ANDHRA PRADESH INDUSTRIAL INFRASTRUCTURE CORPORATION LTD.

ANDHRA PRADESH PETROLEUM, CHEMICALS & PETROCHEMICALS INVESTMENT REGION (APPCPIR)
LOCATION

- Industrial Corridor between Visakhapatnam & Kakinada (140 km)
- Abutting Krishna-Godavari Natural Gas Basin (KG Basin)
- Excellent connectivity (sea, air, road, rail)
PRE-NELP & NELP EXPLORATION BLOCKS UNDER OPERATION BY NOC’S & Pvt/JV COMPANIES

<table>
<thead>
<tr>
<th>Rounds</th>
<th>PSC Signed</th>
<th>Under Operation</th>
</tr>
</thead>
<tbody>
<tr>
<td>PRE-NELP</td>
<td>28</td>
<td>17</td>
</tr>
<tr>
<td>NELP-I</td>
<td>34</td>
<td>16</td>
</tr>
<tr>
<td>NELP-II</td>
<td>23</td>
<td>11</td>
</tr>
<tr>
<td>NELP-III</td>
<td>23</td>
<td>23</td>
</tr>
<tr>
<td>NELP-IV</td>
<td>20</td>
<td>20</td>
</tr>
<tr>
<td>NELP-V</td>
<td>20</td>
<td>20</td>
</tr>
<tr>
<td>NELP-VI</td>
<td>32</td>
<td>52</td>
</tr>
<tr>
<td>NELP-VII</td>
<td>41</td>
<td>41</td>
</tr>
<tr>
<td>NELP-VIII</td>
<td>32</td>
<td>32</td>
</tr>
<tr>
<td>TOTAL</td>
<td>263</td>
<td>231</td>
</tr>
</tbody>
</table>

* Effective dates of operation of NELP-VIII Blocks fall in 2009-10

Hub for Exploration and Production Activity
CLUSTERS IN VK PCPIR AREA

- VISAKHAPATNAM CLUSTER
- NAKKAPALLI CLUSTER
- KAKINADA CLUSTER
PCPIR AREA

- **Total Area:** 640 sq.km (64000 hectares) – largest PCPIR in India
- **Processing Area (41%):** 270 sq.km (26,500 hectares)
- **Non Processing Area:** 370 sq.km (37014 hectares)

**6 SEZs** within AP PCPIR – 7,325 hectares (Notified area - 3202 Ha)

- **Brandix SEZ (Textile & Apparel)**
  - Notified: 405 ha
  - Developer: Private

- **Pharma SEZ**
  - Notified Area: 243 ha
  - Developer: PPP

- **Andhra Pradesh SEZ (Multi Product)**
  - Notified Area: 1300 ha
  - Developer: APIIC

- **Kakinada SEZ (Multi Product)**
  - Total Area: 4249 ha
  - Notified Area: 1052 ha
  - Developer: Private

- **Hetero Drugs SEZ (Pharmaceutical)**
  - Notified Area: 101 ha
  - Developer: Private

- **Parry’s Food Products SEZ (101 Ha.)**
  - Developer: Private
FEEDSTOCK:

Petrochemical Building Blocks

Naphtha Sources

- HPCL 9.244 MMTPA Visakh Refinery at Visakhapatnam
- Proposed 15 MMTPA Refinery at Vishakapatnam by HPCL
- Proposed 15 MMTPA Refinery at Kakinada by GMR group
- Excellent sea connectivity for further import
EXISTING PROJECTS

- **HPCL** at Visakhapatnam - existing projects
  - **VISAKH REFINERY** - 9.244 MMTPA
  - Visakhapatnam-Secunderabad Product Pipeline
  - HPCL & Total of France JV: LPG cavern at Visakhapatnam Port for 60,000 MT - Commissioned on 14.01.2008

