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Egypt’s Oil & Gas Dynamics
“At an interesting juncture”

April 2015

Egypt's upstream oil & gas sector overview

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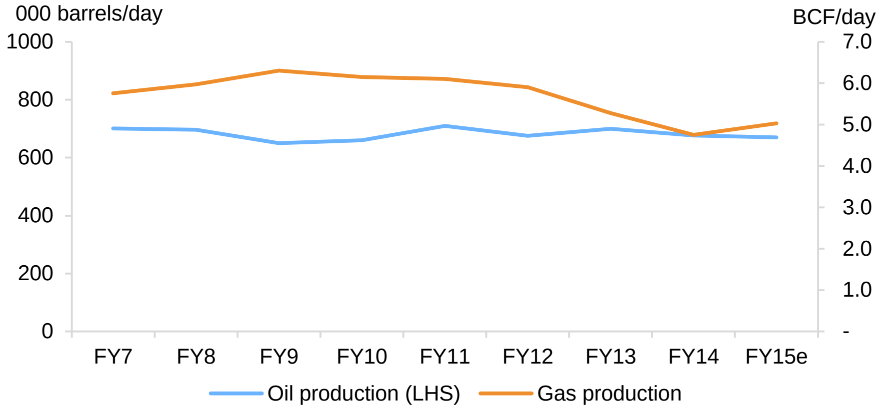
Basic info on Egypt's upstream energy sector

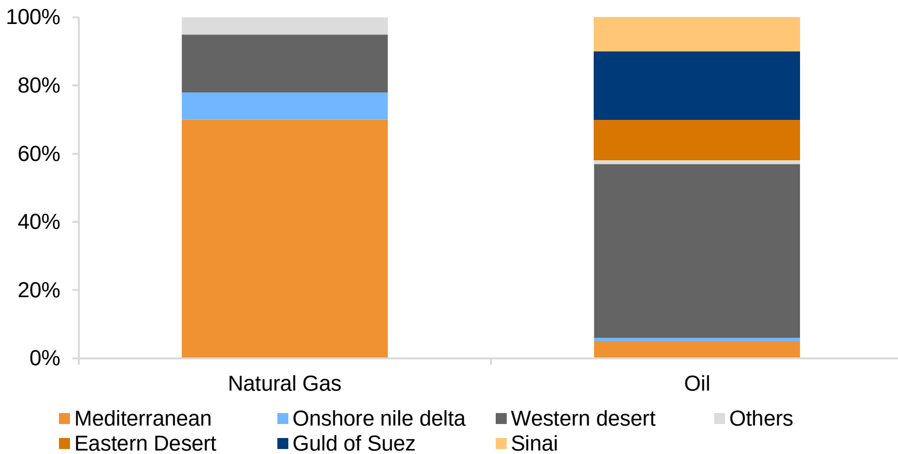
- The country's upstream oil & gas (O&G) space is dominated by four large international oil companies (IOCs) – Apache (largest oil producer), BP (largest gas producer), ENI and BG
- The western desert accounts for more than 50% of Egypt's domestic crude oil production, followed by the Gulf of Suez, the eastern desert, Sinai & others
- Natural gas on the other hand, is mostly sourced out of concessions from the Mediterranean sea, followed by the western desert and onshore Nile delta
- In terms of consumption, roughly 80% of Egypt's gas is currently used to generate electricity–a sharp increase, compared to 54% in 2009 –due to higher power requirements, while upstream production having declined same time
- Egypt's current oil refinery capacities total about 743kboepd with roughly 26% of the capacity remaining idle – a result of IOC production share allocation and to a smaller extent, the inability to process domestically sourced crude

