PETKİM
&
EFQM Excellence Model

M. Hayati ÖZTÜRK

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Jeddah, KSA
**Petkim and SOCAR Turkey (STEAŞ)**

**SOCAR Turkey Enerji A.Ş. (STEAŞ)**

**Our Vision:**
To be a leader company who has a Refinery-Petrochemical-Energy-Logistics integration in the area covers Turkey, Azerbaijan and their neighboring countries

**Our Objective:**
To be the greatest industrial production force of Turkey by accomplishing the Refinery-Petrochemical-Energy-Logistics Integration until the year 2023

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**STAR Refinery Inc.**

**PETKİM**

**Our Vision:**
- To continue its leadership crescively on Petrochemicals Sector at Turkey’s market
- To be a regional force

**Our Objective:**
- 40% market share by sustainable growth at 2023

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**OTHER SUBSIDIARIES**

- Petrokim International Trading Ltd.
- SOCAR Power Energy Investments Inc.
- SOCAR Turkey Gas Distribution and Trade Inc.
### Layout of Aliaga Complex (1000 m²)

<table>
<thead>
<tr>
<th>Area</th>
<th>Size</th>
</tr>
</thead>
<tbody>
<tr>
<td>Plant area</td>
<td>6.394</td>
</tr>
<tr>
<td>Residential area</td>
<td>2.012</td>
</tr>
<tr>
<td>Güzelhisar dam</td>
<td>7.008</td>
</tr>
<tr>
<td>Çayağzı region</td>
<td>2.929</td>
</tr>
<tr>
<td>Other</td>
<td>1.502</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>19.845</strong></td>
</tr>
</tbody>
</table>

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![Location & Layout](image-url)
### Products and Capacities

#### Plant Capacities

<table>
<thead>
<tr>
<th>Thermoplastics</th>
<th>Fiber Raw Materials</th>
<th>Other Plants</th>
</tr>
</thead>
<tbody>
<tr>
<td>Capacity 740,000 ton/yr</td>
<td>Capacity 249,000 ton/yr</td>
<td>Capacity 985,000 ton/yr</td>
</tr>
<tr>
<td>PVC 150,000</td>
<td>MEG 89,000</td>
<td>ETHYLENE 520,000</td>
</tr>
<tr>
<td>LDPE 350,000</td>
<td>ACN 90,000</td>
<td>Propylene 240,000</td>
</tr>
<tr>
<td>HDPE 96,000</td>
<td>PTA 70,000</td>
<td>C4 140,000</td>
</tr>
<tr>
<td>PP 144,000</td>
<td></td>
<td>Py-Gas 390,000</td>
</tr>
<tr>
<td></td>
<td></td>
<td>BENZENE 150,000</td>
</tr>
<tr>
<td></td>
<td></td>
<td>P-x 136,000</td>
</tr>
<tr>
<td></td>
<td></td>
<td>O-x 50,000</td>
</tr>
<tr>
<td></td>
<td></td>
<td>CHLORINE 100,000</td>
</tr>
<tr>
<td></td>
<td></td>
<td>VCM 152,000</td>
</tr>
<tr>
<td></td>
<td></td>
<td>PA 49,000</td>
</tr>
<tr>
<td></td>
<td></td>
<td>MB 10,000</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Plastic Products 4,000</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Power (MW) 226</td>
</tr>
</tbody>
</table>
Vision 2023

The Region’s World Class Energy and Chemical Logistics Hub

2011-2023 Term:
40% Market Share
5 Billion $ Export
10 Million $ Investment Amount
Process Integration-Energy Efficiency
STAR REFINERY is one of the most important localization projects in Türkiye and it is the biggest investment made to a single location.

