This presentation contains forward-looking statements which may be identified by their use of words like “plans,” “expects,” “will,” “anticipates,” “believes,” “intends,” “projects,” “estimates” or other words of similar meaning. All statements that address expectations or projections about the future, including, but not limited to, statements about the strategy for growth, product development, market position, expenditures, and financial results, are forward-looking statements.

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Scope of Presentation

1. Mega trends and world at large; focus India
2. Dynamics of Polymer Industry
3. PVC Industry India – Current Scenario
4. PVC major sectors in India
   4.1 Sector overview
   4.2 GST impact
   4.3 New Emerging applications
   4.4 Sustainability
   4.5 Challenges
5. Road Ahead
Mega trends impacting Business, Economics and Natural World

Future can be both heartwarming and terrifying

1. Demographic dynamics
2. Globalization & Future markets
3. Scarcity of resources
4. Climate change & Eco risk
5. Technology & Innovation
6. Global Knowledge Society
7. Sharing global responsibility
India – Above Trend Growth

Triggers fuelling growth in Indian Economy

- **50 million** new homes under “housing for all by 2020”
- **5.5 billion** mobile users by 2020
- **Diamond quadrilateral** – network of high speed trains
- Plans to add **11 LNG terminals** over next 7 years
- **$150 bn** increased infrastructure investment on highways & shipping by 2020
- Thriving organised retail @ **20-25% p.a.**
India – Growth unshackled

- Rapidly growing economy ~ 7.2% GDP 2018-19 2nd fastest growing services economy
- Youngest nation- expected average age of 29 years by 2025
- Expected to have largest middle class population by 2027
- Low cost and highly skilled manpower- 2nd most English speakers

India’s GDP

- $3 Trn.
- $2 Trn.
- $1 Trn.

Years taken to reach

5
8
60

India set to regain the top spot
India Polymer Business Environment
Polymer Grows inline with Indian Growth

- Polymer demand increased by ~8.5% CAGR over 2012-17 vis-à-vis GDP growth of ~7% CAGR
- The demand is linked to GDP growth due to wide usage of polymer across the segments such as packaging, automobiles, irrigation, construction and consumer durables
- With GDP expected to grow by 7-8% CAGR, Polymer demand to grow at healthy pace of 9-10% CAGR over 2017-22
India Polymer Demand Drivers

- Lower Cost
- Higher Life
- Corrosion Resistance
- Lower weight
- Superior Properties
- Better Aesthetics

Per Capita Consumption of Polymers

<table>
<thead>
<tr>
<th>Segment</th>
<th>CAGR (FY 17-22)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Packaging</td>
<td>8-10%</td>
</tr>
<tr>
<td>Pharmaceuticals</td>
<td>12-14%</td>
</tr>
<tr>
<td>Beverages</td>
<td>9-10%</td>
</tr>
<tr>
<td>Automobiles</td>
<td>9-11%</td>
</tr>
<tr>
<td>Consumer Durables</td>
<td>11-12%</td>
</tr>
<tr>
<td>Construction</td>
<td>10-12%</td>
</tr>
</tbody>
</table>

Polymer being an “enabler” set to grow to at an unprecedented rate
“India will become world’s third largest construction market by 2025, adding 11.5 million homes a year to become a $1 trillion market”

-GCP and Oxford Economics
PVC – Riding on Indian Infrastructure Growth

Water & Sanitation
- Water and Sewer Pipes, Fold & Form Pipes, Weldable PVC Pipes, Profile Wound Pipes

Irrigation
- Water pipes, Borewell Casing and Column Pipes,

Building & Construction
- Pipes (Water Supply, Sewerage, SWR, Plumbing), Window & Door Profiles, Floorings, Water proofing membranes, Wires & Cable, WPVC Composites etc.

Power
- Wires & Cables, Ducting pipes, Insulation tapes and sleeves

Retail
- Food and non-food packaging, pharma & non-pharma packaging, shrink labels etc.