Egypt's upstream oil and gas production run rates



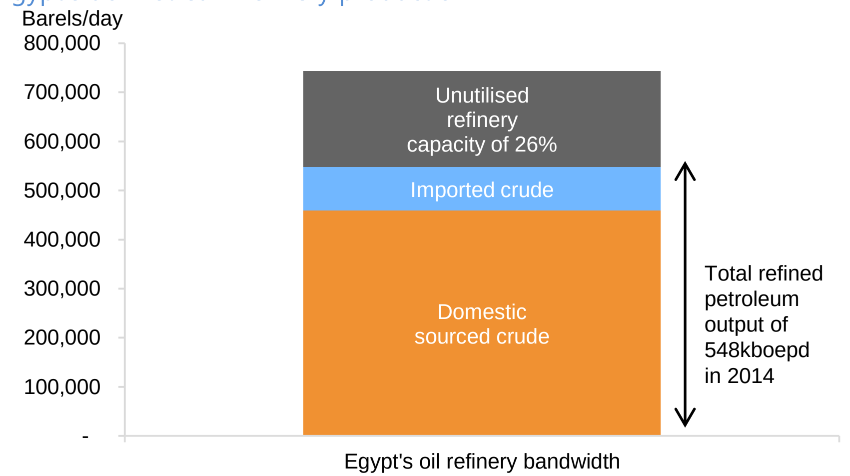
Source: EGPC, EGAS, NAEEM. Note: Oil includes crude oil and condensates

Egypt's oil and gas production distribution by geography



Source: EGPC, NAEEM

Egypt's downstream refinery production



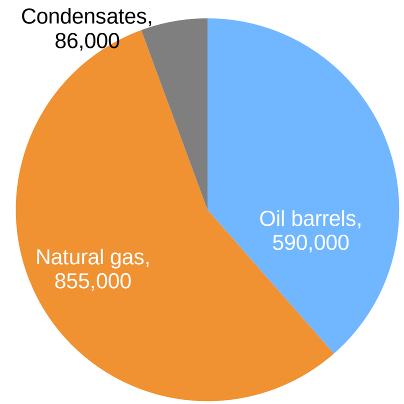
Source: Ministry of Petroleum

Egypt's oil & gas demand/supply fundamentals

Egypt's current O&G demand/supply equations imply imbalance

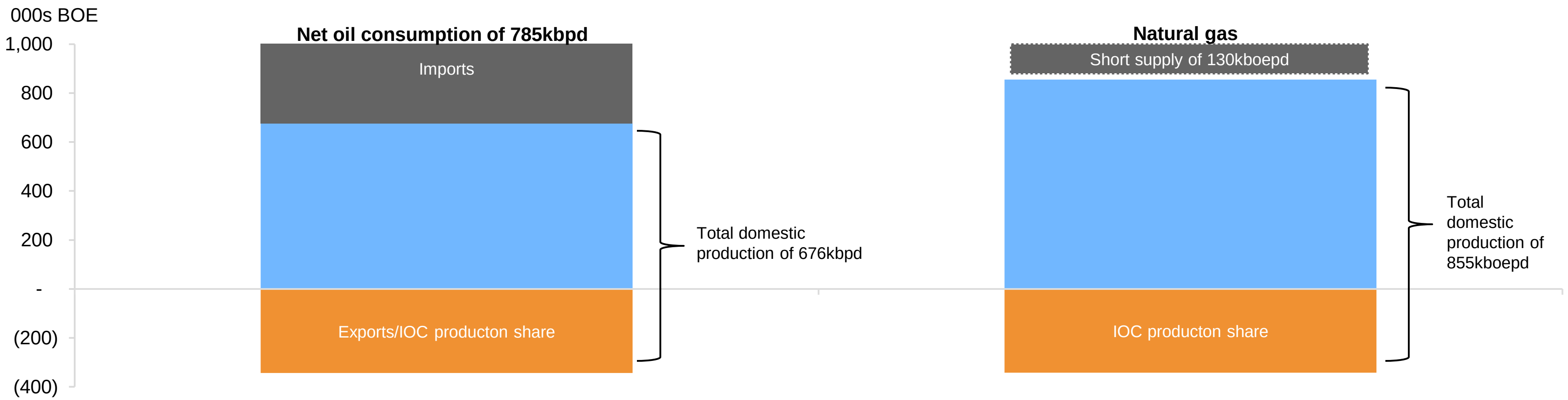
- As per latest indications (collated from various government sources), Egypt's total oil & gas production currently amounts to about 1.53mboepd – 55% accounted for by natural gas, with the rest being oil (crude + condensates)
- Demand on the other hand exceeds local production (inclusive of IOCs' production share) by more than 15% - almost the same equation maintained with both natural gas and oil
- However, taking into consideration IOC production share in domestic concessions, Egypt's effective oil deficit (including refined petroleum products) amounts to around 50% (of total consumption), in our opinion
- Egypt's natural gas deficit (net of IOC production share) on the other hand, is proportionally almost the same compared to oil i.e. roughly 50% as per our assessment
- While the oil deficit is met by imports, Egypt awaits LNG imports starting 2Q15