- **LG Polymers** India Pvt. Ltd. at Visakhapatnam
- **Coromandel Fertilizers** at Visakhapatnam
- **Andhra Petrochemicals** at Visakhapatnam
- **Rain Commodities Ltd.** at Visakhapatnam
- **Pharma City** with Pharma SEZ at Parawada
- **Hetero Pharma SEZ** at Nakkapalle, Visakhapatnam
- **Godavari Fertilizers & Chemicals** Ltd at Kakinada
- **Nagarjuna Fertilizers & Chemicals** Ltd at Kakinada
- **1.33 MMT Crude Oil Strategic Storage Cavern** by ISPRL (under process) at Visakhapatnam
Proposed Major Utilities

- LNG terminals at Gangavaram Port (by Petronet) and at Kakinada Port (GAIL & SHELL)
- 1600 MW Mega Power Project of NTPC (in Nakkapalli area)
- Utility centre by Sumitomo Corporation, Japan in APSEZ
Projected Investment & Employment Potential in next 10-15 years

Projected Investment : Rs. 3,43,000 Cr

- Petroleum & Petrochemical Sectors : Rs. 2,16,000 Cr
- Chemical, Pharma & Fertilizer Sectors: Rs. 52,000 Cr
- Ancillary Industries : Rs. 20,000 Cr
- Housing & Allied Infrastructure : Rs. 35,000 Cr
- External Infrastructure : Rs. 20,000 Cr
<table>
<thead>
<tr>
<th>S.No.</th>
<th>Sector</th>
<th>Direct Employment (Nos)</th>
<th>Indirect Employment (Nos)</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Petroleum</td>
<td>16,000</td>
<td>24,000</td>
</tr>
<tr>
<td>2</td>
<td>Petrochemicals</td>
<td>54,000</td>
<td>81,000</td>
</tr>
<tr>
<td>3</td>
<td>Chemicals &amp; fertilizers</td>
<td>52,000</td>
<td>78,000</td>
</tr>
<tr>
<td>4</td>
<td>Ancillary sectors</td>
<td>192,000</td>
<td>3,84,000</td>
</tr>
<tr>
<td>5</td>
<td>Infrastructure – logistics, zone hubs, port etc.</td>
<td>211,000</td>
<td>1,06,000</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td></td>
<td><strong>525,000</strong></td>
<td><strong>673,000</strong></td>
</tr>
</tbody>
</table>
INVESTMENT & EMPLOYMENT

- Investments made after 2008: Rs. 16360 Cr
- Employment generated so far: 90,000
Efforts are still being made to identify Anchor Client for VK-PCPIR.

HPCL has shown interest in putting together a consortium with GAIL & Others to set up a 15 MMTPA green field Refinery cum Petro Chemical Complex in PCPIR area. However details of Consortium and configuration of the unit is not yet known. Internal studies are going on.

HPCL also proposes to expand its existing 7.5 MMTPA Visakha Refinery to 9.244 MMTPA in Phase I (completed) and to 15 MMTPA ultimately.

GMR Consortium, the owner of Kakinada SEZ is also making efforts to get a client since a long time.
**LIST OF INFRASTRUCTURE WORKS PROPOSED IN VK-PCPIR**

**ROADS**
PCPIR Expressway
(138 km) from Gangavaram Port to Kakinada Port expansion to 6 lane road and pipeline corridor

**RAIL LINKS**
Kakinada Port to South Central Railway line via Kakinada SEZ (38 km)
APSEZ to Gangavaram Port (26 km)
Connectivity for APSEZ: PCPIR to South Central Railway Trunk Line (7.15 km)
Rail Freight Stations with CFSs,(Container Freight Stations) ICDs, (Integrated Container Depots) warehouses

**AIRPORTS**
New Visakhapatnam International Airport
Air Cargo Complex & Captive Airstrip at Kakinada
Upgradation of Rajahmundry Airport

**PORTS**
Upgradation of Visakhapatnam Port
Upgradation of Kakinada Deep Water Port

**OTHER EXTERNAL INFRASTRUCTURE**
Wastewater Treatment CETPS(Common Effluents Treatment Plants and STPS (Sewage Treatment Plants)
Marine Outfalls
Water Supply Schemes
Power Supply (Substations and Feeder Lines)
New Captive Power Plants (2 x 500 MW)
Logistic Hubs other than rail CFSs,(Container Freight Stations) ICDs, (Integrated Container Depots) Warehouses
ROAD CONNECTIVITY