Transport
- Automobile seat covers, mats, gaskets, gear covers etc.,

Govt Initiatives & Thrust areas - $ 450 Bn Planned Expenditure
PVC Industry Extremely important for Indian Economy

**INDUSTRY 4.0**

- Digitization can:
  - Optimize cost
  - Rise Productivity
  - Power Saving
  - Quality management

**SMART CITIES**

- PVC as a preferred material related to:
  - Safety (fire)
  - Acoustic Comfort
  - Thermic Comfort
  - Agility in Construction

**EMERGING MIDDLE CLASS**

- Demand for housing and better quality of living
- Increase in PVC Global demand (housing, water and sewerage)

**HEALTHWELLNESS**

- Demand for sewerage system – Impact on pipes and fittings
- Increase on people’s productivity and longevity – demand for water, healthcare

Government Initiatives boosting demand
India PVC Trends
Global PVC Trends

PVC Supply Demand Dynamics

- Demand has grown to 43 Million MMT and currently valued over USD 50 Billion
- Annual demand growth @ 3.9%
- Demand concentrated in developing countries – Asia, Africa, Latin America and BRICS
Indian PVC Demand Supply

- Domestic PVC grown at CAGR of 6% over last 5 years and the demand is 3 MMT in FY17-18.
- With stagnant domestic supply of 1.5 MMT, steady imports to keep pace with the demand growth.
- Specialty sectors, Profiles, Cable, Calendaring, films, contributing high growth rate.
- Pipes & Fittings remain major demand contributor (70%)

Pipe is still the workhorse sector for PVC

Source: RIL estimates
PVC after major economic changes in 2017

Major Economic Changes in 2017

Demonetization
In order to weed out unaccounted money from the system, the Government demonetized high value currency notes in November 2016. Temporary cash shortage followed but digital transactions were boosted.

GST
GST transformed India to a unified market with a single tax structure. It has brought the unorganized industries under the fold of the formal economy. 1% impact of GDP is expected by the World Bank.

Agri pipes severely impacted due to low currency availability in rural areas
Profile sector impacted due to slump in real estate
Calendaring largely remained unaffected
India PVC Growth Trends

- Growth rallied above GDP since last two FY
- Growth affected in FY 17-18 due to demonetization effect, GST impact, good & extended monsoon
- Demand is expected to rebound in 2018-19
- Q1 growth is already at 5.2%

Source: RIL
India PVC – Imports

- Domestic capacity continues to be stagnant at 1.45 MMT. Balance requirement of ~1.6 MMT was met by imports during 2017-18
- Imports remain unchanged Y-O-Y

Source: RIL
India PVC Sector Analysis - An Update
Pipes..

- PVC Resin Consumption in Pipe Sector 2017-18 : 2140 KT
- Growing at a CAGR of 8%
- Quality is a major concern in PVC Pipes, shift observed towards PE pipes
- New Investments in OPVC Pipes is encouraging and BIS standard, IS 16647, will boost the sector.
- Rehabilitation of old age pipes is a promising sector for PVC pipes.

Indian Plastic Pipe Market

- Market size: 3346 Million USD

PVC Pipe Quality – Industry need to introspect
Profiles ..

• PVC Resin Consumption in Profile Sector 2017-18 : 111 KT
• uPVC Windows : Growing at a CAGR of 15 %
• Backward Integration by European manufacturers and increase in acceptance by Indian Builders and Architects boosting the sector
• Efforts are on to bring IS standard on uPVC window and star rating of windows

Source: UWDMA

PVC windows ready to take off
Calendaring..

- PVC Resin Consumption in Calendering sector 2016-17: 275KT
- Emulsion grade: 90KT
- Growing at a CAGR of 10.5%
- No. of Processors ~ 90+ (including emulsion process)
- Total Installed Capacity ~ 650KT
- Capacity utilization ~ 57%

Source: RIL estimates
India – Why will PVC grow?
Indian PVC Industry – On Course to take off Post GST

Medium Term – Robust Recovery

Long Term – Turbo Charged for RAPID Growth:

- ~ 7% sustained growth
- Govts focus on total water management
- Boom in Construction
- Rural Electrification Programme
- Green Building Concept

PVC – Trounced heavily due to major dependency on Pipe sector

Sources: RIL Estimates, A. T. Kearney
India PVC – Stepping Towards Sustainability
Green India Mission

MEET PLASTIC AND PLASTIC POLLUTION.
BEWARE! IT’S VERY EASY TO CONFUSE ONE FOR THE OTHER.

