Purbodaya: Unfolding Mega Opportunities in Textiles & Plastics Downstream Sectors in Odisha
Textiles & Plastics Investors Conclave 2018
2 September 2018, Surat, Gujarat
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It gives me immense pleasure to learn that “Textiles and Plastics Investors Conclave” is being organized in Surat on 2nd September 2018.

Surat, today, is one of the largest Man-Made Fiber (MMF) clusters in India, processing more than two crore meters of fabric a day. It humbles me note the entrepreneurial spirit of the people of Surat and how they have developed the city into a thriving economy based on textile and various other industrial clusters. It also fills me with great pride to observe that people from my home state of Odisha have played a key role in this transformation journey and more than 7 lakh ‘kargas’ in Surat today, belong to Odisha. Craftsmanship and finesse is synonymous to the people of Odisha as entrepreneurship and business acumen is to the people of Surat and there is great joy in witnessing the success that stems from such collaboration.

Today, India is the fastest growing large economy in the World and the social and economic mobility of people will further improve in the coming years; the consumption led growth story of India seems to be well underway. The textile and plastics value chain plays a vital role in the functioning of the key sectors of economy including agriculture, infrastructure, healthcare and consumer durables, thus, impacting our daily lives. Textile industry in India is now stabilizing after the GST implementation last year. Government decision to increase import duty on polyester fiber and yarn will further benefit the domestic producers. More importantly, from a consumption standpoint, there is likely to be a robust growth as India’s per capita expenditure on apparel touches USD 250 by 2025, more than double of what it is today.

Hon’ble Prime Minister of India has time and again reaffirmed his vision to improve socio-economic conditions in the eastern states and the government’s emphasis has been in that direction. Odisha in particular, has grown from strength to strength over the last decade and has gradually transformed into a vibrant investment destination. It provides an excellent opportunity for consumer oriented sectors such as textiles and plastics, by virtue of being close to the demand pockets of Eastern UP and West Bengal. The coastal belt is also uniquely positioned to cater to the growing export demand from neighboring countries Bangladesh, Myanmar and so on. Availability of key raw material for textiles and plastics – PTA and MEG, will also become available in Odisha from the IOCL Paradip refinery very shortly. Further, availability of skilled/semi-skilled workforce and power at lower tariff is ideal for labour intensive, mid-large scale industries such as textiles and plastics.

The theme for the event, therefore; Purvodaya – Unfolding Mega Opportunities in Textiles & Plastics Downstream Sectors in Odisha – could not have been more apt at this phase of a transition, and there is a genuine opportunity for large scale industrial clusters to come up in Odisha.

The conclave will serve as a platform to bring together large textile value chain players, and use industry participants, entrepreneurs and dignitaries from various diaspora together. The event will set the ball rolling for a debate, not only on the mega opportunity for textiles and plastics in Eastern India, but also on the key enablers, such as infrastructure, logistics, skill development etc. required to make the vision come true. I hope that the respective state governments also participate in this forum and actively work towards encouraging and enabling development of such industrial clusters.

It would be very interesting to hear from the participants, their views on the evolving landscape in the east and I am looking forward to interacting with the participants. I extend my greetings to the organizers and participants and wish the event grand success.
Foreword

Indian Textiles and Petrochemical sector contribute significantly to the GDP of our country. These sectors serve as enablers of practically every other major sector – automobiles, agriculture, infrastructure, hygiene, medical applications, water transportation, food packaging and so on. Moreover, plastics and polyester products, by virtue of being versatile and highly affordable, are the materials of choice for the vast majority of India’s population. Considering their recycling potential, their use also helps in conserving natural resources. Consequently, the demand for these products has been growing steadily and the growth momentum is expected to continue in the long-term.

IndianOil, the flagship energy major of India, owns and operates world-scale plants producing Linear Alkyl Benzene (LAB), Polypropylene, Polyethylene, Purified Terephthalic Acid (PTA) and Glycols. Besides investments to the tune of Rs. 25,000 crore as on date, IndianOil plans to invest about Rs. 30,000 crore more in the petrochemicals segment in the coming years.

India’s per capita consumption of plastics and textiles is way lower than the world average and that of Eastern India is much lower than the national average. However, Eastern India, with its huge market, good port infrastructure, power availability, road and rail linkage and highly competitive labour cost, is an ideal investment destination for further downstream industries.

IndianOil has set up a 15 million metric tonnes per annum (MMTPA) refining complex at Paradeep in Odisha and is commissioning a downstream 680-KTA Polypropylene plant this year. Plans are also on the anvil to set up PTA and Glycols plants as part of the Paradeep Refinery & Petrochemicals complex. These projects will ensure that petrochemical and textile building blocks will be available in abundance at the doorstep to downstream allied industries in the Eastern region.

In order to complement the above mentioned mega projects and build a complete ecosystem, IndianOil in joint venture with IDCO is developing a Plastic Park in Paradeep. Downstream industries at the Plastic Park will utilise Polypropylene for manufacturing of various products e.g. cement bags, furniture items, packaging for FMCG products, non-woven products for medical and hygiene applications, etc. I am happy to share that MSME investors have already started making investments in this Plastics Park at Paradeep.

On similar lines, Continuous Polymerisation (CP) unit and a Textiles Park is expected to be developed in Odisha at Bhadrak about 135 km from Paradeep. Units at this Textile Park will utilise feedstock available from Paradeep Refinery and manufacture Polyester Staple Fibre (PSF), Draw Texturized Yarn (DTY) and Fully Drawn Yarn (FDY). Once completed, the Textile Park will host the entire polyester value chain – fibre to apparel.

IndianOil jointly with OPaL is organising this ‘Textiles and Plastics Investors Conclave’ at Surat to highlight the investment opportunities in the above parks as well as to handhold potential investors. I am sure that this white paper being brought out on the eve of the Conclave will be a valuable source of information to all stakeholders.

I hope this conclave will be yet another major step towards ushering in Purbodaya with mega opportunities in Eastern India.

Sanjiv Singh
Chairman, IndianOil
EXECUTIVE SUMMARY

This thought paper aims to highlight the emerging investment opportunities in eastern India, particularly in Odisha, for textiles and plastic processing industries in the context of an evolving market landscape.

Globally, the petrochemical downstream industry has grown modestly, driven by consumption across emerging economies in Asia and Africa. India on the other hand, registered a robust growth for downstream petrochemicals such as polyester and plastics owing to large domestic demand, as well as growth in exports. Strengthening of supply side factors such as availability of feedstock locally, has also tilted the market in favor of domestic producers. The government’s thrust on key end use sectors like infrastructure, food and agriculture etc. will further support this growth going forward.

Eastern region in India, today, has lower per capita polymer consumption compared to the national average and is therefore likely to see an accelerated demand growth. It has the dual advantage of being close to the regional demand pockets of West Bengal and Eastern Uttar Pradesh, as well as potential to export to neighboring countries such as Bangladesh and Myanmar. Raw material availability in East will also strengthen with new petrochemical capacities coming on-stream from Paradeep refinery very shortly.

