

Technology and Costs



Technoeconomics – Energy & Chemicals (TECH)

The Technoeconomics – Energy & Chemicals (TECH) program (formerly known as PERP) is globally recognized as the industry standard source of process evaluations of existing, new and emerging technologies of interest to the chemical and energy industries.





TECH's comprehensive studies include detailed technology analyses, process economics, as well as commercial overviews and industry trends.

TECH Program Scope

TECH issues twenty reports per program year, including eight petrochemical updates (building blocks, intermediates and polymers) and twelve special topics covering areas such as specialty/performance materials, refinery products, energy technologies, and engineering know-how.

TECH reports involve detailed reviews of the available literature (patents, scientific and trade journals, etc.), as well as extensive liaison with industry (technology licensors, producers, EPC contractors), and Nexant know-how. Reports cover:

- Trends in chemical technology
- Strategy/business overview
- Process Technology
 - Chemistry
 - Process flow diagrams and descriptions of established conventional and new/emerging processes
- Process economics – comparative cost of production estimates for different technologies/process routes across different geographic regions
- Overview of product applications and markets for new as well as established products
- Regional supply and demand balances, including capacity tables of plants in each region (listing plant owner, nameplate capacity, location and production process employed, when available)
- Regulatory and environmental issues where relevant

Petrochemical Updates

Petrochemical updates are designed to give up-to-date (“state of the art”) information on major petrochemical building blocks, intermediates, and polymers. Update topics are reviewed on a three to five year cycle.

Special Topics

Special topics cover a wide variety of areas, ranging from niche markets to subjects currently considered “hot” or making groundbreaking news. Subjects are chosen based on clients’ requests and Nexant’s review/perception of the current state of affairs in the industry.

Topics typically covered include:

- Specialty chemicals and polymers – for example, cyclic olefin copolymers, specialty polyamides
- Advanced materials – for example, carbon fiber and solar grade polysilicon
- Oil refinery products – for example, lube oil and catalytic processing of crude residue
- “Hot” topics – for example, plastics recycling technologies, meeting new bunker fuels specifications, international shale gas, sustainability in the chemical industry
- Engineering – for example, project scale-up (lab to industrial plant implementation) and chemical energy storage

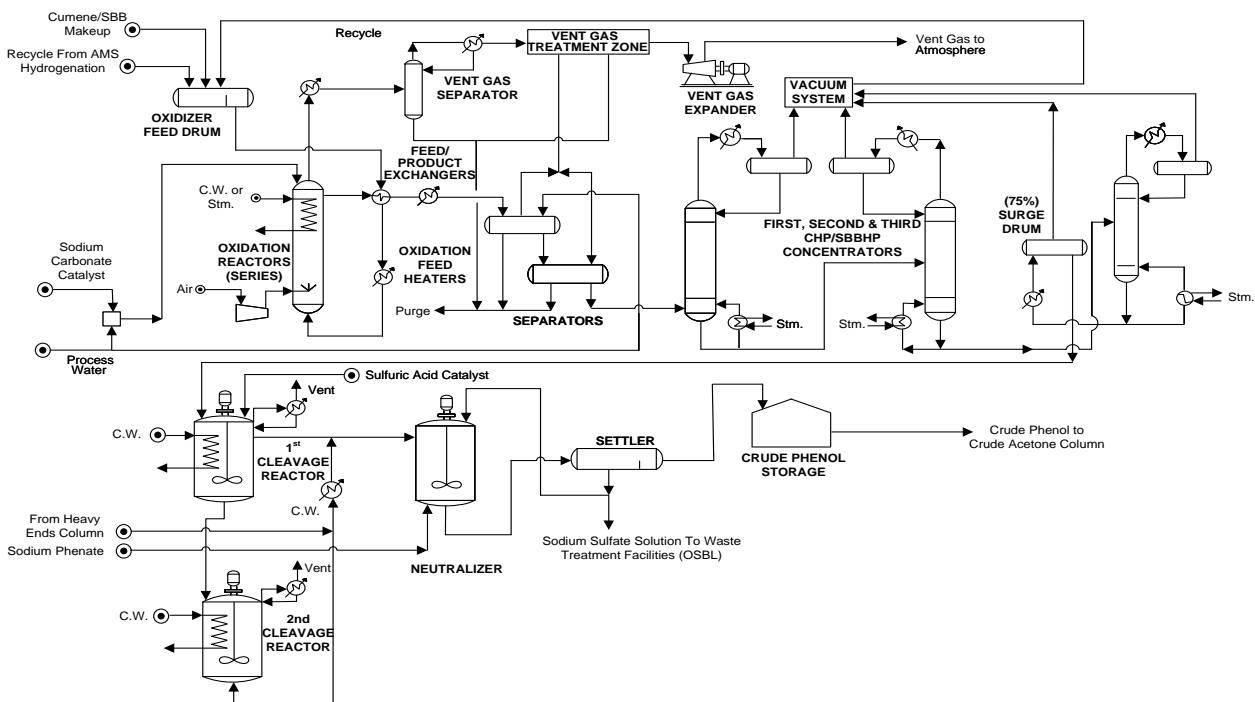


The TECH program is committed to delivering reliable and commercially grounded analysis.

A typical TECH report includes an introduction, where an overview of the business is given, a summary of the technology licensing status and major producers, key physical properties are outlined. Most TECH reports also give an overview of strategic considerations from the perspective of a new entrant to the business.

