Equity Research

December 1, 2021

BSE Sensex: 57685

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Initiating coverage

Specialty Chemicals

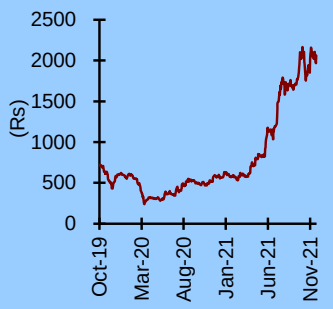
Target price Rs3,086

Shareholding pattern

	Mar '21	Jun '21	Sep '21
Promoters	68.4	68.4	67.6
Institutional investors	8.0	7.1	7.5
MFs and other	4.9	4.9	4.1
Insurance/FIs	0.8	0.0	0.0
FIIs	2.3	2.2	3.4
Others	23.6	24.5	24.9

Source: BSE

Price chart



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INDIA

Gujarat Fluorochemicals

BUY

Fluoropolymer is core; battery chemicals is option value

Rs2,060

We initiate coverage on Gujarat Fluorochemicals (GFL) with a BUY rating and target price of Rs3,086 (upside 50% from CMP). GFL is in a sweet spot with its presence in fluoropolymers, demand for which is increasing driven by the new-age verticals of battery, solar panel and green hydrogen. GFL is in the process of expanding its capacity in fluoropolymers, which provides visibility on growth during our forecast period (FY21-FY24E). GFL is also expanding into other fluorine derivatives used in the new-age verticals, which expands the company's addressable market and provides a vista of sustained growth. GFL has laid out a bold capex plan of Rs25bn over the next three years. It is likely to see its earnings grow at 45.9% CAGR over FY21-FY24E (on low base though), and RoCE (post-tax) improve from 6.7% to 18% over the same period. Despite the strong earnings outlook, GFL is trading at a reasonable P/E multiple of 20x FY24 *vs* 42.1x for Navin Fluorine and 27.5x for SRF.

- **Fluoropolymers pose high entry barrier; GFL in a sweet spot.** Generally, we like the fluorine play due to high entry barriers: **1)** higher expertise required to manage the highly reactive chemistry of fluorine; **2)** fluorine sink possible only through anhydrous hydrofluoric acid (AHF) or potassium fluoride (KF), which are difficult to load, store and transport, thus making backward integration preferable; **3)** fluoropolymers use R-22 (for TFE monomer), which is a restricted product, and supplies of R-142B (for VDF monomer) are limited; **4)** long gestation period in the fluoropolymer business (product development to customer approval takes several years). Demand for fluoropolymers such as PTFE, PVDF, FKM and FEP has increased due to their higher performance and increased use in new-age verticals such as battery, solar panel, green hydrogen, 5G, etc. GFL is the sole manufacturer of fluoropolymers in India and is among the very few players outside of China to have a large fluoropolymer portfolio. It is in a sweet spot in specialty fluoropolymers where the Chinese have limited global presence, and western and Japanese players are not adding meaningful capacity. GFL has not only built global scale production capacity, but has also established technical sales team (to drive application expertise) and supply chain (with local warehouses in the US and Europe).
- **Fluoropolymer revenues to grow at 32.9% CAGR over FY21-FY24E (58% of GFL revenues).** GFL achieved full capacity utilisation in PTFE in Q2FY22, and is planning to expand capacity by 25% in FY23 with a planned capex of Rs2.5bn. It already has enough capacity for R-22 and TFE; hence we expect higher asset turnover of 1.5-1.6x. New fluoropolymers segment has achieved only 65% capacity utilisation, and GFL expects it to hit full utilisation soon. Company is in the process of adding 57% capacity in new fluoropolymers including critical PVDF, FKM and micropowders. It is also introducing I-SAN, which finds application in flame retardants. This gives visibility on fluoropolymers' revenue growth, while higher contribution from this portfolio should also aid margin expansion. GFL is also backward-integrating into R-142B, which should help scale PVDF in future.