Odisha has the unique advantage of having convenient access to port, availability of skilled manpower and proximity to both, raw material sources as well as demand clusters. From an incentive and regulatory support standpoint, Odisha, amongst the eastern states, has a host of schemes and initiatives under the industrial policy, and has seen considerable investments over the last few years. Government has envisaged a cluster based approach to tap into this opportunity and initiatives to set up a world scale textile and plastics park in Odisha are well underway.

Textile and plastics downstream industry in India can adopt an integrated approach to tap into this opportunity and benefit immensely in the long run. Learnings from successful global industrial clusters indicate that a collaborative ecosystem fostering entrepreneurship, a supportive regulatory framework, focus on skill development and robust infrastructure are crucial for such clusters to leverage on collective strengths and compete in the global marketplace.

Estimates indicate that there exists an investment potential of INR ~30,000 Crores over the next decade, in eastern India alone, resulting in direct and indirect employment opportunity for 2-2.5 Mn people.
GLOBAL POLYESTER AND PLASTICS LANDSCAPE
GLOBAL PETROCHEMICAL INDUSTRY

Petrochemicals are the starting point for downstream textiles and plastic value chain and it is important to understand the dynamics shaping the petrochemical market in order to understand its impact on the downstream industries. Crude showing signs of recovery, coupled with a strong consumption led demand, especially across emerging economies, indicates a favorable outlook for petrochemicals over medium to long term horizon. Key petrochemicals, such as ethylene and propylene are likely to witness a 3-4% CAGR over the next decade with bulk of the demand arising out of the Asian markets.

**Global Petrochemicals Growth Outlook**

<table>
<thead>
<tr>
<th>Ethylene Demand (MMT)</th>
<th>Propylene Demand (MMT)</th>
<th>Para-xylene Demand (MMT)</th>
</tr>
</thead>
<tbody>
<tr>
<td>157</td>
<td>107</td>
<td>46</td>
</tr>
<tr>
<td>2018E</td>
<td>2030</td>
<td>2018E</td>
</tr>
</tbody>
</table>

**Growth drivers**

**Economic growth**
- In developing economies, petrochemical demand is expected to be higher than the GDP growth rate. Economic growth is one of the major drivers for petrochemical consumption as it leads to change in lifestyle, and improvement in the living standards. Reasonably strong Polyolefin demand growth is expected in Asia with China - which represents around 50% of global growth - at 6-7%, and other countries such as Vietnam having an even stronger growth of 8-9%. India’s demand has been growing in excess of 9% annually for several years and is expected to continue that momentum in the coming years.

**Evolution of end use industries**
- Increase in demand from key consuming industries; such as packaging industry, automotive, construction and next generation, innovative products for the healthcare industry are considered to be the key drivers of the petrochemicals industry.

**Specialty chemicals**
- The specialty chemicals industry will drive demand for the petrochemical intermediates. Growth in specialty chemicals will stem from both the growth of end industries such as construction, consumer goods as well as rising sophistication of end products in automotive and aerospace sectors e.g. Boeing’s recently launched Dreamliner aircraft used ~50% composites derived from polymers.

**Environmental regulations**
- New European legislation and the US norms on emission and fuel efficiency are also mandating the OEMs to reduce weight. This is expected to further drive the use of composites in place of metals in the automotive industry. By 2030, the use of plastics in a typical car is expected to triple from the current weight of 200 kg.

**Source:** Financial Times, APIC, Industry reports, Deloitte Analysis
Emerging trends

Vertical integration
• Increasing number of greenfield investments are being planned as integrated refinery cum petrochemical complexes. In an uncertain price regime, integrated complexes enable greater product flexibility to take advantage of market dynamics and at the same time optimize the cost due to shared infrastructure and logistics set-up.

Eroding advantage of feedstock
• The US is expected to lose feedstock advantage of using cheaper shale gas instead of costlier crude oil in production of petrochemicals. This is because the price of shale gas is expected to go up due to an increase in the demand from new ethylene cracking capacity and increase in export opportunities.

Alternative feedstock
• Growing environmental concerns and higher crude oil prices have accelerated the development and commercialization of renewably derived chemical products and technologies, which were previously considered economically unviable

Impact of Iran sanctions
• Iran is among the top 5 producers of polyethylene. Ongoing sanctions will impact the global supply originating from Iran. Additionally, upcoming capacity of 4.4 MMTPA of polyethylene in Iran may also be delayed.

Rise of emerging market players
• Increase in capacity is expected to come from local players in emerging economies to cater to rising domestic demand of petrochemicals. They are expected to become leading players by capacity in the near future.

Product trends
• New supply of ethylene should be relatively abundant as sufficient capacity is expected to come up in the next decade, with more than 60% capacity is expected to come from Asia and the US.
• Major non-ethylene capacity addition is unlikely in the next 4-5 years. Non-ethylene products are seeing stronger and more broad-based margin expansion, and Asian and European integrated players are best-placed to benefit. There is also a strong demand from non-ethylene products such as butadiene and synthetic rubber.

Source: Platts, ICIS, Wood Mackenzie, EIL, Deloitte Analysis, Macquarie Research
GLOBAL POLYESTER & PLASTICS INDUSTRY

Polyester markets are guided by feedstock Ethylene and Paraxylene which are converted into MEG and PTA to produce polyester staple fiber (PSF) and polyester filament yarn (PFY). China is one of the largest producer of polyester and accounts for nearly half of the global market.

In case of plastics, Polyethylene accounts nearly for 40% of total demand followed by Polypropylene. Demand for both, polyester and plastics are closely linked to economic growth and trace the GDP growth in most countries.

Global Polyester, Textile and Plastics Industry: Growth Outlook

Growth drivers

**Polyester and Textiles**
- Ban on recycling of plastic in China will significantly drive up the demand for virgin polyester industry in East Asia
- Technology change and innovation across industries is driving the demand for technical textiles, which is emerging as a fast-growing segment
- Availability of low-cost manpower and abundant raw material in Asian countries will continue to result in bulk of textile supply coming from East

**Plastics**
- Films and packaging, beverage consumption etc. across emerging economies will drive the growth for bulk plastics – PE, PP and PET
- On the other hand, electronics / appliances market will be one of the main demand drivers for PS.

Emerging trends

**Polyester and Textiles**
- Polyester will account for 70% of the incremental fiber demand globally over the next 5-7 years.
- Textile filaments will remain the fastest growing segment because of the ever increasing requirement for durable apparel in growing economies
- While China will continue to dominate the supply, gradual shift of textile production towards other developing Asian nations (Vietnam, Bangladesh or India) is expected as Chinese wages increase.

**Plastics**
- There has been a growing interest in bio-based plastics due to environmental concerns, especially across industrial belts in Asia and Europe. However, the market is still in its infancy.

