

PE & PP Manufacturer List 13.

中央アジア CIS & Mongol (2)

Region / Country	Ownership, Partnership JV structure, Project owner, Finance	Location, Site	Category:		Process, Capacity Technology, Engineering Catalyst, Products	Start-up, Closure, Expansion	Line (s)	Capacity (Year/End, KT/Y)					2021--Expansion, Construction, Plan Completion, News
			C2, C3 /	Polymer				2016	2017	2018	2019	見込み 2020	

< 上記の既存の Baku and Sumgait の設備を置き換えるもの、Phase-1, -2 に分割実施 >

< 新 SOCAR GPC 計画; 石化関係 (つながっている原料ガス処理を含む) >

SOCAR OGPC Project:

元々のプロジェクト関係ニュース;

2015/8: 概要; SOCAR Oil-Gas Processing and Petrochemical Complex (OGPC), Baku

The State Oil Company of Azerbaijan Republic's (SOCAR) proposed oil-gas processing and petrochemical complex (OGPC), covering an area of approximately 4,500ha, will be located near Sangachal terminal, along the boundaries of the Absheron and Garadagh Districts, approximately 60km south of Baku.

SOCAR is implementing the project with its joint venture (JV) partner Foster Wheeler Engineering, while DuPont serves as the technical consultant for the project.

The new complex is expected to replace the existing processing facilities in Baku and Sumgait.

The products from the complex will primarily meet the domestic demands and the excess will be exported.

詳細; SOCAR's OGPC project details;

Phase-1: Phase I project will primarily involve the construction of a gas processing plant (GPP) with a capacity of 12 billion cubic metre (bcm) a year, a petrochemical plant integrating a steam cracker, with a production capacity of approximately 850,000t a year, and a 250MW thermal power plant.

The natural gas liquids recovered from the GPP will be used as feedstock to produce polypropylene and polyethylene from the petrochemical complex.

The project will also involve the construction and installation of related utilities and off-site infrastructure, including roads and rail connection, electrical interconnection with the national grid, and port facilities and pipelines for raw material and product transportation.

Phase-2: Phase II will involve the construction of a refinery with an initial crude oil refining capacity of 8.6 million tonnes a year.

工期; Phase I construction is expected to be completed by 2023, whereas Phase II is proposed to be implemented in the 2030s.

The project will involve the construction and installation of more than 30 technological facilities and licensing of 20 technologies.

EPC: Contractors involved;

The project management contract (PMC) for the front end engineering design (FEED) phase of the GPP was awarded to KBR in March 2013, whereas the PMC for the construction of Phase I was awarded to Flour in March 2015.

Enviro assess: AECOM performed the environmental and socioeconomic impact assessment for the complex, whereas the geophysical, geotechnical and hydrological studies were performed by Fugro.

Baku refinery revamp 改修	1st Pahse		Ref.	Bitumen plant as part of program designed to modernize and expand operations. 120,500 bpd	2019/1 comission							
Socar PJ; 建設 -Phase-I	1st Pahse	Baku, Azerbaijan	GPP / Oil & Gas	Gas processing plant has a capacity of 12 bcm PMC: KBR, Total Eng'g; FEED by Foster Wheeler, EPC by Technip, UOP	2019/1 commission	1		0	850	850		
			C2	Steam cracker; Cap: 850 KTA Feed: 下記ニュースのようにナフサから安い軽質原料に変える可能性あり.	2018 started	1	0	180	180	180		
			C3- No.2	PP will utilize the propylene feedstock coming from the existing naphtha cracker (above).							178	178
		立地未定	C4									
			MTO	Cap: 500KTA 計画								
Socar PJ; 建設 -Phase-I SOCAR Polymer Azerbaijan Oil, Gas Processing and Petrochemical Complex (OGPC)	Subsidiary of state-owned State Oil Co., SOCAR / 政府100% Invstmt: Phase one will total cost \$17bn5billion with interest	Sumgayit Petrochemical Complex, Chemical Industrial Park, Baku, Azerbaijan	新設 新設	PE PP Cap: 120KTA, Tech: Innovene-S Cap. & Tech process: 180--200KTA, Process: Basell tech. Licens & Eng'g: Technimont; value is approximately EUR350 million.	2019/2 started 2018/7 started	1 1		0 180	120 180	120 180		フル稼働は2023年と 2019 on stream