The core of a TECH report is focused on discussion of the chemistry, process design and economics of developing/emerging technologies compared with the commercially dominant technologies against which they will compete; coupled with an overview of commercial market applications and analysis of the key regional supply/demand markets.

Sample Process Flow Diagram



Process Economics

In close liaison with the industry (producers, licensors, EPC contractors), Nexant know-how/industry experience, review and analysis of the available literature (e.g., patents, scientific journals), as well as product specifications, Nexant develops reliable and dependable assessments of the process economics for commercially established and pertinent emerging/developing technologies.

TECH Reports provide multi-regional cost of production estimates in metric units. Typical location bases for the economics would include 2 to 4 of the following:

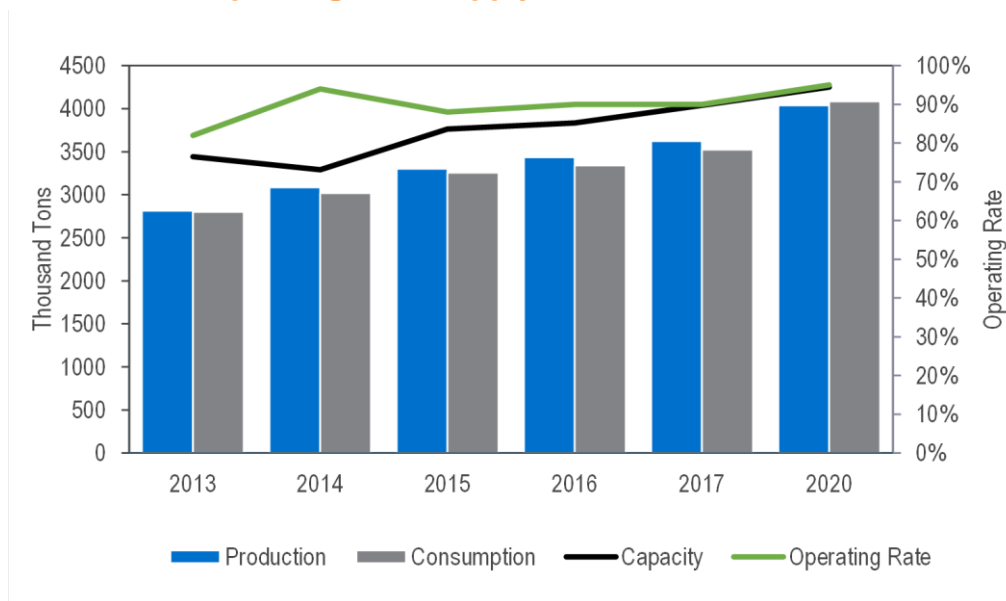
- Brazil
- China
- Eastern Europe
- Japan
- Middle East
- Western Europe
- South East Asia
- United States Gulf Coast (USGC)



Commercial Markets

Each TECH report also contains an overview of commercial applications and discussions of global and regional supply/demand/trade data (including historical, current estimate and forecast). Detailed plant capacity tables are provided detailing owning company, location and nameplate capacities for all plants in the regions analyzed.

Sample Regional Supply and Demand Balance



Why Subscribe?

Our TECH reports can be used by subscribers to:

- Understand business feasibility in project planning activities
- Obtain a third-party independent comparison of process economics of different technologies offered for license
- Recognize and assess investment opportunities for new products and innovative processes
- Identify commercially significant developments in their early stages, and place them in an economic context

A Subscription to TECH includes:

- PDF reports including detailed technology analyses, process economics, as well as commercial overviews and industry trends.
- Cost of production tables in spreadsheet format
- Support from our industry experts

A subscription to TECH includes twenty reports published in a given program year. Reports can also be purchased on an individual basis, including reports from previous program years.

Nexant Subscriptions and Reports provide clients with comprehensive analytics, forecasts and insights for the chemicals, polymers, energy and cleantech industries. Using a combination of business and technical expertise, with deep and broad understanding of markets, technologies and economics, Nexant provides solutions that our clients have relied upon for over 50 years.



Markets and Profitability comprises the former Petroleum and Petrochemical Economics (PPE), PolyOlefins Planning Service (POPS), Strategic Business Analysis (SBA) and World Gas Analytics (WGAS) and provides market analysis and profitability and pricing analysis with long term forecasts.

Contact us at Markets&Profitability@nexant.com



Technology and Costs comprises the Technoeconomics – Energy & Chemicals (TECH) program (formerly known as PERP), the Biorenewable Insights program (BI), and the new Cost Curve Analysis. These programs provide comparative economics of different process routes and technologies in various geographic regions.

Contact us at Technology&Costs@nexant.com



The **Special Reports** analyze issues of topical importance to the energy and chemicals industry. Each special report explores the subject matter in detail to provide an up-to-date and thorough understanding of the related issue allowing investment decisions and new business strategy to be formulated.

Contact us at SpecialReports@nexant.com



Nexant serves its clients from over 30 offices located throughout the Americas, Europe, the Middle East, Africa and Asia.

Corporate Headquarters

Tel: +1 415 369 1000
101 2nd St Suite 1000
San Francisco
CA 94105-3651
USA

Americas

Tel: +1 914 609 0300
44 S Broadway,
4th Floor White Plains
NY 10601-4425
USA

Europe, Middle East & Africa

Tel: +44 20 7950 1600
1 King's Arms Yard
London EC2R 7AF
United Kingdom

Asia Pacific

Tel: +662 793 4600
22nd Floor, Rasa Tower I
555 Phahonyothin Road
Kwaeng Chatuchak
Khet Chatuchak
Bangkok 10900
Thailand