* Plastics includes: PE, PP, PVC, PET, PS, PC and ABS

Source: Financial Times, APIC, Industry reports, Deloitte Analysis
SNAPSHOT OF POLYESTER & TEXTILE CLUSTERS GLOBALLY

Globally, textile industry has grown at a 4% CAGR between 2005 and 2016. Bulk of the demand has come from pockets where urbanization has been higher in the recent years.

Textile industry value chain is complex and involves several stages of processing. Many of the mid and downstream units such as garmenting and apparel manufacturing are extremely labor intensive in nature and require specialized skill workers. For downstream units such as ready-made garment manufacturing, it is also crucial to have a robust retail network integration and proximity to end use markets in order to bring in supply chain efficiencies.

Availability of basic raw material, first stage converters, access to labor, robust logistics and retail network are therefore essential to ensure that textile parks are successful on a sustainable basis. Though many of the countries like Turkey, Bangladesh etc. have a thriving textile industry, bringing together such a complex value chain in a single cluster or park has been a challenge and there are not many examples of end-to-end textile park globally.

An illustrative example of large textile parks globally is given below:

Keqiao Textile Park (China)

China is the biggest exporter of textile and since the 80’s, has become a pillar industry for the Chinese economy.

Industry statistics:
- 16.5 Billion meters of printed fabrics and 200 Million garments are produced generating annual exports of over USD10 Billion
- A core hub called China Textile city thrives within Keqiao having 29,000 companies making over 40,000 variety of textile products and creating an annual turnover of USD18.5 Billion

Key success factor:
- Adaptation to technology and designing textile products for new applications
- Close proximity to a comprehensive network of railways, expressways and waterways creating over 100 transport lines linking Keqiao to the rest of the country and overseas

Incentives:
- Host of fiscal incentives including a 15% export tax concession
- Frequent trade promotion activities: China Shaoxing Keqiao International Textile Expo is organized by the state twice a year to attract investments

Bangladesh Textile Industry

Bangladesh textile industry contributes to 76% of the foreign exchange earnings for Bangladesh and is one of the most prominent industries in the country.

Industry statistics:
- The Bangladesh textile industry has its major production hub in Dhaka. The exports exceeded USD 30 Billion in 2017 making Bangladesh the 3rd highest exporter of textiles after China and Vietnam

Key success factor:
- Low cost of labor and relaxed environmental regulations are key reasons for Bangladesh’s rise in the textile industry

Incentives:
- The Central Government has been organizing the Dhaka International Textile and Garment Machinery Exhibition for the past 16 years. The exhibition has over 1200 companies showing their work to potential investors

Source: HKTDC, Textile World Asia, Dhaka Textile and Garments, Textile Today, Secondary sources
Vietnam is now the 2nd highest exporter of apparels and textiles. It overtook Bangladesh to reach this position in 2017.

**Industry statistics:**
- With major production hubs in Hanoi and Ho Chi Minh, Vietnam has a total of 6,000 textile manufacturing companies; 84% of which are private sector
- The Textile and Clothing Industry exports reached USD 31 Billion in 2017, increasing by 10.23% from the previous year. The US, Europe and Japan are the 3 major export destinations for Vietnamese garments
- The Vietnam textile industry being highly labor intensive, employs over 4 Million people, 80% of which are women

**Key success factor:**
- Vietnam has over 100 ports of which, several major ones are near production hubs. It has a linear shipping connectivity index of 46.4, higher than that for neighboring nations
- A large amount of Foreign Direct Investment, at the early stages to take advantage of the cheap yet skilled labor, has made it an attractive destination for investment

**Incentives:**
- Vietnam has trade agreements with Europe and Asia Pacific region nations reducing or removing the import duty for entry of Vietnamese products
- The central government organizes the Vietnam International Textile and Garment Industry Exhibition every year to share advances in technologies used in Vietnam.

India is now seeing integrated textile parks coming up in a large-scale organized format, with significant private sector participation. Brandix, Sri Lanka's largest apparel exporter has setup an integrated textile park spread across 1,000 acres in the port city of Visakhapatnam (Vizag) in Andhra Pradesh. Some key features of this park are:
- This facility provides a ‘plug and play’ model of investment, relying on modern infrastructure and local value chain partners to cater to all requirements of a manufacturer, from sourcing of raw material to transportation of finished goods
- Investors setting up operations in the park get a host of fiscal benefits including Interest subsidy on term loans up to 12.5%, power subsidy up to 5 years, in addition to other SEZ benefits such as import duty exemption, concessional income tax rate etc.
- Special focus has been given towards developing a robust social infrastructure including a state of the art training institute, modern living quarters, banks, recreational and township amenities

Source: Ministry of labor: Vietnam, VTVietnam.com, brandix.com, Secondary sources
**PLASTIC CLUSTERS - GLOBALLY**

Plastic industry globally has grown at a ~4% CAGR between 2010 and 2016, with most of the demand coming from developing countries like India and China.

Clusters have emerged either to take advantage of the feedstock flow or proximity to demand pockets with a focus on core infrastructure, tax incentives and network integration between the refinery and the downstream units.

The government and private sector initiatives to set up large cluster based industrial parks (CBIP) has worked for plastic industry; Jurong Island (Singapore), Shanghai Chemical Industry Park (China), Hochst and Ludwigshafen (Germany) etc. being successful examples of such parks.

These parks essentially bring together the value chain incumbents under a common ecosystem and help players achieve greater cost competitiveness and efficiency compared to stand alone enterprises.

Illustrative example of some of the leading plastic parks globally is given below:

<table>
<thead>
<tr>
<th>Jurong Island (Singapore)</th>
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<tbody>
<tr>
<td>The plastic industry in Jurong Island was established in 1976 and since then has secured its position as one of the largest plastic parks in the world.</td>
</tr>
</tbody>
</table>

**Industry statistics:**
- Top 5 chemical export refineries in Asia and 100+ chemical, petroleum and allied industries with investments exceeding USD 31 Billion
- Yearly industrial output worth more than USD 85 Billion with a CAGR of 4.13% largely due to an effective supply chain and space utilization techniques

**Anchor investors with individual productions:**
- ExxonMobil - ExxonMobil is one of the biggest investors in the Jurong park and annually produces 1.8 MMT of Paraxylene, 1.3 MMT of Polyethylene and 1 MMT of Ethylene
- Petrochemical corporation of Singapore (PCS) - PCS has invested over USD 5 Billion into the park infrastructure and currently produces 1.1 MMT of Ethylene and 0.8 MMT of Propylene annually

**Key success factor:**
- Innovative utilization of space including the use of Jurong caves to setup storage plants and easy access to the port and other transport utilities to setup the plug and play production model
- A strong support of third party service providers, utilities and availability of skilled labor enable companies to focus on core operations

**Incentives:**
- Full tax exemption for foreign pioneer enterprises for a period of 5 to 15 years
- Dividends are exempted from withholding tax

*Source: SCIC, Websites of PCS, ExxonMobil and other secondary sources*
Shanghai Chemical Industry Park (China)

Shanghai Chemical Industry Park was established in the 1980s with huge investments and now has one of the highest workforce and production setups globally.