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China / East (25)

Region / Country	Ownership, Partnership Manufacturer or Project entity	Location, Site	Category:		Process, Capacity Technology, Engineering Catalyst, Products	Start-up, Closure, Expansion	Line (s)	Capacity (Year/End, KT/Y)					2021--Expansion, Construction, Pla Completion,	
			C2, C3					2016	2017	2018	2019	見込み 2020		
(杭州)	Hangzhou 杭州市 (Zhejiang Petrochemical; 浙江省舟山綠色石化基地)		Phase-1	Ref-1	3 mm-t/y or 40m tonnes/year ?, aromatics capacity of 10m tonnes/year	2019/2H started						2019 稼働開始した。		
			Phase-2	Ref-2	3 mm-t/y Construction of the second phase will begin after the full start-up of phase I.	2020/4Q started						2020/4Q 稼働開始した。		
浙江化工; ZPC	Zhejiang Petroleum and Chemical Co. (ZPC); Subsidiary of Rongsheng Petrochemical (ロン)	Zhoushan, Zhejiang province, 杭州市, 浙江省	Phase-1	C2 新設	Cap: 1.4 MMTA, Feed: Naphtha Eng'g: Wison eng'g	2017年7月に第一期の建設を開始					0	1,500	2019 later or 2020 on stream expected	
	2019/2: Saudi Aramco to buy 9% stake in Zhejiang integrated refinery and petchem facility			C3	from above							0		
				内, 早いものは;2018 遅くに, 生産開始										
				新設	HDPE	Cap: 258 KTA, Tech:	2020/1 start-up					0	258	
				新設	LLDPE	Cap: 230 KTA, Tech:						0	230	
				新設	LD/EVA	なし								
			新設	PP	Cap: 750 KTA, 2 lines, Tech:	2020/1 start-up	1				0	375		
			新設	PP		2020/2Q	1				0	375		
				Others	EO/EG (5/75), MMA (9), etc.									
Phase-2	2019/2: Minority stake will gain access to 800,000 b/d crude refining, two 1.4 MMt/y ethylene crackers, and well over 10 MMt/y of aromatics production.	杭州市, 浙江省, 浙江省舟山綠色石化基地	Phase-2	C2	Cap: 1.4MMTA, Construction of the second phase will begin after the full start-up of phase I. Tech: Axens' selective hydrogenation catalysts,	2019/5 発注						0	22021---2022 expected	
					HDPE	なし							0	22021---2022 expected
					LLDPE	Cap: 212 KTA, Tech:							0	
					EVA/LD	Cap: 10/30 KTA Tech:							0	
					PP	Cap: 900KTA, 450KTA *2 lines, Tech:							0	22021---2022 expected
					PP								0	22021---2022 expected
				Others	EO/EG (10/65), , etc.									
Phase-3 もあると.			Phase-3	C2		2021年にも埋め立て着手と						0		
					LLD	Cap: 450KTA							0	完工未定
					HD	Cap: 300KTA							0	
					PP	Cap: 900KTA, 2 lines							0	
					Others									

浙江化工 ZPC 関連ニュース;

2020/10: 中国・舟山グリーン石化基地、3期でファイン・新材料園、来年にも埋め立て着手

中国最大級の石油・化学コンプレックスとなる「舟山グリーン石化基地」(写真)の建設が着々と進んでいる。稼働済みの第1期に続き、第2期も、年内にはリファイナリーなど基礎化学品設備を完工し、

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Russia (33)

Region / Country	Ownership, Partnership Manufacturer or Project entity	Location, Site	Category: C2, C3 / Polymer	Process, Capacity Technology, Engineering Catalyst, Products	Start-up, Closure, Expansion	Line (s)	Capacity (Year/End, KT/Y)					2021--Expansion, Construction, Plan Completion, News
							2016	2017	2018	2019	見込み 2020	

<ウラル山脈より東の中央シベリア地区=西部シベリア Western Siberia>

(Tobolskにおける Sibur の既存事業)

