



□□□ **Petroleum Stockpiling In The
21st Century**

**Strategic Stockpiling:
Best Practices, Pitfalls and Lessons Learned**

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December 1st, 2004**

I. Is Strategic Storage Still Relevant In The 21st Century?

- In the hydrocarbon age even small interruptions in oil flows cause physical havoc (the same applies for all other main energies)
 - > 1973 crisis (embargo)
 - > The UK experience 1999 (fuel price protests)
 - > Italy 2003 (collapse of electricity grid)

I. Is Strategic Storage Still Relevant In The 21st Century?

- The costs of an energy interruption go far beyond the costs to direct market players.

These externalities – the costs paid by others – include:

- > Inflation
- > Trade & payment imbalances
- > High unemployment
- > Weak business & consumer confidence

I. Is Strategic Storage Still Relevant In The 21st Century?

- Increasing oil import dependence of all OECD regions
- Reemerging eminence of the Middle East as prime crude producer
- Increase in political uncertainty

I. Is Strategic Storage Still Relevant In The 21st Century?

- Just in time inventory management
- Record low inventories (absolute and in days of forward consumption)
- Minimal and historically low slack crude production capacity

Strategic storage provides protection against all kinds of interruptions

- > Natural disaster
- > Political black mail
- > Terrorism
- > Civil unrest
- > Etc.

I. Is Strategic Storage Still Relevant In The 21st Century?

Strategic reserves serve to mitigate fundamental and severe interruptions in the flow of oil.

The presence of security stocks affords the economy and its government

- crucial additional time to ride out the crisis at hand and
- additional time to take counteractive measures

They also reduce the possibility of being taken hostage.

I. Is Strategic Storage Still Relevant In The 21st Century?

Besides the pure physical havoc a supply crisis confronts us with the **economic benefit** of a credible Security Stock System cannot be rated highly enough:

- There is an undeniable correlation between
 - > low stocks and high price volatility and
 - > low stocks and high prices
- Out of the last US recessions the overwhelming majority was preceded by a stiff increase in prices.

I. Is Strategic Storage Still Relevant In The 21st Century?

- A credible security regime also reduces the social costs (externalities).
- The risk of high externalities is generating a further need for governments to step in and take protective measures.

I. Is Strategic Storage Still Relevant In The 21st Century?

Why can only governmental action reduce externalities:

- Market participants manage their costs only.
- There is an asymmetry of cost-benefit calculations between market participants and the public at large.
- With about 30% of downstream capital employed in downstream operations the trend to minimum operating and just-in-time stocks will prevail.

II. The Framework for Strategic Storage Organizations (CSOs)

All major CSO systems in operation today fulfill the IEA (International Energy Agency) requirements and/or EU (European Union) regulations.

- They basically mandate 90 days security stocks based on either net imports (IEA) or consumption (EU)
- and foresee certain release mechanisms in times of crisis.
- Given today's market conditions it is worth noting that new big players (i.e China and India) are not covered by IEA regulations.

II. The Framework for Strategic Storage Organizations (CSOs)

Without going into the details of how these systems are working (other speakers may do that)

it suffices to say that they (the CSOs)

- > give the appearance of solidity
- > induce policy makers to think they are well prepared and
- > are generally forgotten in more stable times

II. The Framework for Strategic Storage Organizations (CSOs)

However,

- > the efficiency of a CSO and
- > the cost to the economy

depend to a large part on how the individual CSO system has been engineered.

III. Best Practice for Strategic Storage Regime

1. Best practice: generally accepted

- > High degree of transparency
- > Efficient cost / risk structure
(not the cheapest but the one that serves the goal most effectively and efficiently - and this includes the externalities)
- > Market neutral

III. Best Practice for Strategic Storage Regime

2. Best practice: close to consensus

- > Availability of strategic stocks in excess of working stocks
- > Clearly defined release mechanisms
- > Tested crisis mechanisms
- > Non-disruptive stock release in times of crisis
- > No release for short term price manipulation

III. Best Practice for Strategic Storage Regime

3. Best practice: author's experience

- > Balanced regional distribution of stocks
- > Availability of a product component in the system
- > Pre-arranged crude processing agreements
- > No capital requirement for oil companies
- > No impact on national budget
- > Agency system

IV. Best Practice: Comments

Market neutral

Strategic reserves are a big – if not the biggest – chunk of oil available.

If not carefully engineered

- > the markets,
- > their efficiency and
- > subsequently the cost to the public

can be severely distorted.

IV. Best Practice: Comments

Market neutral

Also as a matter of equity it seems that all market participants should share the burden equally and equitably.

Why:

Strategic stocks - with their goal to decrease the cost of externalities - are in the interest of the public domain.

IV. Best Practice: Comments

Availability of strategic stocks in excess of working stocks

Both, IEA and EU fudge on this issue.