Industry statistics:
- An initial investment of USD 21.5 Billion helped start the first industrial zone with specialization in chemical industries leading to a output worth USD 13.5 Billion at its inception.
- More than a million professional technicians and 200,000 professionals are engaged in the scientific and technical activities within the park.

Anchor investors with individual productions:
- Bayer group has invested over USD3 Billion in the Shanghai park and annually produces 0.23 MMT of MDI and 0.2 MMT of Polycarbonates.
- With investments of USD2.8 Billion, BP Secco has setup plants producing 0.9 MMT Ethylene, 0.6 MMT Polyethylene and 0.5 MMT Styrene annually.

Key success factor:
- Access to onsite utilities and close proximity to transport facilities proves to be very cost efficient.
- The growth of the park prompted the opening of many financial institutions in the region, thus, making many financial channels available to the companies.

Incentives:
- Income tax exemptions linked to re-investment in the country.
- Two years of tax holiday followed by three years of 12.5% tax before the regular 15% tax.

Hochst and Ludwigshafen (Germany)

These parks started operations in the 1990’s and since then major players have taken up operations at their facilities.

Industry statistics:
- Over 30 chemical parks with major ones at Hochst and Ludwigshafen having 100+ companies.
- The chemical parks in Germany provide large scale employment with 22,000 employees working at the Hochst facility while the Ludwigshafen park has around 39,000 employees.

Anchor investors with individual productions:
- BASF (Ludwigshafen) facility produces about 2 MMT of Naphtha and 0.65 MMT of Ethylene annually.
- Industry park Hochst- This facility which has had USD7.3 Billion invested since 2000, has 90 companies spread out over a 460 acres of area and 520 Km supply lines for energy and finished products.

Key success factor:
- Well developed infrastructure integrated into Europe’s pipeline network provides ease of business.
- Highly qualified employees and proximity to many research institutes and universities provides an excellent Research and Development environment.

Source: Industriepark-hoechst, chemicalparks.eu, Shanghai Chemical Industry Park and other secondary sources.
KEY SUCCESS FACTORS FOR INDUSTRIAL CLUSTERS

Learnings from some of the successful plastic & textile hubs globally indicate that an integrated approach with strong support in terms of infrastructure, regulatory framework and social ecosystem is critical for the clusters to develop into economic nerve centers.

**Integrated Approach**

- Integrated approach with a strong anchorage, typically by way large petrochemical plant, and the downstream manufacturing units, including end product manufacturers structured around it.
- Having an integrated approach implies assured offtake for feedstock suppliers, lower input costs for downstream manufacturers and overall value maximization across the chain.

**Enabling Policy Framework**

- Support from the local government in terms of favorable regulatory environment and ‘ease of doing business’ aspects help attract large scale investments.
- Cluster specific benefits such as waiver on import duties for specific feedstock have also known to be game changers in many of the global industrial clusters.
- Single window clearance system can hasten the investment cycle.

**World Class Infrastructure**

- Having robust infrastructure within the economic radius of the cluster, such as pipeline networks for product movements, common effluent treatment plants etc. helps bring in greater efficiencies.
- Availability of reliable and cheaper source of power can help in maintaining plants operations reliable and competitive.
- Overall logistics network and regional infrastructure – access to port, road / rail connectivity etc. also lends considerable competitive advantage to the players.

**Social Infrastructure and Sustainability**

- Institutional set-up in the region to generate skilled resources.
- Township planning including healthcare, education and hospitality in the vicinity of these clusters and developing the overall social infrastructure helps in nurturing and retaining talent.
INDIAN POLYESTER AND PLASTICS INDUSTRY LANDSCAPE
Indian petrochemical industry grew at a 8% CAGR in the last 5 years, primarily driven by macroeconomic factors such as strong GDP growth, changing consumer behavior and various large scale government initiatives.

### Indian Petrochemical Sector Growth Outlook

<table>
<thead>
<tr>
<th>MMT</th>
<th>2018</th>
<th>2025</th>
<th>2030</th>
</tr>
</thead>
<tbody>
<tr>
<td>Ethylene</td>
<td>+9%</td>
<td>+6%</td>
<td>+8%</td>
</tr>
<tr>
<td>Propylene</td>
<td>+6%</td>
<td>+8%</td>
<td>+8%</td>
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<tr>
<td>PE</td>
<td>+9%</td>
<td>+9%</td>
<td>+9%</td>
</tr>
<tr>
<td>PP</td>
<td>+9%</td>
<td>+9%</td>
<td>+9%</td>
</tr>
<tr>
<td>PVC</td>
<td>+6%</td>
<td>+6%</td>
<td>+6%</td>
</tr>
<tr>
<td>Others*</td>
<td>+9%</td>
<td>+6%</td>
<td>+9%</td>
</tr>
</tbody>
</table>

### Growth drivers

- Government initiatives such as Housing for all, Make in India, Swachh Bharat, Gram Jyoti will continue to propel demand
- India’s per capita plastic consumption is lowest in the world which provides huge headroom for growth
- Key sectors driving petrochemical consumption are expected to grow at ~10% CAGR during 2018 to 2030

### Sectoral market size and growth in India (USD Billion)

- **Packaging**: 2,359
- **Automotive**: 16%
- **Textile**: 18%
- **Construction**: 18%

### Housing for All

- Increased plastic consumption & substitution across applications like construction, packaging

### Make in India

- Emerging industries such as electronics manufacturing in India will drive demand for specialty polymers, advanced composites, processing chemicals etc.

*Includes major derivatives of propylene, ethylene, aromatics & butadiene*

**Source:** IMF, Industry reports, Deloitte Analysis
INDIAN POLYESTER & PLASTIC INDUSTRY

Market fundamentals indicate an accelerated growth in demand as per capita consumption levels rise with increase in spending power and significant opportunities open up in global export market.

### Global Polyester, Textile and Plastics Industry: Growth Outlook

<table>
<thead>
<tr>
<th></th>
<th>2018E</th>
<th>2030</th>
</tr>
</thead>
<tbody>
<tr>
<td>Polyester Fibre Market (MMT)</td>
<td>5</td>
<td>10</td>
</tr>
<tr>
<td>Textiles Market Size (USD Billion)</td>
<td>143</td>
<td>380</td>
</tr>
<tr>
<td>Plastics Market (MMT)</td>
<td>15</td>
<td>54</td>
</tr>
</tbody>
</table>

#### Growth drivers

**Polyester**
- Consumption in India trails the global average on a per capita basis. With economic growth, the per capita consumption is expected to rise.
- Indian cotton production is likely to be impacted due to increasing pest issues and this will lead to increased blending of polyester.

**Textiles**
- Growing population, favorable demographics due to rise in urban population and increasing female workforce participation, shift in preference to branded products rising demand from exports will contribute to grow.
- Favorable policy measures from the government will continue to be a key enabler for growth.

**Plastics**
- Double digit growth from key end use industries – automotive, packaging, construction and electronics – will drive demand for plastics.