TOBOLSK NEFTEKHIM Tobolsk Polymer LLC, 2006/4 set-up	Sibur control 上記の TOBOLSK NEFTEKHIMの部門	Orenburg, Tobolsk, Tyumen state	C3	PDH Unit, 510KT; Linde eng'ged, UOP's C3 Oleflex process technology. 2011/12 mecha-com.	2013/10 started		510	510	510	510	510	2014/4Q full capa. にアップした。
				PP Innovene-P; 世界最大ライン 500KT, Technimont eng'g, Euro450MM	2014/8 started	1	500	500	500	500	500	
					上記の130KT増 強 2013/4/		0	0	0	0	0	
Tobolsk Polymer LLC, 2006/4 set-up	Sibur control	Orenburg, Tobolsk, Tyumen state	新設	PP Cap.: 500KTA, Basell tech	completed partly	1			0	500	+	多分, 2019中にス タート
			新設	HDPE Cap: 1,100KTA (4 lines?)	2019/10 partly started	1			0	300	300	
				LDPE Cap: 400KTA (4 lines?)	未完						0	

TOBOLSK NEFTEKHIM 関係ニュース;

2015 生産量実績; Tobolsk-Polymer (SIBUR), Russia's largest PP producer; Tobolsk PP plant's overall production reached 343,400 tonnes over the first eleven months of the year 2015.

(Tobolskにおける SIBUR の新プロジェクト:)			Feed NGL: A raw NGL pipeline has been built between the Purovsky Gas Condensate Processing Plant and Tobolsk-Neftekhim Pj aims to develop its deep processing operations and is focused on significant volumes of oil and gas exploration by-products in West Siberia, and import substitution of those polymers. 副生物の活用									
	SIBUR's flagship company											
ZapSibNeftekhim (project name); World-scale petrochemicals complex at Tobolsk	Sibur-Neftekhim, Siber LLC 100% control, fully-owned subsidiary, financing MoU. \$9.5bn project(*)	Orenburg, Tobolsk, Tyumen state, 上記の既設プラ ントに隣接する	C2	Stean cracker, Cap. 1,500KTA Process trech: Basetech: Pyrolysis units エチレン設備を独リンデに発注; Awarded a licensing and front-end engineering design (FEED) contract to Linde. Eng'g of infrastructure and off-site facilities: Russia's leading engineering centre, NIPgaz. 工事: 2015/2 groundbreaking ceremonyやった(ただ、その後様子見).	2019/Q2 Mechanical completion?						0	スケジュールは従来 より1年以上遅らせ て、2019メカコン、 2020年スタートに見 込み変更
			C3	Cap.: 500KTA Process tech:							0	
			C4	Butane-butylene fraction: cap. 100KTA; UOP tech							0	
ZapSibNeftekhim 1st Phase:		Tobolsk		PE 以下↓ Total cap.: 1,500KTA, 種々PEを含む INEOS technology, 3 lines, Eng'g: Process tsch: 2012/7: Sibur's first polypropylene plant using INEOS Peechnology licensed	2019/8/2Q メカコ ン見込み							Late 2019 Mechanical completion, 2019~ 2020-- start-up expectd
			新設	HDPE 700 KTA	2020 satrt	2				0	700	
			新設	LL/HDPE 800 KTA	2020 satrt	2				0	800	
		Tobolsk	新設	PP Cap.: 500KTA, Tech: Basell tech	2019 started	1		0	0	500	500	

(*) コスト推定前提; The estimated cost includes expenditure incurred and costs budgeted for commissioning, production site infrastructure development and other activities. This will be adjusted according to exchange rate and oil price changes.

