

Improving Competitiveness of European Chemical Industry Clusters

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European chemical site promotion platform





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Background and context

- The EU is still the world's largest chemicals producer with a market share of 29% and chemical sales at 476 € billion in 2006
- Although chemical sales in the EU are still growing, the growth rate is slower than in other regions of the world - particularly Asia
- The recent EPCA Study on Chemical Industry Clusters showed that clusters play an important role in improving the supply chain competitiveness of the chemical industry
- This presentation reviews the current situation of the European chemical industry clusters and the need to further strengthen these clusters in order to improve the competitiveness of the European chemical industry in the global context



Current situation of European chemical industry clusters

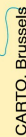
- Europe has over 300 chemical production sites, the majority of which are located in clusters
- Most of these clusters have evolved historically around either a raw material source, or as a supplier to the downstream industry
- As the raw material supply and the downstream industries have evolved, so these clusters have adapted to these changes
- There are a few examples of “on-purpose” clusters which have been developed more recently
- In general Europe’s chemical industry clusters are highly integrated along the product value chains and benefit from competitive infrastructure, utilities and services



Practical definition of European chemical clusters

- Region: EU27 and neighboring countries (Norway, Belarus, Ukraine, Turkey, Switzerland since all of these countries are intrinsically linked or directly impact the EU27 region)
- World scale production of feedstocks, base chemicals, plastics & polymers, intermediates & specialties or performance materials
- Integration upstream into primary raw materials, feedstocks, commodities or intermediates
- Integration downstream into other chemical industry sectors or into key customer industries (e.g. automotive, packaging, construction)
- Synergy with service and utility providers
- Access to at least 3 of the major transport modes (maritime, inland waterways, pipelines, rail, road)
- A significant employer and contributor to regional job creation

The viability of clusters depends on having a combination of key attributes in place





Key attributes and performance criteria of successful clusters

From an investor perspective

- **Investment environment:** role and support of the authorities in providing incentives and support in the development of infrastructure or attracting investment
- Availability of **land**
- **Raw material and feedstock** supplies at competitive prices
- **Energy and utilities** at competitive prices
- Relative proximity and easy access to most important **customers**
- Availability of **efficient services** (logistics, finance, IT, packaging, security, marketing, promotion etc)
- Availability of **labour** (skilled and unskilled) at competitive prices
- Efficient **logistics infrastructure**
- Low-risk and stable **business climate** and stable **regulatory environment**
- Good schooling and **educational** facilities
- **Co-siting & partnering** opportunities



Key attributes and performance criteria of successful clusters

From a cluster competitiveness perspective

- **Infrastructure** (proximity of a main port, terminals, storage & transport infrastructure, pipelines etc..)
- **Presence of leading global companies**
- **Product diversity:** broad versus narrow product range
- **Sector diversity:** commodity focus or specialty focused
- **Proximity of key markets:** Either B2B or downstream industries
- **Degree of cluster integration:** degree to which feedstock and products are linked
- **Cluster synergy:** sharing of utility services, infrastructure, manufacturing JV's
- **Cluster leadership:** individual organisation, stakeholder leadership model developing/influencing the long term survival and growth of the cluster
- **Energy supply structure:** degree to which the energy supply infrastructure provides advantages to the cluster companies - competitive energy cost
- **Overall supply chain structure:** presence of LSP's, choice of transport modes, supply chain collaboration opportunities



Advantages of having strong chemical clusters in Europe

Strengthening Europe's chemical clusters will lead to improved competitiveness of the European chemical industry, through:

- Improved **cost competitiveness** from integration along the product value chains
- **Synergy benefits** from shared utilities, services and infrastructure
- **Increased investment** due to improved cost competitiveness
- **Lower logistics costs** due to a competitive offering of services within the cluster
- Better **risk and HSE management**
- Increased **cluster critical mass**
- **Collaboration mindset** of cluster members to collective advantage
- **Total cluster performance** better than the sum of the individual cluster members performance on a stand-alone basis



Strengthening of European chemical industry clusters

What is needed?

- Benchmark the existing clusters against agreed performance criteria
- European and national industrial policies should support the **viable** clusters in their further development through
 - Development of infrastructure within and between clusters
 - Removing regulatory barriers
 - Overcoming national and regional boundaries
 - Assisting in exploiting synergies



Strengthening of European chemical industry clusters

How could this be achieved? (1)

Development of **local cluster platforms** which should:

- Develop a strategic vision on the future development of the cluster and its interconnections
- Co-ordinate activities needed to enhance the strengths and eliminate the weaknesses of the clusters
- Facilitate improvement of the clusters' logistics infrastructure
- Facilitate closer collaboration of all involved stakeholders within clusters (chemical companies, service providers, infrastructure managers, authorities etc)

This should lead to better management of the clusters, more synergies and more investment in the logistics infrastructure.



Strengthening of European chemical industry clusters

How could this be achieved? (2)

Development of a **pan-European cluster platform** which should:

- Provide a neutral action oriented forum with the objective of improving the general competitiveness of the clusters and proposing solutions to eliminate structural weaknesses
- Facilitate improvement of logistics infrastructure **between the clusters**
- Definition of common performance indicators and benchmarking

This should lead to more investment in logistics infrastructure aiming at a better interconnection of the clusters.



Creation of chemical cluster platforms

What advantages would be gained from local cluster platforms and a pan-European cluster platform?

- The Platforms should be the key facilitators of private investment in essential chemical cluster related infrastructure across Europe (e.g. pipelines, CCS networks, energy & utilities networks, water & waste management networks)
- This will help to ensure that the “backbone” feedstock and intermediate suppliers will remain in Europe
- Developing consistent and optimized integration and connectivity through clusters and infrastructure is the only way to maintain and invigorate the whole value chain. Should feedstock and intermediates disappear or become scarce, the whole value chain is at stake



Creation of chemical cluster platforms

What are the challenges that need to be overcome?

- Balancing the individual self-interest objectives of chemical companies against the long term industry-wide infrastructure investment requirements
- Overcoming regional “boundaries” – clusters do not always follow municipal, regional or country borders
- Practical implications of establishing local leaders in each cluster with the involvement of all stakeholders
- Overcoming the barrier of “competition rules” with the authorities
- Quantifying the competitiveness improvement gained through this initiative



Creation of chemical cluster platforms

How could these platforms be put in place?

- Platforms could be supported and co-ordinated by existing industry associations
- Role of the European Commission and the national & regional authorities in the cluster platforms
 - Agree and facilitate the setting up of the platforms
 - Develop the mandate of the platforms
 - Empowering the platforms
 - Ensuring proper feedback loops are in place



Conclusions

- Europe has strong competitive clusters which are the backbone of the European chemical industry
- The chemical industries' competitiveness can be improved by improving the logistics infrastructure within and between the European chemical clusters
- European and national industrial policies should support the **viable** clusters in their further development
- Investments in infrastructure should be directed
 - to clusters with the potential to fulfil the performance criteria
 - to connecting those potentially successful clusters
- Local cluster platforms **and** a pan-European platform should be established to investigate and develop initiatives and investment opportunities to enhance the overall cluster competitiveness, including their logistics performance