Egypt's oil and gas production break-down 2014



Source: EGPC, EGAS

Egypt's 2014 oil and gas production/supply fundamentals imply sizeable imbalance



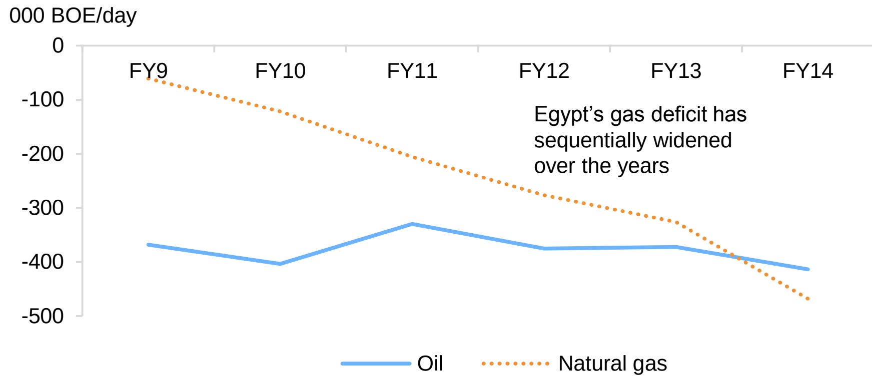
Source: EGPC, EGAS, NAEEM. Note: IOCs are international oil companies such as BP, BG, ENI , Apache etc.

What has changed over the years?

Challenges that arose during recent years

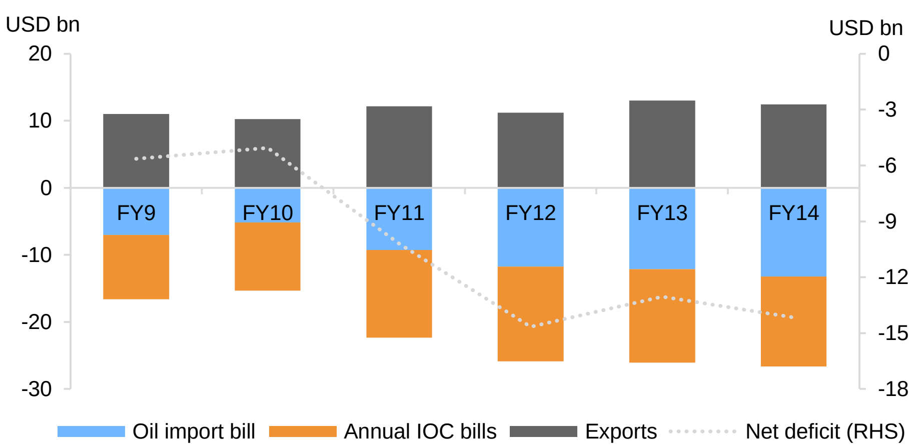
- While Egypt's oil deficit has remained somewhat flat (with production almost stable over the years), its natural gas deficit exacerbated by quite a bit during the past few years; a result of increased demand (also leading to lower LNG exports), coupled with a drop in upstream production
- In addition, with the price of oil having increased by more than 50% during FY09-FY14, Egypt faced significant pressures - both on the current account (rising import bills) and on the fiscal side (rising subsidy burden) – especially starting FY11, which also coincided with the Egyptian revolution
- Contributing further to the overall situation, was the massive drop in FDI inflows starting FY11 – implying minimal activity on the exploration side
- In our opinion, most of Egypt's oil export proceeds (FY14: USD12.4bn) are currently used to honor IOC production share bills – leaving Egypt with an annual energy subsidy burden of close to USD17.6bn as of FY14