Project Information

<table>
<thead>
<tr>
<th>Capacity</th>
<th>214,000 bpd</th>
</tr>
</thead>
<tbody>
<tr>
<td>Location</td>
<td>Aliağa / İzmir</td>
</tr>
<tr>
<td>Type</td>
<td>High Conversion</td>
</tr>
<tr>
<td>Crude Oil</td>
<td>Medium gravity crudes from Ural, Azerbaijan and Kirkuk</td>
</tr>
</tbody>
</table>

Product Slate

- Optimum LPG
- Maximum Naphta
- No Gasoline
- Maximum Jet-Fuel and Diesel
- Minimum Fuel Oil and Bitumen
Through the utilization of refinery side products, STEP Energy Plant will provide the electricity demand of Value Site by the most sustainable and feasible way.
### PetCogen Cogeneration Plant

<table>
<thead>
<tr>
<th>Project Information</th>
<th>Details</th>
</tr>
</thead>
<tbody>
<tr>
<td>Project Owner</td>
<td>SOCAR Power Energy Investments Inc</td>
</tr>
<tr>
<td>Planned Capacity</td>
<td>1400 t/h steam, 210 MW</td>
</tr>
<tr>
<td>Plant Type</td>
<td>Coal-based Cogeneration Plant</td>
</tr>
<tr>
<td>Fuel</td>
<td>%100 coal</td>
</tr>
<tr>
<td>Units</td>
<td>4X350 t/h coal fed boilers + 2 back-pressure turbines + 2 condensing turbines</td>
</tr>
<tr>
<td>Start-up date</td>
<td>2015</td>
</tr>
</tbody>
</table>

PetCogen will provide the required electricity and steam for existing and planned facilities through utilization of most economical hydrocarbon resource, coal. It will provide ~30% cost advantage.
# Petlim - Petkim Container Port

## Project Information

<table>
<thead>
<tr>
<th>Description</th>
<th>Details</th>
</tr>
</thead>
<tbody>
<tr>
<td>Project Owner</td>
<td>Petlim Port Business Trade Inc.</td>
</tr>
<tr>
<td>Operations Partner</td>
<td>APM Terminals BV</td>
</tr>
<tr>
<td>Total Planned Capacity</td>
<td>4,000,000 TEU/year</td>
</tr>
<tr>
<td>Ship Capacity</td>
<td>11000 TEU</td>
</tr>
</tbody>
</table>

By the end of 2016, Petkim Container Port will be the largest integrated port in Aegean Region with 4,000,000 TEU container capacity.
## Petkim - Downstream Investments

<table>
<thead>
<tr>
<th>Unit</th>
<th>Investment</th>
<th>Capacity (tonnes/year)</th>
<th>Start-up</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td>Existing</td>
<td>Planned</td>
</tr>
<tr>
<td>Ethylene</td>
<td>Expansion</td>
<td>520</td>
<td>587.6</td>
</tr>
<tr>
<td>PTA</td>
<td>Expansion</td>
<td>70</td>
<td>105</td>
</tr>
<tr>
<td>XLPE</td>
<td>New unit</td>
<td>-</td>
<td>30</td>
</tr>
<tr>
<td>BDX</td>
<td>New unit</td>
<td>-</td>
<td>100</td>
</tr>
<tr>
<td>Ethoxylate</td>
<td>New unit</td>
<td>-</td>
<td>50</td>
</tr>
<tr>
<td>MEG</td>
<td>Resizing</td>
<td>89</td>
<td>45</td>
</tr>
<tr>
<td>NaCN</td>
<td>New unit</td>
<td>-</td>
<td>18</td>
</tr>
</tbody>
</table>
EFQM Excellence Model as Management Strategy
Fundamental Concepts of Excellence

- Sustaining Outstanding Results
- Adding Value for Customers
- Creating a Sustainable Future
- Succeeding through the Talent of People
- Developing Organisational Capability
- Managing with Agility
- Harnessing Creativity & Innovation
- Leading with Vision, Inspiration & Integrity
Journey to Excellence

• 2004 Signing of National Quality Movement Act
• 2006 Balanced Scorecard
• 2008 Application for National Quality Award,
  Recognized for Excellence 4-star
• 2009 Integrated Management System Certification
  (ISO9001-ISO14001-OHSAS18001)
• 2010 ERP, MES and LIMS projects
• 2010 Transition to EFQM Excellence Model 2010
• 2011 Revision of Process Management System and Strategic Management Approach
• 2012 Application for National Quality Award,
  National Quality Prize for Large Organizations Category
• 2013 Energy Management System Certification (ISO 50001)
Adding Value for Customers

