Hon’ble Prime Minister of India
Interaction with Global Oil and Gas Leaders

9th October, 2017
7, Lok Kalyan Marg
# Action Taken Report on Decisions taken during the last meeting on 5\textsuperscript{th} January, 2016

<table>
<thead>
<tr>
<th>Decision/ Points</th>
<th>Action Taken</th>
</tr>
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<tbody>
<tr>
<td>Formulation of Attractive investment regime, fiscal terms and regulatory environment, Ease of Doing Business</td>
<td>Hydrocarbon Exploration Licensing Policy (HELP)</td>
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<tr>
<td>Quality and Accessibility of Data</td>
<td>National Data Repository (NDR)</td>
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<tr>
<td>Rigorous technical assessment of Indian Basins</td>
<td>ONGC, OIL and DGH are carrying out re-assessment of Indian Basin</td>
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<tr>
<td>Pricing Issues</td>
<td>Marketing and pricing freedom under HELP and Deep water High Pressure High Temp wells</td>
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<tr>
<td>Creation of Gas Infrastructure</td>
<td>Laying out of 15000 km of pipeline infrastructure for national gas grid, Urja Ganga Scheme for providing gas access to Eastern India</td>
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</table>
India’s GDP growing strongly

Annual GDP growth (percent)

SOURCE: IMF Database
India is expected to be a major driver of oil demand growth (Million Barrels/ Per Day)

<table>
<thead>
<tr>
<th>Region</th>
<th>2011</th>
<th>2016</th>
<th>2030</th>
<th>CAGR (2016-30)</th>
</tr>
</thead>
<tbody>
<tr>
<td>India</td>
<td>3.5</td>
<td>4.5</td>
<td>7.5</td>
<td>4%</td>
</tr>
<tr>
<td>China</td>
<td>9.8</td>
<td>12.4</td>
<td>17.0</td>
<td>2.5%</td>
</tr>
<tr>
<td>United States</td>
<td>18.9</td>
<td>19.6</td>
<td>16.8</td>
<td>-1%</td>
</tr>
<tr>
<td>Europe and Eurasia&lt;sup&gt;1&lt;/sup&gt;</td>
<td>19.1</td>
<td>18.8</td>
<td>14.4</td>
<td>-2%</td>
</tr>
<tr>
<td>Total World</td>
<td>90</td>
<td>96.6</td>
<td>110</td>
<td>1%</td>
</tr>
</tbody>
</table>

1 Europe, Russia and Ex-USSR states
SOURCE: World Oil Outlook, BP Energy Outlook
India emerging as a major demand center for Natural Gas

India Gas Consumption (in Billion Cubic Meters)

<table>
<thead>
<tr>
<th>Year</th>
<th>LNG</th>
<th>Domestic</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>FY15</td>
<td>18.5</td>
<td>32.7</td>
<td>51.2</td>
</tr>
<tr>
<td>FY17</td>
<td>24.7</td>
<td>30.8</td>
<td>55.5</td>
</tr>
<tr>
<td>FY30</td>
<td>100-110</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

FY 17:

- LNG: 24.7 Bcm (55.5% growth over FY15)
- Domestic: 30.8 Bcm

FY 30:

- Total Gas Consumption: 100-110 Bcm

+5% p.a.

SOURCE: PPAC, Energy Insights, Global Gas Model
Drivers of oil and gas demand growth (1/2)

- **Chemicals & Petrochemicals**
  - Rapid growth of end markets e.g., construction, auto, textiles, packaging
  - High growth in consumption (Polymer consumption at CAGR 14% for 2000-2015\(^1\))

- **Transportation**
  - Rising passenger car fleet size due to increasing affordability (Passenger Cars/1000 people – India 19, China 76, US 360\(^2\))
  - Increase in Heavy Duty vehicles to fulfil demand for road freight

- **Commercial**
  - Increasing share of manufacturing in GDP
  - “Make in India” boost
  - Steel Industry (Production 101 MMT in 2016-17, 240 MMT by 2031\(^3\))

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1 IOCL, 2 Road Transport year book 2014-15 (MoRTH), 3 Indian Steel Association
Drivers of oil and gas demand growth (2/2)

- **Residential**
  - Improved LPG/PNG access
  - Rising middle-class (267 million individuals in 2016, 547 million individuals in 2026\(^1\)); growth in energy consuming equipment

- **Fertilizers**
  - Self-sufficiency for fertilizer demand

- **Power**
  - Requirement of gas based power plants
    - For balancing the grid for renewable power projection of 175 GW
    - For peaking power
## Strong potential for energy consumption growth

