Statistics Regulation)

• **Different geographical coverage for imports and stocks**
  • "Amounts are considered as imported or exported when they have crossed the political boundaries of the country, whether customs clearance has taken place or not."
  (annex a, Energy Statistics Regulation)
Typical problematic issues - 2

• Not all sub-columns for gas/diesel oil, gasoline and kerosene type jet fuel are filled-in
  • "Motor gasoline is a product aggregate equal to the sum of blended biogasoline (biogasoline in motor gasoline) and non-biogasoline. Gas/diesel oil is a product aggregate equal to the sum of blended biodiesels (biodiesels in gas/diesel oil) and non-biodiesels. Kerosene type jet fuel is a product aggregate equal to the sum of blended bio jet kerosene (bio jet kerosene in kerosene type jet fuel) and non-bio jet kerosene."

  (annex a, Energy Statistics Regulation)

• Opening stocks are not consistent with closing stocks of the previous month
Typical problematic issues - 3

- **Commercial stocks are not filled-in**
  - "Member States shall send the Commission a monthly statistical summary of the levels of commercial stocks held within their national territory."

  *(article 14, Stockholding Directive)*

- **Over-estimation of bio-components in the emergency stocks**
- **Sum of monthly figures not filled-in**
- **Error messages of questionnaire are not considered**
Typical problematic issues - 4

• **Switch to new "Sum of monthly figures" not in reference month April**
  
  • "(...) the daily averages of net imports and inland consumption, (...) , shall be determined, as regards the period from 1 January to 31 March of each calendar year, on the basis of the quantities imported or consumed during the last year but one before the calendar year in question."

  * (article 3, Stockholding Directive)

• **More than one monthly questionnaire per eDAMIS submission**
Typical problematic issues - 5

- Late submission of data
  
  "Deadline for transmission of data
  Within 55 days following the reported month."
  
  (annex c, Energy Statistics Regulation)

- Entities/companies are not obliged by law to provide information in time (no penalties)
  
  "Member States shall lay down the rules on penalties applicable to infringements of the national provisions (...). Such penalties shall be effective, proportionate and dissuasive. (...)"
  
  (article 21, Stockholding Directive)
Typical problematic issues - 6

• Discrepancies between days equivalent in the calculation sheet and Table 5b_5c
• High numbers of revisions
• Negative stock levels
• Lack of training & preparation
• Data confidentiality
• Too many institutions involved in data collection
Typical problematic issues - 7

**International marine bunkers**

Quantities of fuels delivered to ships of all flags that are engaged in international navigation

- The international navigation may take place at sea, on inland lakes and waterways, and in coastal waters

*Excluded is:*

- **consumption by ships engaged in domestic navigation**
  
The domestic/international split should be determined on the basis of port of departure and port of arrival, and not by the flag or nationality of the ship

- **consumption by fishing vessels**
- **consumption by military forces**
Emergency Oil Stocks in Eurobase

http://ec.europa.eu/eurostat/data/database