Market Cap	Rs226bn/US$3bn
Bloomberg	FLUOROCH IN
Shares Outstanding (mn)	109.9
52-week Range (Rs)	2167/530
Free Float (%)	32.4
FII (%)	3.4
Daily Volume (US$'000)	4,773
Absolute Return 3m (%)	21.2
Absolute Return 12m (%)	248.8
Sensex Return 3m (%)	0.8
Sensex Return 12m (%)	30.5

Year to Mar	FY21	FY22E	FY23E	FY24E
Revenue (Rs bn)	26.2	38.4	42.6	47.3
EBITDA(Rs bn)	6.7	12.1	15.9	18.3
Net Income (Rs bn)	3.6	7.4	9.5	11.3
EPS (Rs)	33.1	67.4	86.8	102.9
P/E (x)	62.1	30.6	23.7	20.0
CEPS (Rs)	51.5	88.2	114.6	134.3
EV/E (x)	35.4	19.6	14.5	12.5
Dividend Yield	-	0.6	1.7	2.7
RoCE (%)	6.7	13.5	16.2	17.9
RoE (%)	10.1	19.2	20.8	21.1

- **Battery chemicals and other new-age verticals offer huge option value.** The Chemours Company (spin-off of DuPont, 'godfather' of fluoropolymers) has increased its revenue growth guidance for fluoropolymers to higher than global GDP growth rate with the likelihood of accelerating it over the next few years. It has also raised its margin guidance to early twenties (earlier: mid-teens) for 2022. This is on back of rising demand from new-age verticals. We believe the same trend should also benefit GFL, which has a large basket of fluoropolymers. Further, GFL is planning to enter into battery chemicals [e.g. electrolyte salts (lithium hexafluorophosphate, LiPF6), electrolyte solutions, additives], and is planning a plant to manufacture PVDF sheets which are used in solar panels. This would increase the company's addressable market in new-age verticals. Besides, GFL is working on photon exchange membranes (PEMs) for production of green hydrogen. New-age verticals carry an option value – and successful execution can create huge value for stakeholders, in our view.
- **Bold capex plans provide strong earnings visibility.** GFL has unveiled large capex plans envisaging investment of Rs25bn over FY22E-FY24E. This is on the existing gross block of Rs32bn. Incremental capex will be used entirely in fluoropolymers, fluorospecialties and new-age verticals including backward integration of a few crucial products. Of this, Rs10bn will go in fluoropolymers where the company has already established its market leadership. New-age verticals will see investment of Rs8bn. It also plans to incur Rs2.5bn capex on fluorospecialties. The remaining capex will be used to build infrastructure including buying fresh land for future growth, captive wind power etc. We have reasonable confidence on revenue generation from fluoropolymers and fluorospecialties in the near term, but we would wait to see ramp-up in new-age verticals.
- **Risk of related-party transactions to recede.** GFL has >Rs20bn exposure to group company INOX Wind in terms of advances totalling Rs9bn and bank guarantees for Rs12bn. Company expects to execute wind power project of 20-25MW in FY22 with the remaining ~100MW power plant build-up depends on government policy / regulations. We expect clarity on usage of the advances to INOX Wind by Jun'22. If the power project plans don't materialise, GFL would expect unspent money to be refunded. Further, it has guided for related-party bank guarantees to be revoked by end-FY23.
- **Earnings trajectory remains strong; valuations reasonable.** GFL's revenues are expected to grow at 21.6% CAGR over FY21-FY24E driven by higher growth in fluoropolymers (32.9%) and fluorospecialties (23.8%). Its EBITDA is estimated to grow at a healthy CAGR of 39.5% to Rs18.3bn in the same period, and net profit at 45.9% CAGR to Rs11.3bn. Company is working on reducing working capital to 100 days from 164 in FY21, which, along with utilisation of advances, should help significantly boost FCF. We expect GFL to have very little net debt at end of the forecast period, and RoCE (post-tax) to expand to 18% in FY24E from 6.7% in FY21. Despite the strong earnings outlook, the stock is trading at a reasonable P/E multiple of 20x FY24 *vs* 42.1x for Navin Fluorine and 27.5x for SRF.