Egypt's energy imbalance in volume terms



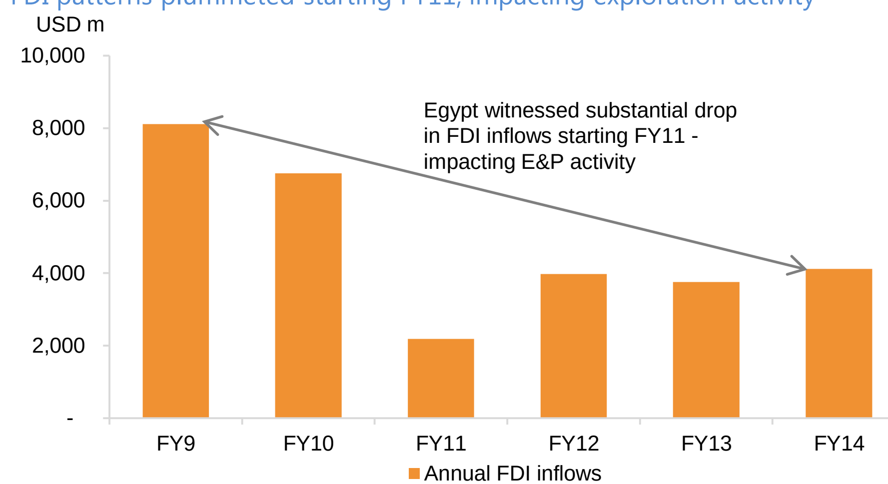
Source: NAEEM, EGPC, BP. Note: Deficit= Total Production - IOC prod. share - Consumption

Egypt's energy imbalance translated in USD



Source: NAEEM, CBE. Note: Negative is outflow. Figures exclude GCC aid

FDI patterns plummeted starting FY11, impacting exploration activity



Source: CBE

Government efforts to plug the loopholes

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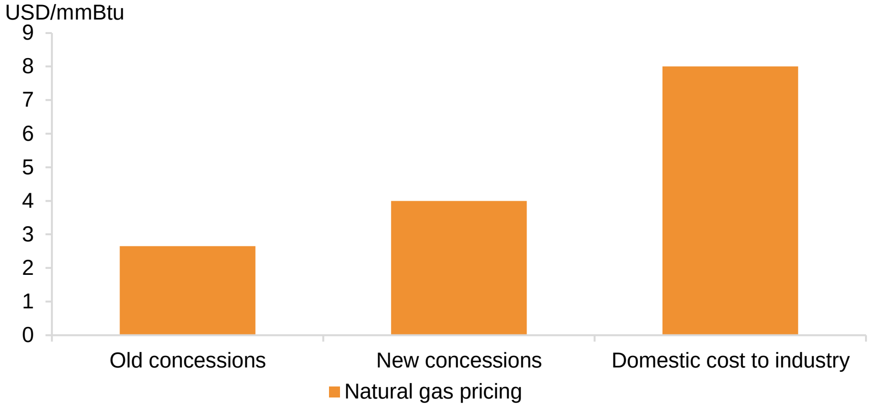
Increasing government emphasis towards solving the imbalances

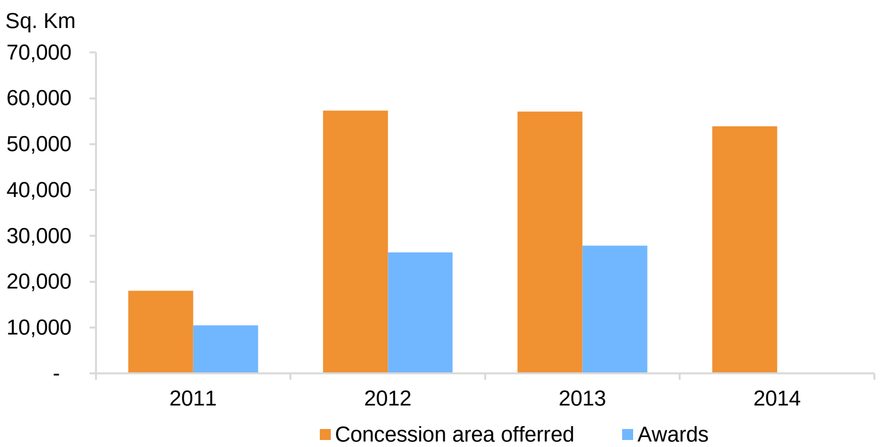
- Flexibility offered on off-take concession pricing (above the stipulated USD2.65/mmBtu) for upstream gas producers – initial indications of the government agreeing to USD3.5-5/mmBtu for new offshore concessions
- Aggressive upstream concessions' tendering activity coupled with good IOC participation observed starting 2012
- Reduction in energy subsidy (more than 25% cut) took off starting July 2014
- IOC dues worth more than USD7.9bn settled in 2H14 alone – leaving just USD3bn outstanding. IOC dues also settled in kind through export shipments
- LNG imports expected to arrive at the Ain Sokhna port starting 2Q15 – aimed at providing gas in excess of 500MCF/day for local power generation purposes. MOU signed between EGAS and Cyprus to produce gas from the Aphrodite gas field and pump it into a 400km pipeline to Egypt
- Industrial users given the freedom to switch to coal as an alternative fuel