- NH-16: Chennai - Kolkata
- Upgraded to 4 lanes
- Visakhapatnam - Rajahmundry stretch to be 6 laned under NHDP Phase V

AP PCPIR abuts GOLDEN QUADRILATERAL

- NH-16: Chennai - Kolkata
- Upgraded to 4 lanes
- Visakhapatnam - Rajahmundry stretch to be 6 laned under NHDP Phase V
Arterial Road Network

NATIONAL HIGHWAY 5
GOLDEN QUADRILATERAL
4 to 6 Lane Upgradation

STATE HIGHWAY 97
2 to 4 Lane Upgradation
Connector to Vizag City

138 km NEW ROAD – PCPIR EXPRESSWAY
Gangavaram Port to Kakinada Port
6/8 lane

NATIONAL HIGHWAY 214
4/6 lane upgradation

Beach Road from Vantimamidi to Kakinada Port
2/4 lane upgradation

ADB ROAD: Connector from Port to NH5
4/6 lane upgradation
Road Network Upgradation
(536 km – Rs. 4,381 Crores)

National Highways
- NH-16(Formerly 5) : 4 lane to 6 lane: 190 km
  - Status : Project Awarded to M/s Transstroy
- NH-214: 2 lane to 4 lane: 40 km
  - Status : Planning Stage

State Highways
- SH-97: 2 lane to 4 lane: 42 km
  - Status : Planning Stage

Major District Roads
- MDRs: 2 lane to 4 lane: 75 km
  - Status : Planning Stage

Dedicated PCPIR Expressway
- 138 km 4 lane road between Gangavaram Port and Kakinada Deep Water Port
RAIL NETWORK

CHENNAI - HOWRAH TRUNK LINE
SOUTH CENTRAL RAILWAY

APSEZ - Gangavaram Port

SCR Trunk Line - AP PCPIR

Gangavaram Port - SCR Trunk Line

Upgradation – 71 km, RFS and logistics parks – Outlay Rs. 1610 Crores
AIRPORTS

Outlay for Upgradation – Rs. 2620 Crores

RAJAHMUNDRY AIRPORT
Upgradation plans:
• Expansion of runway
• New terminal building - by mid 2010
• Night landing facilities

PROPOSED CAPTIVE AIRPORT & AIRCARGO TERMINAL

VISAKHAPATNAM AIRPORT:
• New 10000 ft runway
• New terminal building
• Night landing facilities commenced from 30.03.2008

PROPOSED NEW INTERNATIONAL VISAKHAPATNAM AIRPORT
Outlay for Upgradation: Rs. 3600 Crores

- **GANGAVARAM PORT**
  - ALL WEATHER GREENFIELD PORT - Phase I in 2008
  - Upgradation for handling PCPIR cargo

- **PROPOSED DEDICATED PORT**
  - FOR KAKINADA SEZ (at Kona)
  - 27 MMTPA capacity

- **KAKINADA DEEP WATER PORT**
  - Master Plan upgradation for handling PCPIR cargo

- **Visakhapatnam Port**
  - Upgradation for handling PCPIR cargo

- **Proposed (Mutyalammapalem)**
  - Dedicated Liquid Cargo Handling Facility
  - SPM for HPCL for PCPIR by Gangavaram Port

**PORTS**
WATER SUPPLY

153 km YELERU LEFT MAIN CANAL

181.5 km POLAVARAM LEFT MAIN CANAL

YELERU RESERVOIR

56 km GODAVARI PIPELINE TO YLMC

Dedicated Visakhapatnam Industrial Water Supply scheme from Godavari (209 km – 10 TMC – outlay Rs. 500 Crores) – operational since Dec 2004

RIVER GODAVARI

SAMALKOTA CANAL
Visakhapatnam Industrial Water Supply Company Ltd (VIWSCO)

