

2006 Worldwide Refining Survey

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Survey Editor

All figures are
as of January 1, 2007

All figures in barrels per calendar day (b/cd)

LEGEND

Numbers identify processes in table

Coking 1. Fluid coking 2. Delayed coking 3. Other	Catalytic reforming 1. Semiregenerative 2. Cyclic 3. Continuous regen. 4. Other	Catalytic hydrotreating 1. Pretreatment of cat reformer feeds 2. Other naphtha desulfurization 3. Naphtha aromatics saturation 4. Kerosine/jet desulfurization 5. Diesel desulfurization 6. Distillate aromatics saturation 7. Other distillates 8. Pretreatment of cat cracker feeds 9. Other heavy gas oil hydrotreating 10. Resid hydrotreating 11. Lube oil polishing 12. Post hydrotreating of FCC naphtha 13. Other	Alkylation 1. Sulfuric acid 2. Hydrofluoric acid	Isomerization 1. C ₄ feed 2. C ₅ feed 3. C ₅ and C ₆ feed	Hydrogen Production: 1. Steam methane reforming 2. Steam naphtha reforming 3. Partial oxidation a. Third-party plant Recovery: 4. Pressure swing adsorption 5. Cryogenic 6. Membrane 7. Other
Thermal process 1. Thermal cracking 2. Visbreaking	Catalytic hydrocracking 1. Distillate upgrading 2. Residual upgrading 3. Lube oil manufacturing 4. Other c. Conventional (high pressure) hydrocracking: (>100 barg or 1,450 psig) m. Mild to moderate hydrocracking (<100 barg or 1,450 psig)		Polymerization/Dimerization 1. Polymerization 2. Dimerization	Oxygenates 1. MTBE 2. ETBE 3. TAME 4. Other	
Catalytic cracking 1. Fluid 2. Other			Aromatics 1. BTX 2. Hydrodealkylation 3. Cyclohexane 4. Cumene		

NOTES

A Formerly listed as Premcor Inc.
 B Formerly listed as Crown Central Petroleum Corp.
 C Formerly listed as Shell, Godorf, and DEA, Wesseling. Now combined.
 D Formerly listed as Fortum Oil Oy
 E Formerly listed as Petrochemia
 F Formerly listed as Gary-Williams Energy Corp.
 G Formerly listed as Shell Oil Products US
 H Formerly listed as Coastal Aruba Refining Co. NV

I Formerly listed as Refineria de Petroleo Concon SA
 J Formerly listed as Veba Oel AG
 K Formerly listed as Farmland Industries
 L Formerly listed as Petrox SA
 M Formerly listed as Williams Alaska Petroleum Inc.
 N Formerly listed as Petrogal
 O Formerly listed as BP Lubes Services GMBH

P Formerly listed as Oil Refineries Administration
 Q Formerly listed as Skandinaviska Raffinaderi AB
 R Formerly listed as Coastal Eagle Point Oil Co.
 S Formerly listed as Coastal ExxonMobil Refining Co.
 T Formerly listed as Valero Energy Corp.
 U Formerly listed as Trigeant Petroleum Ltd.
 V Formerly listed as Coffeyville Resources Refining & Mktg.
 W Formerly listed as La Gloria Oil & Gas Co.
 X Formerly listed as Marathon Ashland Petroleum LLC

Capacity definitions:

Capacity expressed in barrels per calendar day (b/cd) is the maximum number of barrels of input that can be processed during a 24-hour period, after making allowances for the following: (a) Types and grades of inputs to be processed, (b) Types and grades of products to be manufactured, (c) Environmental constraints associated with refinery operations, (d) Scheduled downtime such as mechanical problems, repairs, and slowdown. Capacity expressed in barrels per stream day (b/sd) is the amount a unit can process when running at full capacity under optimal feedstock and product slate conditions. An asterisk (*) beside a refinery location indicates that the number has been converted from b/sd to b/cd using the conversion factor 0.95 for crude and vacuum distillation units and 0.9 for all downstream cracking and conversion units.

Hydrogen:

Hydrogen volumes presented here represent either generation or upgrading to 90+% purity.

Catalytic reforming:

1. Semiregenerative reforming is characterized by shutdown of the reforming unit at specified intervals, or at the operators's convenience, for in situ catalyst regeneration.
2. Cyclic regeneration reforming is characterized by continuous or continual regeneration of catalyst in situ in any one of several reactors that can be isolated from and returned to the reforming operation. This is accomplished without changing feed rate or octane.
3. Continuous regeneration reforming is characterized by the continuous addition of this regenerated catalyst to the reactor.
4. "Other" includes nonregenerative reforming (catalyst is replaced by fresh catalyst) and moving-bed catalyst systems.

REFINERY REMOVALS

Name	Location	Country	Crude b/cd	Reason
Norilsk Refinery	Norilsk	Russia	2,000	Operating as copper refinery