Natural gas concession pricing terms compared



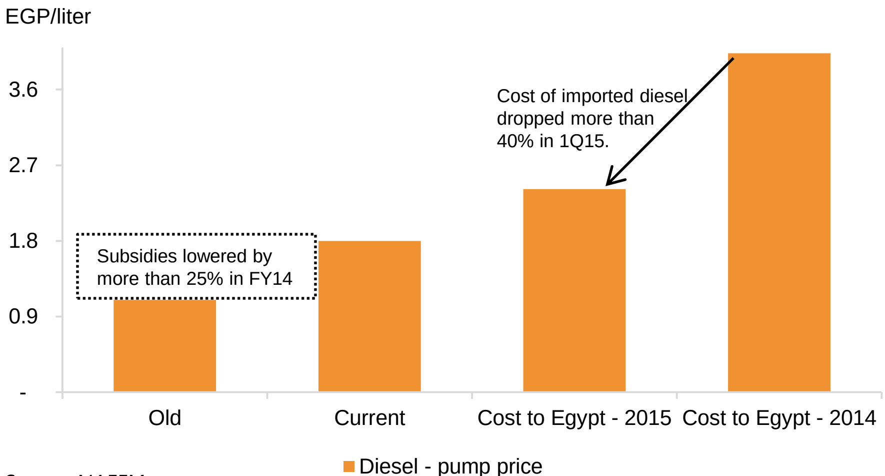
Source: EGPC, EGAS

Petroleum ministry has hastened E&P tendering activity over the years



Source: EGPC, EGAS. Note: 2014 bid round expires on 31/03/2015

Subsidy reduction has taken off



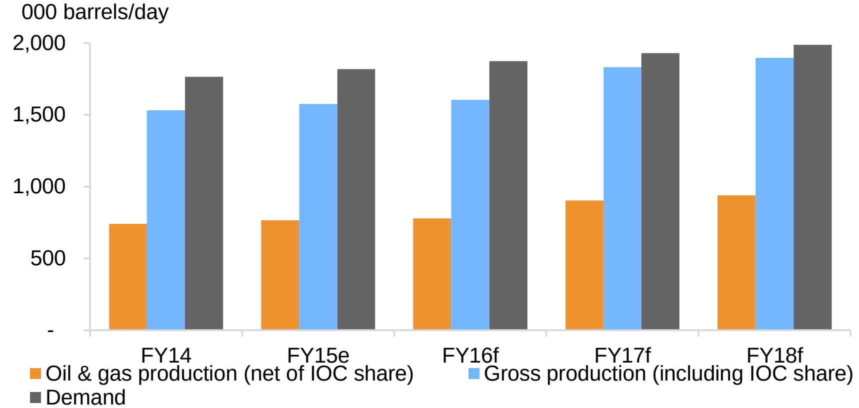
Source: NAEEM

The road ahead……..

On what to expect going forward

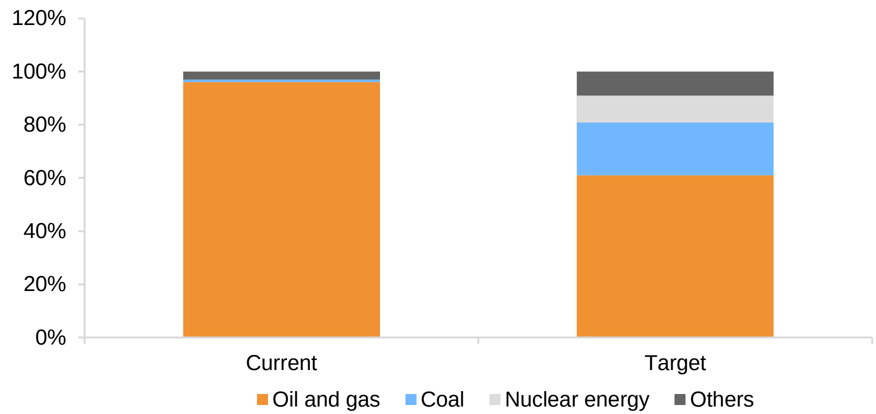
- Expect Egypt's energy imbalances/deficits to persist – oil imbalance to persist, while natural gas deficit could narrow; but not before 2017/18, in our opinion. Officially, Egypt targets self-sufficiency in terms of gas requirements by 2020
- 56 latest upstream agreements with minimum capex of USD12bn+USD13bn to accelerate existing developments – mainly pertaining to gas. The largest upstream projects that are supposedly underway, suggest substantial boost to Egypt's gas production starting 2017
- However, with natural gas well decline rates of 20%-25% p.a. and with no major expansion plans announced on the oil side, Egypt seems well on its way to partly switch to coal (targeting 20% the energy mix) for heavy industrial users
- In addition, given the persistent fiscal and current account pressures originating from the energy imbalance, Egypt will be obliged to phase out oil subsidies – domestic diesel prices are still at a 50% discount to market