#### Emerging trends

**Polyester and Textiles**
- Share of polyester in textile sector in India is expected to go up to 53% in 2030 from 41% in 2016 and will eventually converge towards 60% which is the global average.
- The sector will continue to witness increased outsourcing as Indian players move up the value chain.
- Due to rising cost of production in China, India and other Asian countries will compete for China’s share of the overall export market.
- Rising environmental concern is leading to adoption of newer, more ‘environment-friendly’ technologies.

**Plastics**
- With availability of feedstock locally, import of intermediates and specialty polymers are likely to come down significantly by 2030.

**Source:** Wood Mackenzie, Chemical and Petrochemical Statistics 2017, Industry reports, Deloitte Analysis
KEY FEEDSTOCK SCENARIO – MEG AND PTA

In the petrochemical value chain, MEG and PTA are part of the fiber intermediates market and have grown at ~7-8% in last 3 years. MEG and PTA application can be found in textiles food & beverage packaging, furnishings, consumer goods, resins & coating.

More than 70% of MEG and PTA consumption is driven by demand for polyester fiber, which is used in textile industry. Additionally, ~20% of MEG and PTA is utilized in manufacturing of PET for packaging. The estimated growth in textile & packaging demand will continue to put upward pressure on PTA & MEG consumption.

### MEG & PTA Growth Outlook

<table>
<thead>
<tr>
<th>MEG &amp; PTA Growth Outlook</th>
<th>Domestic Consumption of MEG</th>
<th>Domestic Consumption of PTA</th>
</tr>
</thead>
<tbody>
<tr>
<td>MMT</td>
<td>2015</td>
<td>2.0</td>
</tr>
<tr>
<td></td>
<td></td>
<td>6.6%</td>
</tr>
</tbody>
</table>

**Domestic Capacity Growth for MEG & PTA**
- **MEG** - IOCL has planned an MEG project that includes Ethylene Recovery Unit of 180 KTA and Glycol Unit of 326 KTA to be commissioned by 2019.
- **PTA** - Addition of new capacity by RIL and JBF increased India’s capacity from 6.2 MMT to 7.4 MMT in 2018. IOCL is expected to complete building of 1 MMT capacity by 2020; India has now become a net exporter of PTA.

**Global Capacity Growth for MEG & PTA**
- **MEG** - Massive capacities planned in 2019 in US (shale) while China will focus on CTMEG (coal to MEG)
- **PTA** - China added ~28 MMTPA of PTA effective capacity over 2010-16 continuing to disrupt margins and global trade flows.

Due to surplus capacity in Asia, Indian producers can target Middle east and Africa which had a 1.8 MMT PTA deficit in 2018. Currently, South Korean producers are fulfilling major part of the deficit in Middle east. Lower freight cost due to India’s physical proximity and lower administrative cost would give competitive advantage to Indian producers.

**Source:** Indian Petrochemical Industry Review of 2016-17 & Outlook for 2017-18 - APIC 2017
PURBODAYA: OPPORTUNITIES FOR THE SECTOR IN EASTERN INDIA
PLASTICS AND TEXTILES - OPPORTUNITIES IN EASTERN INDIA

Market fundamentals indicate an accelerated growth in demand in the eastern region as per capita consumption levels increase; significant export opportunity also exists.

**Eastern states in India have shown strong growth in recent past**

<table>
<thead>
<tr>
<th>State</th>
<th>GDP growth rates from FY14–17</th>
</tr>
</thead>
<tbody>
<tr>
<td>National Average</td>
<td>10.3%</td>
</tr>
<tr>
<td>Andhra Pradesh</td>
<td>8.7%</td>
</tr>
<tr>
<td>Jharkhand</td>
<td>8.6%</td>
</tr>
<tr>
<td>Telangana</td>
<td>7.2%</td>
</tr>
<tr>
<td>West Bengal</td>
<td>7.1%</td>
</tr>
<tr>
<td>Bihar</td>
<td>7.1%</td>
</tr>
<tr>
<td>Chhattisgarh</td>
<td>6.7%</td>
</tr>
<tr>
<td>Odisha</td>
<td>8.6%</td>
</tr>
</tbody>
</table>

Although, Odisha has grown at a growth rate lower than the national average from FY14–17, the growth rate has picked up particularly in the last two years and the GSDP for FY15 to FY18 period for Odisha has been 8.6%, significantly higher than the national average.

This growth story for the East is likely to continue as there are some major investments planned in the state of Odisha.

**Consumption led growth**

**Plastics Consumption In MMT**

- **2015**: Rest of India = 12.2, Eastern India = 1.2
- **2030E**: Rest of India = 48.1, Eastern India = 4.8

**Polyester Consumption In MMT**

- **2015**: Rest of India = 2.8, Eastern India = 2.5
- **2030E**: Rest of India = 7.0, Eastern India = 2.5

Per capita consumption of plastics in Eastern India states is significantly lower than the Indian average. West Bengal’s current per capita plastic consumption is 5 Kgs as against national average of 10 Kgs.

Share of polyester in textile sector in India is expected to go up to 53% in 2030 from 41% in 2016 and will eventually converge towards 60% which is the global average.

Current penetration levels in Eastern states is lower compared to the national average and per capita polyester consumption in the east will therefore grow much faster.

**Polyester yarn/filament export to Bangladesh (‘000 Tons)**

Bangladesh’s RMG sector has a bright future, as competitors like China are moving up in the value chain, leaving apparel manufacturing to more cost effective players. As the Bangladesh textile industry grows, India has the opportunity to supply lions share of their feedstock demand.

<table>
<thead>
<tr>
<th>Year</th>
<th>Exports (‘000 Tons)</th>
</tr>
</thead>
<tbody>
<tr>
<td>2017</td>
<td>49</td>
</tr>
<tr>
<td>2030</td>
<td>115</td>
</tr>
</tbody>
</table>

Source: RBI Handbook, Financial Express, Deloitte Analysis
Supply side dynamics in east

While there is considerable PTA availability in the Eastern region, and additional capacities for MEG coming up, most of the downstream and processing units and clustered in the west. Consequently, movement of feedstock/intermediates to the west and that of finished product back to the east for consumption/exports is counter productive and there is scope for downstream industries to come up in the east.

**Western belt** - Majority of the intermediates and downstream processing units, Polyester 87%, Plastics 41% of India’s total

**Consumption and Manufacturing Capacity**

<table>
<thead>
<tr>
<th>Product</th>
<th>Manufacturing Capacity</th>
<th>Consumption</th>
</tr>
</thead>
<tbody>
<tr>
<td>Polyester</td>
<td>~5%</td>
<td>~26%</td>
</tr>
<tr>
<td>Plastics</td>
<td>~7.8%</td>
<td>~9-10%</td>
</tr>
</tbody>
</table>

**Eastern India upcoming capacities for intermediates**

<table>
<thead>
<tr>
<th>Product</th>
<th>Haldia Unit</th>
<th>Paradeep Unit</th>
</tr>
</thead>
<tbody>
<tr>
<td>PTA</td>
<td>1300 KTA</td>
<td>700 KTA (Upcoming)</td>
</tr>
<tr>
<td>MEG</td>
<td>-</td>
<td>356 KTA (Upcoming)</td>
</tr>
</tbody>
</table>

In addition to increasing petrochemical capacity and consumption and manufacturing capacity gap, there are some growth enablers which add to the development potential in the east.