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North America (46)

Region / Country	Ownership, Partnership Manufacturer, JV structure, Project owner, Finance	Location, Site	Category:		Process, Capacity Technology, Engineering Catalyst, Products	Start-up, Closure, Expansion	Line (s)	Capacity (Year/End, KT/Y)					2021---Expansion, Construction, Plan Completion, N	
			C2, C3 /	Polymer				2016	2017	2018	2019	見込み 2020		
Shell Chemicals Ltd.	既存クラッカー:	Deer Park, TX	C2	1,426KTA, とその後の増減; OP2, OP3 lines - 減の合		2016/5 64 増		834	834	834	834	834		
		Norco, LA	C2	OP-2: 900KTA		既存		900	900	900	900	900		
		Norco, LA	C2	OP-3: 656KTA		既存		656	656	656	656	656		
			C2	上記の共通事由; 2010原料転換で減		2010より -785KT		-785	-785	-785	-785	-785		
エタンクラッカー新設 計画	Signed a land option agreement with Horsehead Corp. (Pittsburgh) 複数のRefinery あり.	Monaca, Pittsburgh, Beaver County, PA (ア パラチア地区), Marcellus and Utica shale regionsからガス を引く. ennsylvania 複数のRefinery	C2 新設	Feed: Ethane feed, Capacity: 1,500KTA Tech: Licensing by Linde, Bechtel (FEED). Linde (process technology) FEED & Eng'g: Linde 誘導品も検討中 (PE as sbelow), 認可取得済.		2017/11建設開始 (メイン部) 建設中						0 0	2021年下期の稼働 見込み	
			C2	2nd stage; expansion				-	-	-	-	-		
			C2		エチレン小計			1,605	1,605	1,605	1,605	1,605		
			C3	from Deer Park Cracker				698	698	698	698	698		
			C3	多くは from Refinery										
Shell Chemicals Ltd.				2009/9:原料転換 △830KTAの大幅減		既存		-880	-890	-900	-910	-920		
Shell Chemicals Ltd.		Monaca, PA (Pennsylvania) ; for its planned PC complex on shale gas	新設	HD/LLD	Cap.: 550KTA, Tech: Gas-phase	建設中						0	2021年下期の稼働 見込み	
			新設	HDPE	Cap.: 500KTA, Tech: Slurry unit	建設中						0		
			新設	LLD	Cap.: 550KTA, Tech: Gas-phase, Specialties	建設中						0		
Shell Chemicals Ltd.		Geismar, Louisiana		αオレフィ ン	Cap: 425KTA, 大きい能力									
Shel TTL						PE ttl		0	0	0	0	0		

Shell Chemicals 関係ニュース;

2020/7: Shell continues expansion of Pennsylvania project workforce

Shell paused adding workers in late June to install an onsite COVID-19 testing lab.

2020/6: Shell controls Covid-19 after restarting Pennsylvania construction but other risks loom

Shell interrupted on March 18 the construction of this complex where it has a 100% interest and begun a restart in stages on May 4. Once built, it will crack ethane from Northeast shale basins into ethylene to polymerize into 1.6 million tonnes of polyethylene annually.

View of the Ohio River and Pittsburgh, about a half-an-hour drive up the river from the Shell polyethylene complex under construction. Photo courtesy of Christopher Klein/Pixabay
As of early June 2020 Shell has controlled with safety protocols the incremental construction restart of its new planned ethylene and polyethylene complex in Pennsylvania yet

other risks brewing before Covid-19 may eventually prove harder to mitigate.

Covid-free partial construction restart as of early June

"On March 18, we made the decision to temporarily suspend activities," Curtis Smith, from Shell U.S. Media, said in an email on June 2.

"That same day we made clear there was no timeline for a restart and that resumption of work would happen in a phased manner," he added.

A scaled-down crew remained on site to care for equipment and put in place mitigation measures to protect workers from COVID-19, Smith said.

The interruption was in line with instructions by Pennsylvania authorities to stop all non-essential activities. Protocols follow U.S. Center for Disease Control guidelines.

2020/3: シェルはペンシルベニア州モナカにおける石化コンプレックスの建設を一時中断した。8000人以上が建設作業に従事しているという。感染防止策をより徹底し、施策を講じた段階で建設を再開するとしている。同社は「作業員と近隣住民の健康が最優先事項」として一時中断を判断したとしている。

同コンプレックスでは、マーセラスやユティカなど近隣のシェール層から調達する廉価なエタンを原料に、年150万トンのエチレンと同160万トンのポリエチレンを生産することになっている。を見込んでいます。