Egypt's anticipated energy supply/demand equation



Source: NAEEM

Egypt's energy mix – current and targeted



Source: Ministry of Petroleum

Latest announced upstream project pipeline by the largest IOCs

Name of the IOC	Estimated capex to be spent (USD bn)	Expected completion year	Incremental production (MCF/day)	Gross % upside to Egypt's current production
BP	12.0	2017	1,200	25%
BG	4.0	2017	500	11%
ENI	5.0	2020	900	19%
Dana Gas	0.4	2017	170	4%
Total	**21.4**		**2,770**	**58%**

Source: Company announcements, NAEEM

In context of the drop in global crude prices

Oil price drop is positive for Egypt

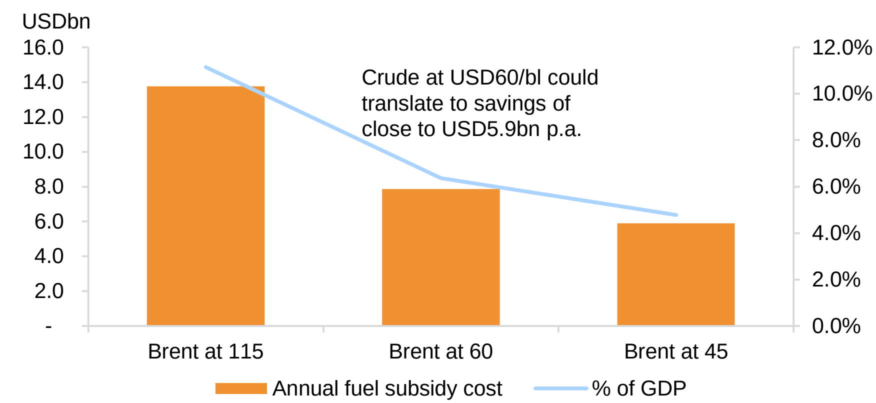
- Oil and gas energy resource potential has been the backbone for most MENA economies; fueling decades of growth
- Egypt on the other hand, which is a net importer of crude and refined oil products (and with expected LNG imports soon), should be impacted favorably on falling oil prices; reflected both fiscally, and on the current account as well
- Egypt's annual oil import bill (refined petroleum products + crude oil) amounted to roughly USD13.2bn during FY14 – a huge burden both from the fiscal and current account perspectives
- So, assuming oil prices (including refined petroleum) to sustain at USD60/bl (Brent), the country's annual import bill should drop by around USD5.9bn p.a., in our opinion
- However, with the GCC (KSA, UAE and Kuwait) supposedly having supplied USD6.5bn worth of free oil shipments (refined + crude) during FY14 alone, we are unable to determine if the import savings (due to drop in prices) would get offset by an expected GCC oil aid phase-out

Egypt's energy resources compared to MENA

	Daily Oil production (000s bbl)	Daily Gas production (000s bbl)	Total oil reserves (bn boe)	Total gas reserves (bn boe)	Population (m)
KSA	9,637	1,890	266	55	30
UAE	2,820	1,260	98	40	9
Qatar	690	3,600	25	163	2
Kuwait	2,930	260	102	12	4
Iran	2,400	3,190	158	224	77
Iraq	3200	NA	144	21	35
Algeria	1,222	1,400	102	30	38
Egypt	**676**	**855**	**4**	**14**	**85**