**Accelerated growth in the east:** Petrochemical consumption is lowest in the eastern parts of the country. As GSDP growth for eastern states are higher than the national average, the consumption gap is expected to get smaller, resulting in higher growth rate of consumption in the east. Additionally, with the increased focus on petrochemical activities and major projects in upstream (Assam gas cracker) as well as downstream (IOCL Paradip), finally coming on stream, eastern India could potentially become the hub of large scale industrial growth.

**Export opportunity:** India’s overall export to Bangladesh stood at ~US$8.4 Billion in FY17, this is ~20% higher than FY16 export of ~US$7 Billion and has been growing strong (growth of ~13% from FY15 to FY16). As port facilities improve in Bangladesh, exporting bulk goods such as polyester, from Haldia, Dhamra and Vizag will become attractive. 250 km long East Coast Economic Corridor (ECEC), backed by the Asian Development Bank (ADB) could help strengthen export links with other neighboring countries in the east.

**Developing infrastructure and location advantage:** Huge amount of investment worth ~US$44 Billion has been planned in Paradeep with an intent of setting up India’s largest chemical and plastic hub, out of which, based on recent estimates, US$6.14 Billion investment is already in place. Proximity to the rich coal belt in Odisha coupled with climate change initiatives may lead to freeing up of coal for the chemical industry by gasification.

*Boundaries shown in the map are representative and not authentic*

*Source: Moneycontrol, Various Newspaper Articles, Deloitte Analysis*
INVESTMENT OPPORTUNITY IN EASTERN INDIA

Increased production of polyester and plastic in eastern India creates plethora of opportunities for industries and entrepreneurs to exploit as east is expected to spearhead the growth of the Indian economy. Based on estimates, INR ~300 Billion of investment in plastic and textile value chain will create employment opportunities for 2-2.5 Million people.

**Plastic Value Chain**

**Investment Opportunity:** INR 140 – 160 Billion

**Employment Potential:** 1 – 1.2 Million people

Based on the current capacity and total employment in plastic sector across the value chain, it is estimated that an employment potential of 1 – 1.2 Million people, both directly and indirectly, exists in eastern India alone. Correspondingly, an investment potential of INR ~140-160 Billion exists in Eastern India alone, over the next decade.

**Textile Cluster**

**Investment Opportunity:** INR 120 – 150 Billion

**Employment Potential:** 1 – 1.2 Million people

A textile cluster in Eastern India, say Odisha, with a processing capacity of 1,500 KTPA could create an employment opportunity of 1 – 1.2 Million people. This, in turn, could imply an investment potential of INR ~120–150 Billion over the next decade.

Downstream textile industry, processing and apparel, in particular, are extremely labour intensive and have one of the highest employment generation index per dollar of investment. Of the envisaged 1.2 million potential employment generation opportunity, 70% would roughly be in the downstream textile sector.

**Source:** Moneycontrol, Various Newspaper Articles, Deloitte Analysis
TRADITIONAL TEXTILE INDUSTRY IN ODISHA

Among the Eastern States, Odisha inherently has a very rich textile and handloom industry. It is famous for its silk ‘kat’ weaves. Sericulture is a major practice among the rural poor in many districts of Odisha. It involves around 0.1 Million people in direct employment across various districts. This silk is then used by 0.2 Million weavers. These weavers are largely concentrated in the districts of Bargadh, Sonepur, Cuttack and Balangir.

One of the key apparels made out of the silk produced are the Saktapur Saree more commonly referred to as the Sambalpur Saree which is made from the weaving looms of Sambalpur, Bargadh and Sonepur. These sarees got a Geographical Indication (GI) tag from the government in 2012 and has been a key source of income for many people in the state.

Off late, the weavers at Sambalpur have been facing a threat from duplicates made in other states. The duplicates are a much cheaper variant produced using power mills. While a traditional Sambalpur Saree is sold at an average of INR 3,000, the same design made in a power mill sells at INR 300 to 400. This has significantly impacted sales and led to a wage cut of 15% for the weavers.

In order to make Sambalpuri Saree competitive as compared to duplicate variants a change in composition of sarees could be explored. Rather than using pure silk, if a blend of polyester and silk could possibly be used as it may help reduce overall manufacturing cost.
TAPPING THE POTENTIAL IN EASTERN INDIA
CREATING AN ENABLING FRAMEWORK FOR INDUSTRIAL GROWTH

Eastern states have shown competitive federalism in developing infrastructure and undertaking policy reforms for developing and sustaining industrial growth in the last decade.

Odisha, in particular, has shown considerable appetite for growth. Industrial development of Odisha in the last decade has increased the visibility of the state at the national and the international level and the state is fast emerging as a preferred destination for investment. Odisha has rich mineral reserves and proximity to resources has played an important role in giving competitive edge to the state’s industrial units.

The state government has developed frameworks to make industries more efficient and competitive with support of technological, infrastructural, institutional and entrepreneurial skill development. Directionally, the emphasis has largely been on sustainable industrialization and increasing employment opportunity over a long term horizon.

The new regime of reforms under the wider Make in India programme, include; E-Biz project by launching of the Government to Business (G2B) portal; setting up a new Ministry of Skill Development and Entrepreneurship; streamlining of environment and forest clearances, and labour sector reforms through new Shram Suvidha portal. A number of technological interventions have also been implemented under improving the Ease of Doing Business charter such as Go-i PLUS, GO-Swift, CICG, APAA, and e-Subidha, which are likely to instill confidence among the investor community.

While these initiatives are a step in the right direction, there is still a ground to cover with respect to seamless integration of key business enablers for potential investors.

Key enablers for business environment – Comparison of key states

<table>
<thead>
<tr>
<th></th>
<th>Odisha</th>
<th>Other Eastern States⁽¹⁾</th>
<th>Western States⁽²⁾</th>
</tr>
</thead>
<tbody>
<tr>
<td>Availability of Land</td>
<td>70%</td>
<td>69%</td>
<td>85%</td>
</tr>
<tr>
<td>Construction Permit</td>
<td>79%</td>
<td>66%</td>
<td>90%</td>
</tr>
<tr>
<td>Cost of Power⁽ᵃ⁾</td>
<td>INR 5.5 / Kwh</td>
<td>INR 6.18 / Kwh</td>
<td>~ INR 6.63 / Kwh</td>
</tr>
<tr>
<td>Single Window System</td>
<td>79%</td>
<td>66%</td>
<td>98%</td>
</tr>
<tr>
<td>Minimum wage rate index of skilled labor</td>
<td>0.76</td>
<td>0.86</td>
<td>0.93</td>
</tr>
<tr>
<td>Access to Information</td>
<td>100%</td>
<td>96%</td>
<td>100%</td>
</tr>
</tbody>
</table>

Notes [⁽¹⁾]: Other Eastern States include Bihar, Jharkhand, Chhattisgarh, West Bengal; [⁽²⁾] Western States include: Maharashtra and Gujarat; Score denotes percent of reforms completed against total recommended reforms as per Business Reforms Action Plan 2017 (BRAP), DIPP, (a) Power Finance Corporation, Industrial HT Power cost
REGULATORY LANDSCAPE ACROSS SELECT EASTERN STATES

Specifically, from an incentive and regulatory support standpoint, Odisha has a host of schemes / initiatives and is considerably more competitive and investment friendly compared to other Eastern states.