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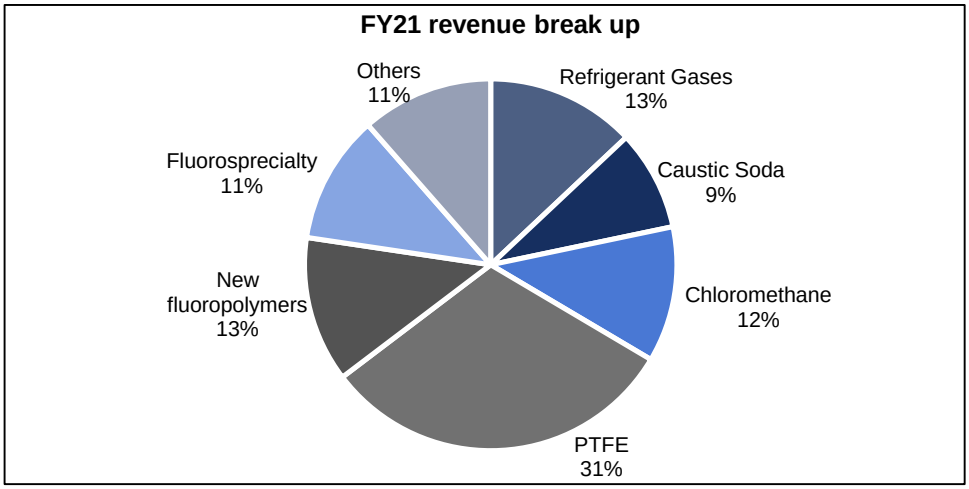
About Gujarat Fluorochemicals

Incorporated in 1989, Gujarat Fluorochemicals (GFL) started operations as India's largest refrigerant manufacturing company, based in Ranjitnagar, Gujarat. It expanded its operations into various chemicals including caustic soda and chloromethane, which come as byproducts from backward integration of chlorine (for chloromethane plant) and chloroform (for R-22), which are key feedstocks apart from AHF (anhydrous hydrofluoric acid). Apart from R-22, the largest component of ref-gas for GFL, it has entered into other ref-gases, such as R-125 and R-410a, which are replacing R-22 in residential ACs. In 2007, the company entered into fluoropolymers (PTFE), and over the past few years it has expanded its product portfolio into polymers in addition to elastomers and additives. In FY20, GFL had ~11% of global PTFE capacity, which makes it one of the large manufacturers of PTFE globally. It has entered into fluorospecialty segment to manufacture intermediate products for pharmaceuticals and agrochemicals. GFL has 74% equity stake in GFL GM Fluorspar SA along with JV partner Global Mines Sarl, Morocco, for captive fluorspar mine since 2011. It is also eyeing to enter the energy market with battery chemicals including electrolyte salt (LiPF6), electrolyte formulation, fluoropolymers, solar modules with PVDF backsheets and various fluoropolymers in green hydrogen (electrolyser).