- India’s largest dedicated industrial water supply project from Yeleru Canal and River Godavari as source - Rs. 500 Crores - 10 TMC
- Joint Venture of APIIC and GVMC
- Operational since Dec 2004

Raw Water Sources

- 153 km Yeleru Left Main Canal from Yeleru Reservoir - 385 MLD
- 56 km Pipeline from River Godavari - 385 MLD (5 TMC)
- Augmentation through Polavaram Left Main Canal from River Godavari under execution: 1848 MLD (24 TMC)
- For Kakinada area - Samalkota Canal from Godavari - 220 MLD (3 TMC)
Waste management facilities available at JN Pharma City within PCPIR by M/s. Ramky Pvt. Ltd.

- ‘Treatment, Storage & Disposal Facility’ (TSDF) for hazardous waste: Secured landfill to cater to 1.5 to 2 lakh TPA for a 25 year period
- Common Effluent Treatment Plant (CETP) for treatment of effluents
- 36 TPD capacity incinerator for organic waste
- Existing Marine Outfall at Pharma City (16 km), similar marine outfalls proposed for other SEZs / industrial parks
Effluent & Sewage Treatment Facilities

<table>
<thead>
<tr>
<th>Cluster</th>
<th>CETP</th>
<th>STP</th>
</tr>
</thead>
<tbody>
<tr>
<td>Visakhapatnam Cluster</td>
<td>4 x 40 MLD</td>
<td>3 x 2 MLD</td>
</tr>
<tr>
<td>Nakkapalle Cluster</td>
<td>2 x 20 MLD</td>
<td>2 x 2 MLD</td>
</tr>
<tr>
<td>Kakinada Cluster</td>
<td>3 x 25 MLD</td>
<td>2 x 5 MLD &amp; 1 x 1 MLD</td>
</tr>
</tbody>
</table>

- Marine Outfall Facilities
  - 4 for Visakhapatnam Cluster
  - 2 for Nakkapalle Cluster
  - 2 for Kakinada Cluster
### OUTLAY FOR INFRASTRUCTURE DEVELOPMENT

<table>
<thead>
<tr>
<th>ITEM</th>
<th>GOVT. OF AP</th>
<th>GOVT. OF INDIA</th>
<th>PRIVATE</th>
<th>TOTAL</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>ROADS</strong></td>
<td>677</td>
<td>680.80</td>
<td>2723.20</td>
<td>4081</td>
</tr>
<tr>
<td><strong>RAIL LINKS</strong></td>
<td>200</td>
<td>102</td>
<td>708</td>
<td>1010</td>
</tr>
<tr>
<td><strong>AIRPORTS</strong></td>
<td>0</td>
<td>424</td>
<td>2196</td>
<td>2620</td>
</tr>
<tr>
<td><strong>PORTS</strong></td>
<td>0</td>
<td>0</td>
<td>3600</td>
<td>3600</td>
</tr>
<tr>
<td><strong>OTHER EXTERNAL INFRASTRUCTURE</strong></td>
<td>1455</td>
<td>0</td>
<td>5965</td>
<td>7420</td>
</tr>
<tr>
<td><strong>GRAND TOTAL</strong></td>
<td>2332</td>
<td>1206.80</td>
<td>15192.20</td>
<td>18731</td>
</tr>
</tbody>
</table>

Revised VGF proposals were sent to GOI for Rs.7146.15 Crores
VGF sought from GOI Rs.1429.23 Crores.
FISHERIES INFRASTRUCTURE AND FISHER FOLK DEVELOPMENT
CURRENT FISHERIES INFRASTRUCTURE

Total Fish Landing Centre-51

FISHING INFRASTRUCTURE INCLUDE

- FISHING CRAFTS
- NET REPAIR CENTERS
- FISH DRYING PLATFORMS
- COLD STORAGES
- BOAT REPAIR CENTER
- FISH MARKETS/AUCTION CENTERS

![Graphs and images related to fisheries infrastructure.]
STRATEGIES FOR FISHERIES INFRASTRUCTURE