Below table is an illustrative snapshot of select incentives and regulatory support mechanism available for investors considering Odisha as a potential destination.

### Incentive framework for potential investors (non-fiscal) – state comparison

<table>
<thead>
<tr>
<th></th>
<th>Odisha</th>
<th>Andhra Pradesh</th>
<th>Bihar</th>
<th>West Bengal</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>A</strong> Single Window System for Ease of Doing Business</td>
<td>The state has set up a three tier Single Window Clearance mechanism, enabled by appropriate technology platform, for providing time bound clearances and approvals online. A Combined Application Form is accepted across all state government departments. IPICOL functions as state level nodal agency and acts as a central facilitator for investors.</td>
<td>State industrial Policy aims to provide all clearances required to setup industry within 21 days through a single desk mechanism and technology enablers / portals have been set up accordingly. State Level Clearance Mechanism is facilitated through Single Desk Bureau. While the District Level Clearance Mechanism is through District Industries Promotion Committee.</td>
<td>Udyog Samwad Portal currently provides only information to investors and online filing of applications and e-clearance / e-approval etc. is not supported through the portal.</td>
<td>West Bengal's Silpa Sathi provides a single window service under the various applicable acts, rules, policies and schemes. This Single Window System also provide all facilitations and handholding supports to the investors intending to start/operate a business in the state.</td>
</tr>
</tbody>
</table>

**B Thrust / Focus Sectors**

Most state governments have identified priority sectors based on inherent or indigenous industry clusters and strength areas. Accordingly, these priority sectors enjoy incentives beyond what is available as per general state industrial policy and guidelines. Odisha government has recognized a large number of states as priority sectors and there are sector specific initiatives and promotional activities to attract investment into these sectors. This is an indication of the government's intent to ensure widespread industrialization and investor friendly policies across multiple sectors.

**Agro & Food processing, Ancillary & Downstream, Automobiles and components, Manufacturing in Aviation, Biotechnology, Gems stone and polishing, Handicraft, IT/ITES, Petroleum Chemicals and Petrochemicals, Pharmaceuticals, Plastics, Shipbuilding, Textiles, Tourism**

**Industries included as priority sectors in AP include:** Agro Processing, Defense manufacturing, Biotechnology, Textile, Automobile, Electronics manufacturing

**Food processing, Small Machine manufacturing, IT/TeS, Electronics Hardware Manufacturing, Textile, Plastics and rubber, Leather**

**Petro-chemicals, ITES, Iron & Steel, Metallurgical and Engineering Textiles Leather and Leather Products Food Processing, Edible Oil, Vegetable Processing Manufacture of basic drugs, chemicals and pharmaceuticals Gems and Jewelry**
Incentive framework for potential investors (fiscal) – state comparison

<table>
<thead>
<tr>
<th>C1 Investment Subsidy (VAT/SCST)</th>
<th>C2 Capital / Interest Subsidy</th>
<th>C3 Power Cost Incentives</th>
</tr>
</thead>
<tbody>
<tr>
<td>Most states are keen to negotiate need based incentives for large scale investments which are beyond the regular incentives available under the respective State Industrial Policy Guidelines.</td>
<td>New MSME units and non-MSME Priority sector units are entitled to interest subsidy for timely payment @ 5% per annum on term loan availed from Public Financial Institutions / Banks for a period of 5 years from the date of commencement of production subject to a total maximum limit of INR 1 Million for Micro Enterprises; INR 2 Million for Small Enterprises; INR 4 Million for Medium Enterprises and INR 10 Million for Non-MSME Priority Sector Unit.</td>
<td>New industrial units in the Priority Sector are exempted from payment of electricity duty (~8%-9%) up to a contract demand of 5 MVA for a period of 5 years from the date of availing power supply for production. Additionally, the government has committed 24*7 power through dedicated industrial feeders and exclusive sub-station for industrial park.</td>
</tr>
<tr>
<td>100% of net SGST paid for 7 years limited to 200% of cost of Plant &amp; M/c. (Notification under GST awaited)</td>
<td>For Scheduled Caste / Scheduled Tribe &amp; Backward Class Entrepreneurs, interest subsidy on the term loan, taken in excess of 3% per annum, is given subject to maximum of 9% per annum for 5 years. Seed capital assistance to first generation entrepreneurs @ 25% of the Machinery cost; 35% investment subsidy on FCI by SC &amp; ST entrepreneurs and additional 10% investment subsidy for SC &amp; ST, Women Entrepreneurs.</td>
<td>No apparent power cost subsidy mentioned in state industrial policy document.</td>
</tr>
<tr>
<td>In pre-GST regime, reimbursement of 75% / 100% net VAT paid for 5 / 7 years limited to 100% / 200% of cost of plant and machinery. Reimbursement of 100% entry tax procurement of plant &amp; machinery and raw materials for a period of 5 Years</td>
<td>For large industry unit, 50% of net VAT/CST State Goods and Service Tax (SGST) is reimbursed for 7 years or up to realization of 100% Fixed Capital Investment (FCI), whichever is earlier. For specific industries like apparel, food processing, biotech, automobile VAT/CST/SGST concession may be higher.</td>
<td>No apparent power cost subsidy mentioned in state industrial policy document.</td>
</tr>
<tr>
<td>New units can avail tax related benefits with a maximum limit as Non-priority sector:70% or non-priority sector:100% of the approved project cost</td>
<td>New units are entitled to avail 80% reimbursement against the admitted VAT/ CST/ Entry Tax deposited in to the State Government for 5 years from commencement of production.</td>
<td>100% of Electricity Duty is waived off subject to the maximum ceiling, which in turn depends on the location of the industry</td>
</tr>
<tr>
<td>Industrial units in select industrial zones are given Industrial Promotion Assistance (IPA). The total IPA for which an industrial unit would be eligible is equivalent to certain percentage of the tax paid by the unit in the previous year IPA is admissible for 8 years up to 75% of the Fixed Capital Investment by the industry.</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
### Incentive framework for potential investors (Other factors) – state comparison