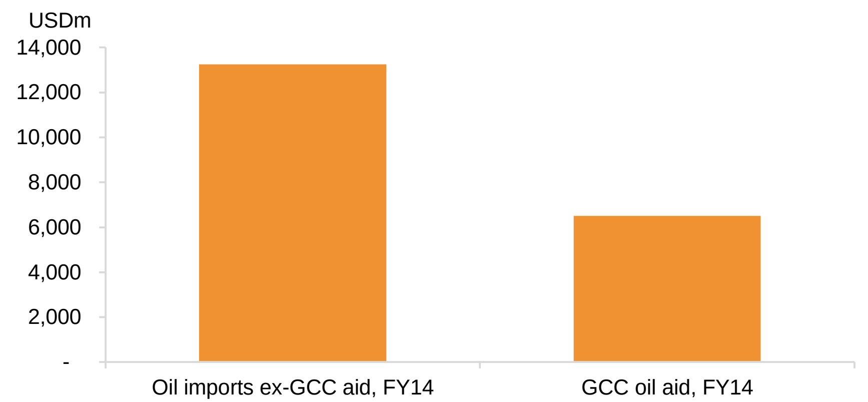
Source: Various government sources, NAEEM

Dropping crude is positive for Egypt's fiscal equation



Source: Ministry of Petroleum, NAEEM

Egypt's FY14 oil import bill versus GCC oil aid



Source: CBE, Various government sources NAEEM

The overall significance of hydrocarbons to Egypt

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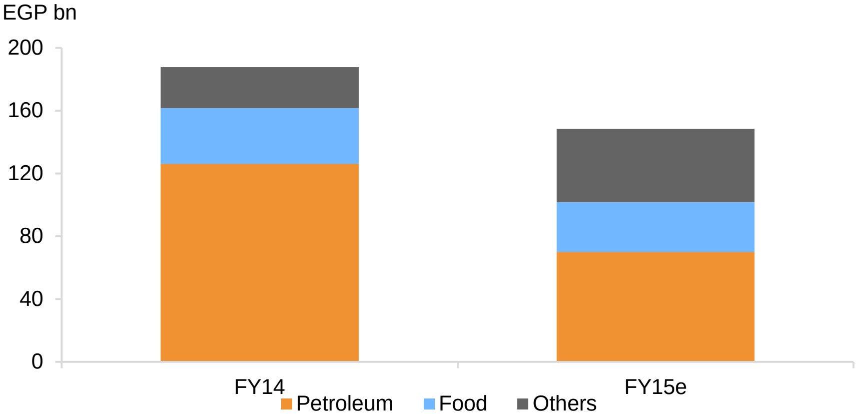
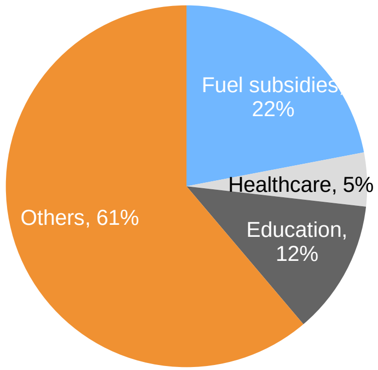
Egypt's subsidy cost break-down



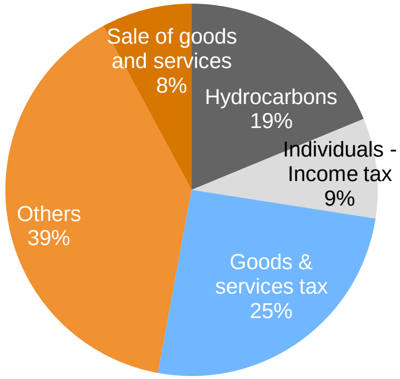
Source: Ministry of Finance, NAEEM

Fuel subsidies accounted for 22% of Egypt's FY14 budget



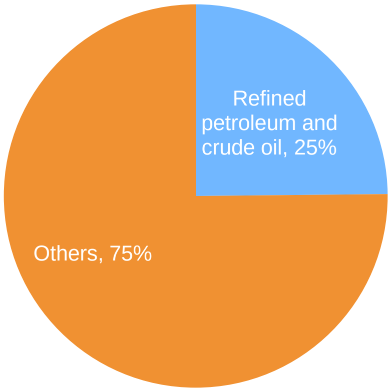
Source: Ministry of Petroleum, NAEEM

Egypt FY14 fiscal revenue break-down (ex-grants)