It’s not me! Believe me, please.

We have all seen messages like this before, right? Well, right away now, you are actually being lied to.

Here is a legible message to tell you something you need to know.

Truly, the green guy in the corner.

Plastic.

Plastic is not environmentally friendly. In fact, it is making our planet sick and dying. Plastic pollution is a serious problem that needs to be addressed.

Plastics are recyclable, yes. However, not all plastics are recyclable, and they are often discarded in landfills. The vast majority of plastics end up in the environment and are not biodegradable.

No one is going to do it, my dear.

Plastics are not destroyed easily. In fact, it is making our planet sick and dying. Plastic pollution is a serious problem that needs to be addressed.

It is our responsibility to take action to prevent plastic pollution. The right can be seen to prevent plastic pollution.

Plastic is destroys our planet. It is making our planet sick and dying. Plastic pollution is a serious problem that needs to be addressed.

We can all do our part to help prevent plastic pollution.

Plastic pollution is not just a problem for the future. It is a problem for the present. We need to take action now to prevent plastic pollution.

Commitments for tomorrow, but we need the ones who today don’t get the first place.

To know more about plastic and plastic pollution, visit the World Environment Day exhibition at Vigyan Bhavan, Delhi between 24th to 26th June 2019.

Based on information by PM Narendra Modi.
Government directives

Judgment of the National Green Tribunal regarding usage of..

- Lead in Polyvinyl Chloride (PVC) pipes and other products
  - India PVC Industry is all set to phase out lead.

- Ban on short life PVC Products
  - Phase out use of PVC from packaging, hoardings/banners, use-and-throw and short-life items.

Industry awaiting directive from MoEF

PVC was targeted due to ignorance
Three pronged strategy

Innovate:
• Advancing new applications to substitute traditional options
• R&D and product development to generate high performance / cost effective solutions
• Enhanced focus on high quality innovative products

Collaborate:
• Increased product awareness and co-creation with end-users
• Creating world class ecosystem with scale and efficiency
• Strategic collaborations – flexible and reliable partners

Responsible Care:
• Full commitment to a sustainable and responsible business model
• Collective effort towards three pillars of Sustainability - People, Planet and Profit
• Holistic efforts to enhance usability and utility of plastics

We will upscale our commitment
India PVC - The Road Ahead
Emerging opportunities for PVC

• **Clean water and sewage water market:** OPVC and Foam Core Pipes making inroads.

• **Sustainable Cities and Infrastructure:** uPVC profiles and windows making its footprints

• **Affordable Furniture:** Highly promising sector and million MT opportunity for PVC

• **PVC Food Grain Storage:** In nascent stage. India needs to tap the opportunity

• **PVC Roofing membrane:** Picking up fast. Worthy investment opportunity

Innovative applications from PVC
Relwood- Reliance Product

- Fire Proof
- Water Proof
- Termite Proof
- UV Resistant
- Can be curved and molded unlike real wood.
Key Paradigms

**DEMAND**

- Government’s focus on Infrastructure development and low per capita consumption @ just 2.2 kg, to drive future growth of the product.
- Given the demand supply gap, India continues to attract global suppliers.
- GST- Single tax replaced multiple levies, right from manufacture/ supplier to consumer, to drive end sectors demand.

**SUPPLY**

- Restricted capacity additions due to:-
  - Capping of Product prices
  - High Feedstock Costs
  - High Energy Costs
  - Low duty differential between PVC and EDC/VCM
RIL Initiatives

- To pitch in for adoption of new technologies and technical developments in end products
- To develop channel for recycling and best suitable practices for end of life of PVC products
- To represent PVC industry in unwarranted environment related issues at public forum
- To propose voluntary commitments towards adoption of environment friendly additives in PVC processing
- To create awareness about contribution and role played by PVC in service of mankind

India PVC Industry is committed to UN’s sustainability goals
Thank you!

Growth Is Life.......