<table>
<thead>
<tr>
<th>Odisha</th>
<th>Andhra Pradesh</th>
<th>Bihar</th>
<th>West Bengal</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>C4 Patent Registration Incentives</strong></td>
<td>Patent registration assistance at 100% of registration cost (up to INR 1 Million) for new and existing industrial units in MSME and Priority Sector</td>
<td>No specific incentive for patent registration mentioned in state industrial policy document</td>
<td>No specific incentive for patent registration mentioned in state industrial policy document</td>
</tr>
<tr>
<td><strong>C5 Subsidy for Employment Generation</strong></td>
<td>Projects with an investment of at least INR 5 Billion or direct employment generation of 2,000 will be accorded mega industry status. State Government may extend tailor-made benefits to such mega projects on case to case basis.</td>
<td>No specific incentive for employment generation mentioned in state industrial policy document</td>
<td>Industrial units are entitled to reimbursement of the expenditure incurred towards ESI &amp; EPF, if at least 50% of the employees in the unit are recruited from amongst the persons registered with the Employment Bank of the state at the time of claiming this incentive</td>
</tr>
<tr>
<td><strong>C6 Support to MSME Sector</strong></td>
<td>No stamp duty will be required to be paid in respect of land allotted by the government to IDCO or government to Private Industrial Estate Developers</td>
<td>100% of Stamp Duty and transfer duty paid by the industry on purchase/lease of land will be reimbursed. For MSME, 100% / 75% of net VAT/ CST/ SGST will be reimbursed for a period of 5 years from the date of CoCP</td>
<td>No stamp duty is levied on land allotted by the government to BIADA</td>
</tr>
</tbody>
</table>

### Incentives linked to environmental considerations

<table>
<thead>
<tr>
<th>Odisha</th>
<th>Andhra Pradesh</th>
<th>Bihar</th>
<th>West Bengal</th>
</tr>
</thead>
<tbody>
<tr>
<td>MSME manufacturing units adopting Zero Effluent or Waste Water Discharge are eligible for an Environment Protection infrastructure Subsidy of INR 2 Million or 20% of capital cost of setting - up such Effluent Treatment Plant (ETP) whichever is less</td>
<td>State government provides up to 35% subsidy on cost of plant &amp; machinery for specific cleaner production measures limited to INR 3.5 Million for MSME and up to 10% subsidy limited to INR 3.5 Million for large enterprises For recycling waste into environment friendly products, VAT rate applicable is zero</td>
<td>No specific incentive for environmental consideration mentioned in state industrial policy document</td>
<td>No specific incentive for environmental consideration mentioned in state industrial policy document</td>
</tr>
</tbody>
</table>

**Source:** Official State Government Websites, State Industrial Policy Document, Deloitte Analysis
SKILL DEVELOPMENT: A CRITICAL BUSINESS ENABLER

Skill development has been a key focus area for most of the state governments. This stems from the realization that India will not be able to reap the benefits of its demographic spread if the workforce is not adequately skilled and trained.

Odisha has a working population of 47% (people aged over 15 years) and there is a considerable headroom to increase this percentage and bring it in line with other developing states. Moreover, rapid urbanization and industrial growth is going to further increase the workforce requirement in future. Textile and Chemical sector alone would require ~20,000 additional workforce (direct employment) by 2022.

The government has setup a nodal body ‘Skill Development and Technical Education Department (SDTED)’ to oversee various skill building initiatives. Various employment and skill development institutions have been brought under the ambit of this nodal body and well structured framework has been institutionalized.

The overall objective of various programs is to train 50,000 youths from the state in the next 10 years, imparting them with global employability skill sets.

Key Skill Development Initiatives

Chief Minister’s Employment Generation Programme (CMEGP): Under this initiative, a target of 1.1 Million youth are to be provided with skill up-gradation training within 5 years with 150 youth from each Gram Panchayat every year.

Skills Acquisition and Knowledge Awareness for Livelihood (SANKALP) and PMKVY 2.0 are two national level initiatives that the state government has implemented through DTET and Orissa Skill Development Authority (OSDA).

Odisha is also in the process of setting up of two leading institutions in 2018; The President of India, Shri Ram Nath Kovind, inaugurated the Bhubaneswar campus of Mumbai-based Institute of Chemical Technology (ICT) and permanent campus of Skill Development Institute (SDI) at Jatni. The ICT has requested the state government to provide 100 acres of land to set up the institute at an approximate cost of INR 5 Billion. Around 200 students will be trained at the institute.

Odisha State: Institutional Framework for Skill Development

State-wise Working Population out of 1,000 people

<table>
<thead>
<tr>
<th>State</th>
<th>Population</th>
</tr>
</thead>
<tbody>
<tr>
<td>Andhra Pradesh</td>
<td>601</td>
</tr>
<tr>
<td>Odisha</td>
<td>469</td>
</tr>
<tr>
<td>Chattisgarh</td>
<td>666</td>
</tr>
<tr>
<td>Jharkhand</td>
<td>470</td>
</tr>
<tr>
<td>West Bengal</td>
<td>483</td>
</tr>
</tbody>
</table>

Source: IndiaStat

Estimated Manpower Requirement in Odisha across sectors, 2022*

<table>
<thead>
<tr>
<th>Industry</th>
<th>Requirement</th>
</tr>
</thead>
<tbody>
<tr>
<td>Textile</td>
<td>16800</td>
</tr>
<tr>
<td>Retail</td>
<td>17340</td>
</tr>
<tr>
<td>Auto</td>
<td>35000</td>
</tr>
<tr>
<td>Food Industry</td>
<td>9277</td>
</tr>
<tr>
<td>Chemical</td>
<td>1878</td>
</tr>
<tr>
<td>Others</td>
<td>52141</td>
</tr>
</tbody>
</table>

*This does not include the Construction Sector
Source: National Skill Development Corporation
CREATING A COLLABORATIVE ECOSYSTEM

A collaborate effort towards ensuring greater integration, developing infrastructure and promoting entrepreneurship will be instrumental in realizing the vision of a vibrant textile and plastic park in eastern India.

**Entrepreneurial initiatives will form the backbone of industrial growth**
- A collaborative approach towards developing a fully integrated cluster will provide a competitive edge over global players
- Shared facilities for R&D, effluent treatment, logistics and infrastructure can help bring down overheads
- Entrepreneurs need to come together and adopt a collective approach to voice concerns and demand action on aspects which will help attract investments; access to low cost finance options etc.

**Government can help set up key enablers for economic growth and reward entrepreneurial initiatives**
- Fiscal incentives, particularly around reduction of import duty for feedstock
- Tax incentives to attract downstream processing units in close proximity to supply centers
- Integrated clusters require significant land; earmarking land for industrial development will help in scaling up of clusters in a planned manner
- Wage subsidy in some form, especially for downstream textile industry, which is labour intensive, will help attract investments

**Industry Associations**
- Create a platform for stakeholders to come together and deliberate on challenges; ensure representation to the authorities on such matters
- Ensure learnings from global industrial clusters, plastic and textile hubs is made available to industry participants
- Help create a roadmap for development of each of such plastic and textile cluster

**Academia**
- Institutional ecosystem is essential to support economic growth and they play a vital role in stitching the social fabric to support development
- As employment levels increase, institutions need to ensure availability of skilled resources locally
ACKNOWLEDGEMENT

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