Chart 1: Revenue by product



Source: Company data, I-Sec research

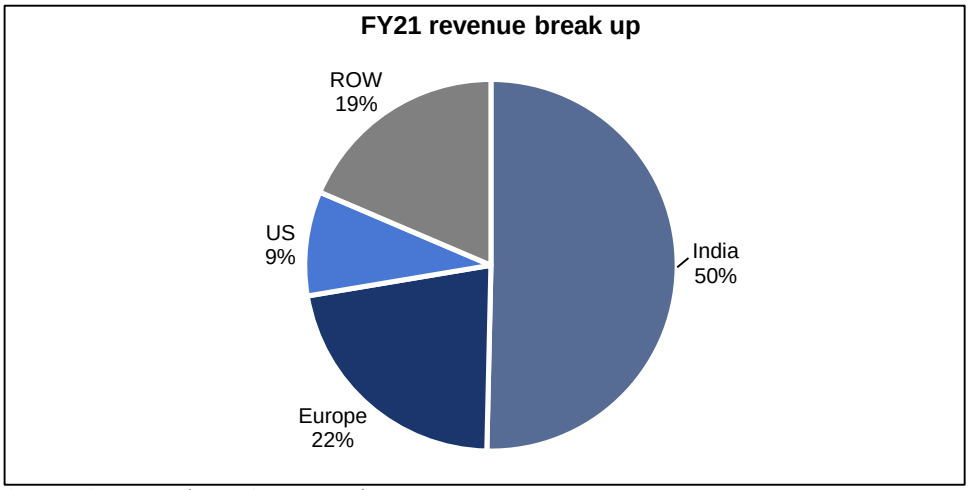
Table 1: Details about products

Categories	Product	Applications	Peers
Fluoropolymers	PTFE	O&G, Automotive, Aero, Electricals, Electronics & Semi-conductors, Cookware and others	Key players are Dongyue Group, Chemours, Daikin, Solvay, etc.
	FKM	Automotive, Chemicals, Refineries, Semiconductors, Aviation etc	Chemours, 3M, Solvay, Daikin
	PFA	Semi-conductors, Aerospace, Chemical, Corrosion resistant Fluid Transfer, Wire & Cables and Telecom	Chemours, 3M, Daikin
	FEP	Wire & Cable, Defence, Aerospace, Telecom, and Chemical Processing	Chemours, 3M, Daikin, Donguye
	PVDF	Chemical, Electronics, EV Batteries, Solar Panels, Water Treatment Membranes and Oil & Gas	Donguye, Arkema, Kureha, Solvay
	PPA	Improve Surface Finish and Gloss for LLDPE, HDPE and PP Films; and Partitioning Agent	Chemours, 3M
	Mircro powders	Printing Inks, Engineering plastics, Coatings, Industrial Finishes, Paints, Elastomers and Oil & Gas	3M, Solvay, Shamrock
Ref-gas	R-22	Residential AC; feedstock for fluoropolymers	India: SRF, Navin Fluorine
	R-125	Residential AC	India: SRF
	R-410a	Residential AC	India: SRF
Chemicals	Caustic soda	Textiles, aluminium, paper & pulp, detergents etc	India: DCM Shriram, GACL, Meghmani, Chemplast, DCW
	MDC	Pharma (solvent)	India: Chemplast, GACL, SRF, TGVSRAACL, Meghmani
	Chloroform	Pharma (solvent), feedstock for R-22 etc	
	CTC	Agro intermediate	

Source: Company data, I-Sec research

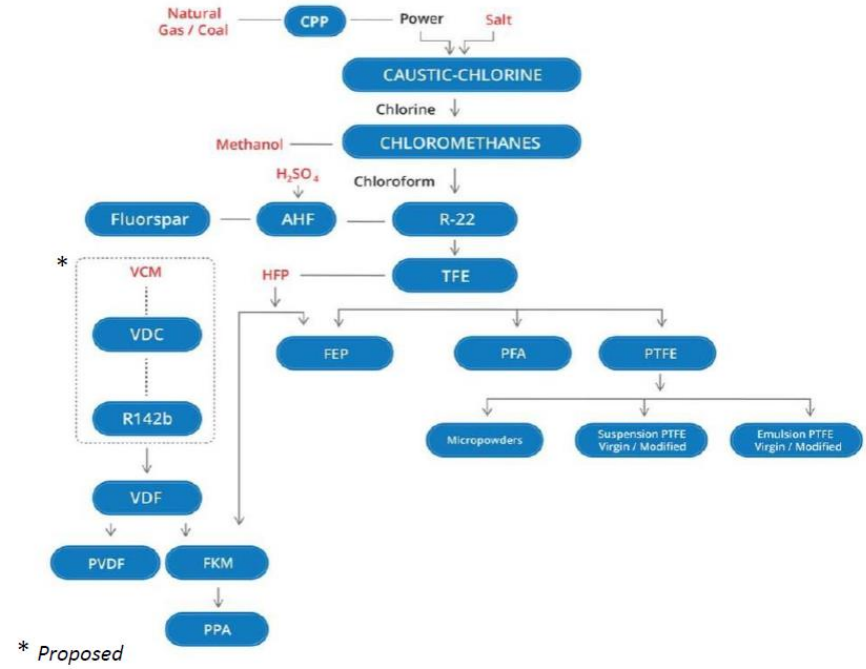
Company drive 50% of its revenues from the export market; it has significant presence in the US and Europe markets. It has five warehouses of which four are in the US and one in Germany. It has three manufacturing locations – Ranjitnagar (commenced in 1989), Dahej (2011) and Jolba (in process of commercialisation), all in Gujarat. The Ranjitnagar plant manufactures ref-gas and fluorospecialty products while the Dahej plant produces chloralkali, chloromethane, PTFE and new fluoropolymers. GFL's strength lies in its completely backward-integrated manufacturing process.