- Modernize Fisheries Infrastructure at Fish Landing Site
- Create infrastructure for marketing, cold storage, packaging and value addition etc.
- Improve transport connectivity to Fish Landing Sites
- Enhance Skill Development and Capacity Building for fisherfolk
• APIIC appointed as Nodal Agency for Project Development
• AP PCPIR Special Development Authority constituted under The Andhra Pradesh Urban Areas (Development) Act, 1975 as per GO Ms No 373, MA&UD Dept, GoAP, dt 24.05.2008
So far VK-PCPIR SDAM conducted 12 board meetings. 
12th board meeting held on 03-05-2014
STAFF STRUCTURE OF VK-PCPIR, SDA

CHAIRMAN

Vice-Chairman

Secretary VUDA (And their supporting staff)
Chief Accounts Officer, VUDA (And their supporting staff)
Chief Urban Planner, VUDA

Chief Engineer, VUDA (And their supporting staff)
Divisional Forest Officer, VUDA (And their supporting staff)
Estate Officer, VUDA (And their supporting staff)

Deputy Director (On Deputation from DT&CP)

Town Planning Officers - 2 Nos. (On Deputation from DT&CP)
Town Planning Assistant (On Deputation from DT&CP)

Surveyor / Draughtsman (VUDA)

Administrative Office (VUDA)
Senior Assistant (On Deputation from Director of Ports)

Chairman (VUDA)
The Master plan was taken up by VK-PCPIR, SDA and the work was entrusted to M/s. LEA Associates India on 15.03.2011.

M/s. LEA Conducted stakeholders meeting & invited Public representatives and industrialists and fisherman societies etc. and conducted phase wise public consultation at village level in VKPCPIR region and submitted preliminary report on 17th October 2011.

Detailed Draft Master plan is published on 5th August 2013.

Revised draft Master plan as per objections received from public.

Submitted to Govt. of A.P. for approval on 23.05.2014

Approval of final Master Plan by 15.07.2014.
## INDUSTRIAL MIX & PROCESSING AREAS

<table>
<thead>
<tr>
<th>ZONE</th>
<th>Industrial Mix</th>
</tr>
</thead>
<tbody>
<tr>
<td>1 VISHAKHAPATNAM ZONE</td>
<td>Steel Plant, Steel and Downstream Industries</td>
</tr>
<tr>
<td></td>
<td>NTPC &amp; HNPCL, Power Plants</td>
</tr>
<tr>
<td></td>
<td>JNPC &amp; Parawada Ph-I &amp; II, Pharmaceutical</td>
</tr>
<tr>
<td></td>
<td>AP SEZ, Refinery and Petrochemical Industries, Engineering Industries</td>
</tr>
<tr>
<td></td>
<td>AP SEZ Expansion Area, Pudi IC, Krishnapalem IC, Mixed Industries, Metal and</td>
</tr>
<tr>
<td></td>
<td>Engineering Industries, Chemical Industries</td>
</tr>
<tr>
<td>2 NAKKAPALLI ZONE</td>
<td>Metal &amp; Engineering Industries</td>
</tr>
<tr>
<td></td>
<td>Nakkapalli Industrial Cluster, Mixed, Pharmaceutical, Light Engineering,</td>
</tr>
<tr>
<td></td>
<td>Food Processing, Fish Processing</td>
</tr>
<tr>
<td></td>
<td>Payakaraopeta Industrial Cluster, Fish processing, Mixed Industries, Food</td>
</tr>
<tr>
<td></td>
<td>Processing, Light Engineering</td>
</tr>
<tr>
<td>3 KAKINADA ZONE</td>
<td>Kakinada SEZ, GMR, Petroleum, Petrochemicals, Mixed Industries</td>
</tr>
</tbody>
</table>

**Components of Processing Area**

- **Non Processing Area**
  - Visakhapatnam: 4%
  - Nakkapalli: 15%
  - Kakinada: 15%
  - VK-PCPIR SDA Area: 89%

- **Processing Area**
  - Visakhapatnam: 96%
  - Nakkapalli: 85%
  - Kakinada: 85%
  - VK-PCPIR SDA Area: 11%
# LAND AVAILABLE FOR ALLOCATION