There is, however, a growing consensus that security stocks only are worth their name if indeed they are in excess of working stocks.

IV. Best Practice: Comments

Availability of strategic stocks in excess of working stocks

Working stocks are by definition what industry needs for day to day operation (however defined), even if this includes a certain level of enhanced risk awareness.

IV. Best Practice: Comments

Availability of strategic stocks in excess of working stocks

Industry stocks are geared to optimize the position of market participants and not to minimize externalities

Strategic stocks in excess of working stocks can be released

- > independent of commercial considerations and
- > have no impact on the downstream day to day operations

IV. Best Practice: Comments

The presence of security stocks affords the economy and its government

- > crucial additional time to ride out the crisis at hand and
- > additional time to take counteractive measures.

Industry minimum operating stocks

	<u>days forward</u>	<u>% of industry stocks</u>
IEA North America:	46 days	80+%
IEA Pacific:	38 days	60+%
IEA Europe:	29 days	40+%
IEA total:	38 days	60+%

!! Very little room for manoeuvre if the Security Stock regime depends on working stock !!

IV. Best Practice: Comments

Non-disruptive stock release in times of crisis

This seems to be self evident.

In times of crisis the name of the game is to reduce the effects of crisis
– not to blow them up.

If stocks used under the directive of the government
are part of former industry stocks
the circles of crisis extend
as planned operations are even further thrown off track.

IV. Best Practice: Comments

Balanced regional distribution of stocks

In times of crisis you want to make a quick impact. Thus

- > The closer the CSO quality is to the quality needed and
- > the closer the CSO location is to the market

the quicker the desired impact can be achieved.

Given the increased threat of terrorism this argument should not be underestimated.

(In this context the highly concentrated cluster of the SPR seems to be specially relevant.)

IV. Best Practice: Comments

No capital requirement for oil companies

No self serving argument

- > The oil market increasingly becomes a sellers' market
- > The return on capital employed becomes one of the overriding benchmarks for industry
- > Stock levels are an important factor in industry returns

Oil companies increasingly become selective in choosing the countries they wish to operate in.

- > Governments need to carefully weigh whether costs which are in the interest of the public domain really should be burdened on industry.

IV. Best Practice: Comments

Agency system

Best chance for

- > Transparency
- > Market neutrality
- > Clearly defined release mechanisms
- > Tested release mechanisms
- > Availability of stocks in excess of working stocks
- > Non-disruptive release
- > Efficient industry operations

V. Available Models

1. Obligation with the industry
2. State agency – owns 100% of Strategic Stocks –
Financed by the national budget
3. Para-statal agency – owns 100% of Strategic Stocks –
Consumer financed
4. Hybrids
e.g. private agency, financed and organized by industry

V. Available Models – A Score Card

	Government pays	Operators pay (neutral for treasurer)	Consumers pay (neutral for treasurer)	Transparent	Cost efficient	Easy to control	Location where needed	Level playing field	Availability in access of working stocks	Ageing problems	Non-disruptive release
Obligation with the industry	–	X	–	NO	NO	NO	?	NO	NO	ok	NO
State agency (owns 100% of Strategic Stocks) Financed by the national budget	X	–	–	?	?	YES	?	YES	YES	possible	YES
Para-Statal agency (owns 100% of Strategic Stocks) Consumer financed	–	–	X	YES	YES	YES	?	YES	YES	possible	YES

VI. Strategic Storage and Public-Private Partnership

While strictly guarding the principle of market neutrality

Public-private partnership can yield big advantages for the parties involved:

- > Reduction of infrastructure cost
- > Reduction of refreshment costs
- > High level of geographic diversity
- > Healthy storage industry
- > Introduction of competition into strategic reserve equation
- > Reduction in quality adjustment costs
- > Increase in optionality for the Strategic Storage Organization
(Given the growing of the merger wave this argument deserves increased attention.)

VII. Pitfalls

- Working stocks / availability
- Aging of crude or product / product refreshment
- Quality changes
- Tickets
 - > Tickets do not enhance the general level of oil reserves
 - > Their release exacerbates the crisis by directly reducing working stocks (vide IEA / Berlin 9/03) (vide the high level of Minimum Operating Stocks of industry)
 - > Their availability is doubtful (at least) (The 2 million tons discrepancy in IEA statistics)

VII. Pitfalls

- Price intervention and other non-inherent goals
- Unclear or untested release mechanisms
- Oil is the only energy with well established crisis mechanisms.
With the forecasted import dependency of all IEA regions
approaching or exceeding today's oil import dependency by 2030
we ignore this at our own peril

VII. Pitfalls

- Strategic storage does not solve all security risks.
It affords breathing space in time of crises
- Strategic storage cannot replace the quest for a stable and safe environment

Thank you

- for your attention
- and your patience