<table>
<thead>
<tr>
<th>Country</th>
<th>Per capita energy consumption (toe – tonnes of oil equivalent)</th>
</tr>
</thead>
<tbody>
<tr>
<td>World Average</td>
<td>1.6</td>
</tr>
<tr>
<td>United States</td>
<td>7.0</td>
</tr>
<tr>
<td>EU</td>
<td>3.0</td>
</tr>
<tr>
<td>China</td>
<td>2.3</td>
</tr>
<tr>
<td>India</td>
<td>0.7</td>
</tr>
</tbody>
</table>

**Current Oil and Gas Consumption of India – 257 Mtoe**

**Projected Oil and Gas consumption in 2030 – 450 Mtoe**

Source: IEA
Four areas of focus to secure India’s energy future

1. **Increase domestic production** - aspiration of 10% reduction in imports by 2022

2. **Build infrastructure** – Greenfield and brownfield refineries, petrochemical plants, pipelines, LNG terminals

3. **Secure overseas supply** – Equity; long term contracts

4. **Attracting FDI & technical expertise**
Increase domestic production

Aspiration to double domestic oil production

India crude oil production and imports in million bbls per day

<table>
<thead>
<tr>
<th>Year</th>
<th>Import (4.6)</th>
<th>Domestic production (2.1)</th>
</tr>
</thead>
<tbody>
<tr>
<td>2015</td>
<td>3.3</td>
<td>0.9</td>
</tr>
<tr>
<td>2022</td>
<td>6.7</td>
<td>2.1</td>
</tr>
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Import dependence (%)

- 2015: 78%
- 2022: 68%
## Strong pipeline of projects

**Upstream**
- Expected future investment of $25 billion under various E & P regimes
  - ONGC spending $10 billion in KG basin to develop fields such as 98x2
  - BP and Reliance investing $6 billion to explore gas fields KG-D6
  - Cairn India to invest $4+ bn for E&P across Rajasthan, Ravva, Cambay

**Downstream**
- $40 bn investments by Oil Marketing companies in brownfield expansion (60 MTPA) and on fuel upgradation to BS-VI
- 70 MTPA of greenfield investment

**Petchem**
- $8 bn investment in petroleum/ petrochemical integrated cluster

**Natural Gas**
- 15,000 km of gas trunk pipelines underway to double capacity
- LNG regasification capacity expansion from 22 to 47.5 MTPA by 2022
- City Gas Distribution networks in 326 cities (up from 75) by 2022
JHBDPL Pipeline will catalyse gas development of the East

Four fertiliser plants - Gorakhpur, Barauni, Sindri, Durgapur

Three refineries – Barauni, Haldia, Paradip

Five states, 49 districts, 7 CGD cities
Enabling policy regime in Oil & Gas sector

**Financial and policy incentives**
- 100 percent FDI in E&P and refining through the automatic route
- Financial incentives – Customs exemption, accelerated depreciation amongst others

**Improving the ‘ease of doing business’**
- Single-window clearance
- Online process for environment and forest clearances

**Promotion of Petroleum/Petrochemical Integrated Cluster**
- Currently approved in 5 states; $8 billion investment
- Located in Paradeep, Vishakhapatnam, Kocchi, Dahej and Vidarbha (proposed)
Recently, several steps taken to increase attractiveness

Resolution of historical concerns

- **Hydrocarbon Exploration & Licensing Policy (HELP)** regime to reduce administrative oversight
- Open Acreage Licensing Policy (OALP) for freedom of block selection
- Policies for extension to PSCs to maximize hydrocarbon recoveries

Movement towards market based pricing

- Marketing and pricing freedom for new gas production: Gas Exchange
- Deregulation of petroleum product pricing; “every-day” pricing for petrol & diesel
Thank You
4 Key Features of Hydrocarbon Exploration Licensing Policy (HELP)

Uniform Licensing for exploration and production of all forms of hydrocarbon

- Enables contractors to explore conventional and unconventional oil and gas resources (Coal Bed Methane, Shale oil/ Gas, Tight Gas and Gay Hydrates) under single license

Open Acreage Licensing Policy (OALP)

- Year-round bidding
- Enable E&P companies to choose blocks from designated area based on their interest
- National data repository (Inaugurated on 29th June, 2017) to facilitate OALP

Revenue sharing model

- Earlier contracts were based on profit sharing between government and the contractor after cost recovery that caused delay and disputes due to government scrutiny of cost details of private parties
- In new policy, Gov. will not be concerned with cost incurred and will receive a share of gross revenue from sale of oil and gas

Attractive Fiscal Regime

- Marketing and pricing freedom for crude oil and gas
- Lower royalty rates from difficult areas such as offshore, deep-water and ultra deep-water blocks