<table>
<thead>
<tr>
<th>S.No.</th>
<th>Name of the Industrial Park</th>
<th>Total Extent available (in acres)</th>
<th>Allotable area (in acres)</th>
<th>Allotted so far (in acres)</th>
<th>Extent available (in acres)</th>
</tr>
</thead>
<tbody>
<tr>
<td>1.</td>
<td>APSEZ Atchutapuram including DTA</td>
<td>5595.00</td>
<td>3792.96</td>
<td>982.04</td>
<td>2810.92</td>
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<tr>
<td>2.</td>
<td>Expansion Lands-Atchutapuram</td>
<td>1695.26</td>
<td>1547.64</td>
<td>221.46</td>
<td>1326.18</td>
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<tr>
<td>3.</td>
<td>JNPC Parawada</td>
<td>1531.86</td>
<td>1023.50</td>
<td>1023.50</td>
<td>-----</td>
</tr>
<tr>
<td>4.</td>
<td>Pharma SEZ Parawada</td>
<td>611.37</td>
<td>420.27</td>
<td>360.27</td>
<td>60.00</td>
</tr>
<tr>
<td>5.</td>
<td>KSEZ, Kakinada</td>
<td>7000.00</td>
<td>6750.00</td>
<td>0.00</td>
<td>6750.00</td>
</tr>
<tr>
<td>6.</td>
<td>Kona lands - Kakinada</td>
<td>2094.94</td>
<td>2094.94</td>
<td>0.00</td>
<td>2094.94</td>
</tr>
<tr>
<td>7.</td>
<td>Thammavaram, Kakinada</td>
<td>295.94</td>
<td>207.00</td>
<td>25.00</td>
<td>182.00</td>
</tr>
<tr>
<td><strong>TOTAL</strong></td>
<td></td>
<td><strong>18824.37</strong></td>
<td><strong>15836.31</strong></td>
<td><strong>2612.27</strong></td>
<td><strong>13224.04</strong></td>
</tr>
</tbody>
</table>
Environmental Impact Assessment

- To obtain Environmental Clearance for VK-PCPIR, Environmental Impact Assessment & Environmental Management and Planning (EIA & EMP) works was taken up by VK-PCPIR, SDA and the work was entrusted to M/s. EPTRI (Environment Protection Training & Research Institute), Gachibowli, Hyderabad Andhra Pradesh – INDIA

- Expert Appraisal Committee (EAC), MoEF, met on 23rd September, 2011, discussed the Terms of Reference (ToR).

- Expert Appraisal Committee suggested to study the socio economic situation of the project area & employment potential etc. including detailed environmental Impact Assessments of proposed PCPIR.

- Study is in progress by EPTRI and draft EIA report will be submitted by the end of Sept 2014.
**TO SUM UP...**

- **Strategic location** - Both for Domestic and Global markets
- **Feedstock** - Proposed 2 Refineries with total capacity of 30 MMTPA Visakh Refinery + Petrochemical Complex KRPL Refinery + Petrochemical Unit KG Basin Gas
- **Land** - Ready made land available (About 13000 Acres) includes 6 SEZs
- **Environmental Mgmt** - Environmental Clearance for APSEZ and Pharma City is obtained. Facilities for CETP’s and marine outfall in pharma SEZ, Brandix SEZ are operational. Similar facility proposed for other areas of PCPIR.
- **Infrastructure** - 3 ports, 2 airports, linked by National Highway Golden Quadrilateral project.
TO SUM UP...

- Committed investments to create new and upgraded infrastructure.

- Ready to start land with required infrastructure and clearances.

- Proposed LNG terminals at Ganagavaram Port (by Petronet) and at Kakinada Port (by GAIL & SHELL)

- Proposed Utility centre by M/s Sumitomo Corporation, Japan in APSEZ.

- The PCPIR location, being a part of the Residuary state of Andhra Pradesh will be given additional financial incentives both by Govt. Of India and State Govt.