• High quality products, ease of processing
• On-line transactions and information
• Extensive technical support
• Regional customer meetings
• High brand reputability
• Customer satisfaction survey
• Market monitoring and projection
• Scenario analysis
• As-is analysis including PESTEL, BCG, KPI’s and audits
• Business modelling
• Strategic planning
• Budgeting
Sustaining Outstanding Results

- EFQM Excellence Model
- ISO 9001, ISO 14001, OHSAS 18001, ISO 50001
- Process management
- Business process improvements
- ERP, MES, LIMS, CMMS
- Budgeting
- Continuous improvement teams
Succeeding through the Talent of People

• Award winning recruitment process and orientation
• Personal improvement and career development
• Petkim Academy
• Performance measurement and training
• Continuous improvement teams
• Empowerment and motivation
Developing Organisational Capability

- Business modelling - *Value Site 2023*
- Strategic planning
- Enterprise risk management
- Competetiveness and partnerships
- Business networks
- Innovation clusters
Leading with Vision, Inspiration and Integrity

- Petkim Code of Conduct
- Petkim Leadership Model
- Empowerment and motivation
- Petkim Academy
- Commissions and participation
- Coaching and mentoring
- 360° Self assessment
Harnessing Creativity and Innovation

- Business networks
- Innovation clusters
- Peer to peer development projects
- R&D center
- Continuous improvement teams
- Petkim Academy
Creating a Sustainable Future

• Petkim Corporate Values
• ISO 14001, OHSAS 18001, ISO 50001
• Carbon Disclosure Project
• Hazardous Waste Incinerator
• Aliağa Petkim Basketball Team
• Heydar Aliyev Technical High School
• Heydar Aliyev Memorial Forest
Benefits of Excellence Model

- Clarity about mission, vision and organizational expectations
- Clearly defined processes
- Effective use of improvement tools
- Team works/better communication
- Involvement of people
- Increasing stakeholder focus
- Better results/performance improvement
- Benchmarking / best practices
- Learning from other organizations
- Creating corporate memory
- Self assessment/external assessment
- Excellence culture
Corporate Results

Net Sales (tonnes/year)

Net Export (tonnes/year)
Corporate Results

**Overall Equipment Efficiency (%)**

- **Target**: 92.00%
- **Actual**: 88.00%

**Naphta Inventory Turnover Rate (cycle)**

- **Target**: 30.00 cycles
- **Actual**: 50.00 cycles
Customer Results

Portfolio of Active Customers (number)

Customer Satisfaction Survey (%)

- Portfolio of Active Customers (number)
  - Target
  - Actual

- Customer Satisfaction Survey (%)
  - Target
  - Actual
Employee Results

**Employee Satisfaction Survey (%)**

- **2008:** 85.00%
- **2009:** 87.50%
- **2010:** 82.50%
- **2011:** 85.00%
- **2012:** 87.50%

**Net Sales per Employee (000 TL/person)**

- **2008:** 1200
- **2009:** 1800
- **2010:** 1400
- **2011:** 1600
- **2012:** 1800

**Target**

**Actual**
Sustainability Results

Community Perception Survey (%)

Corporate Governance Score (index)

- 2008
- 2009
- 2010
- 2011
- 2012
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Information

We welcome your questions, comments and suggestions. Our corporate headquarters office address is:

Petkim Petrochemical Holding Corp. PO. Box.12
Aliağa, 35800 İzmir/ TURKEY

To contact us with respect to shareholding relations for individual and corporate investors, please call directly or send an e-mail to:

Sadettin KORKUT
General Manager

Tel :+90 232 616 1240 (Ext:2040)
• Direct :+90 232 616 2297
• Fax : +90 232 616 8519
• E-mail :skorkut@petkim.com.tr

Mustafa ÇAĞATAY
Corporate Governance & Investor Relations Coordinator

Tel :+90 232 616 1240 (Ext:2501)
• Direct :+90 232 616 6127
• E-mail :mcagatay@petkim.com.tr

Also, please visit our web site at www.petkim.com.tr for further information and queries.