Source: CBE, NAEEM

Oil made up for 25% of Egypt's total 1QFY15 import bill



Source: CBE, NAEEM

Changing regulatory dynamics of the Oil & Gas sector in Egypt

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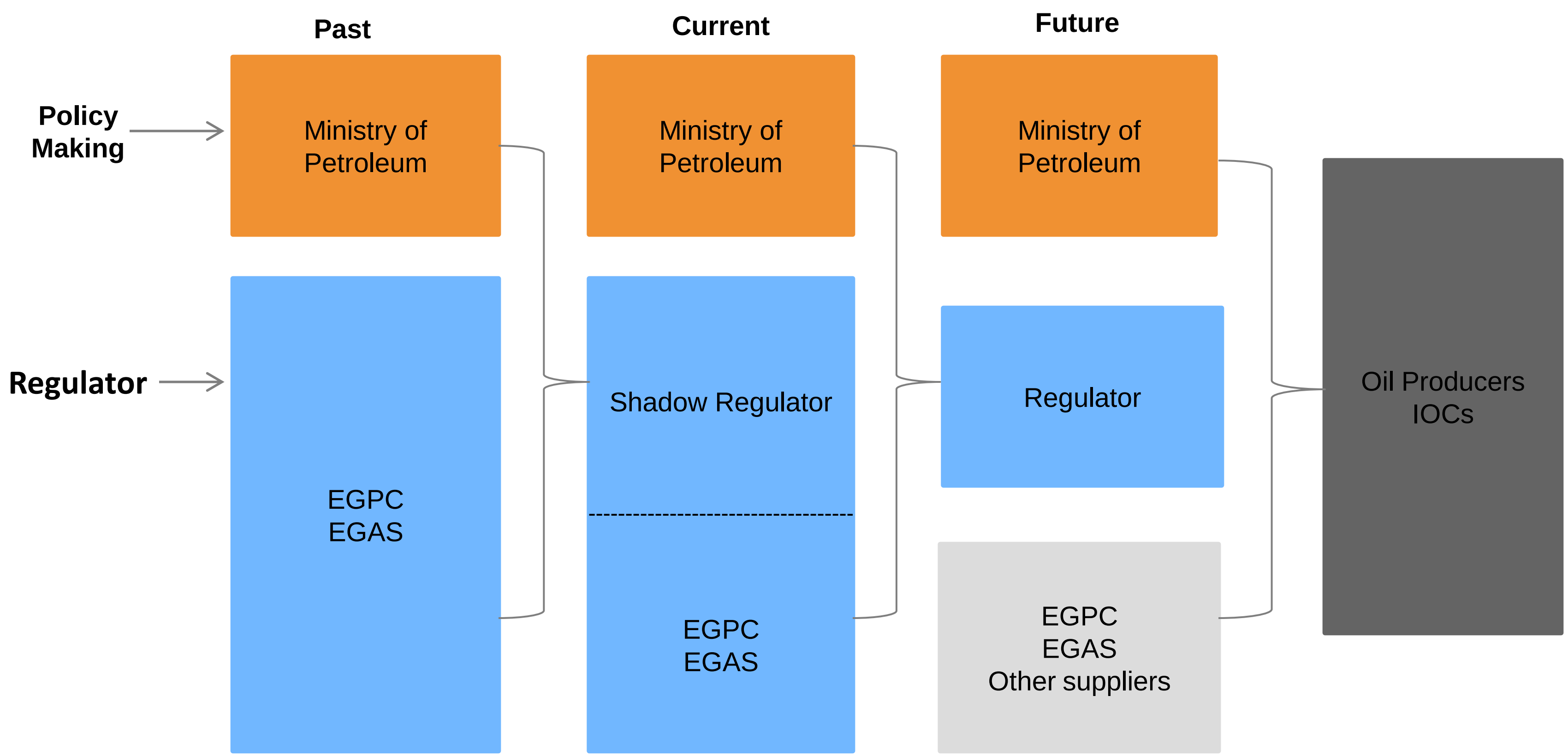
Structure of the O&G sector in Egypt



Source: Ministry of Petroleum

Disclosure Appendix

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