Chart 2: Revenues by geography



Source: Company data, I-Sec research

Chart 3: Product and manufacturing flow chart; GFL is a highly backward-integrated company



Source: Company data, I-Sec research

About Gujarat Fluorochemicals restructuring

INOX Group, parent of Gujarat Fluorochemicals (GFL), is a conglomerate engaged in the business of industrial gases, fluorochemicals, multiplexes, renewable energy and cryogenic engineering. Erstwhile Gujarat Fluorochemicals Ltd (Old-GFL) was engaged in the chemicals business and had 51% stake in INOX Leisure (multiplex business), 57% stake in INOX Wind (wind energy solutions) and 100% stake in INOX Renewables (sale of electricity). Old-GFL demerged its chemical business into a new company – Gujarat Fluorochemicals (GFL) with mirror-image shareholding w.e.f. Apr'19. The restructuring was carried out on the premise of business division among Mr. Pavan Jain and Mr. Vivek Jain, which has been completed. Mr. Vivek Jain will continue to own majority stake in GFL (67.65% was promoters' holding during Sep'21 of which Mr. Vivek Jain and family held 66.5%) while a small stake is held by Mr Pavan Jain.

The restructuring derisks GFL from vagaries of the other business, particularly INOX Wind which went through challenging times. However, GFL has certain related-party entries, which it is in the process of cleaning up to create a chemicals business without much transaction with group entities.

As of FY21, GFL has given advances and guarantees of Rs8.8bn and Rs12bn cumulatively to INOX Wind and INOX Infrastructure Services. Net amounts receivable from these entities is Rs1.5bn. The total exposure was >Rs20bn in FY21. Company has given advances for purchase of assets of Rs8.8bn for implementing 125MW of wind power capacity. GFL expects to execute 20-25MW of wind power projects by end-FY22 and the decision of remaining power capacity addition will be based on

Gujarat state government policies. In worst case, if company fails to expand its wind power capacity by Jun'22, then INOX Wind will repay the pending advances.

GFL also expects all the guarantees given on behalf of INOX Wind and INOX Infrastructure Services to be revoked by end-FY23.

Table 2: Key related-party transactions

Rs mn	FY20	FY21
Purchase of assets		
Inox Wind	206	
Advances for purchase of assets		
Inox Wind	7,044	7,103
Inox Wind Infrastructure Services	1,675	1,675
Guarantees		
Inox Wind	4,179	6,630
Inox Wind Infrastructure Services	150	5,569
Net amounts receivables		
Inox Wind	99	1,201
Inox Wind Infrastructure Services	111	312

Source: Company data, I-Sec research

Fluoropolymers: Strengthening position and gaining globally competitive scale

What are fluoropolymers, and why are they special?

Fluoropolymers are plastic resins that are formed from fluorine-carbon bond. These bonds are stronger than hydrogen-carbon bond and more stable. Fluoropolymer has many variants produced by adding or subtracting fluorine through other bonds such as chlorine, ethylene and other chemicals. In 1938, a scientist at DuPont accidently discovered polytetrafluoroethylene (PTFE), which was branded as Teflon, and this was the first fluoropolymer. Fluoropolymers are strong, lightweight and durable, and can resist heat, water and chemicals even under harsh conditions.

PTFE is a fluoropolymer that does not melt; it is processed through press and sinter techniques while the other fluoropolymers (FEP, PVDF, PFA, etc.) are melt-processable which means they can be compressed and injection moulded.

The properties that make fluoropolymers popular are: **1)** they are chemically inert; **2)** can withstand broad range of temperatures from cryogenic (-200ºC) to >300ºC; **3)** have low friction or adhesiveness – thus are used in non-stick cookware; **4)** have excellent dielectric properties; **5)** have good thermal insulation and other useful properties. However, the disadvantages of fluoropolymers are that they are expensive materials, have limited process-ability, high expansion rate, etc.

Gujarat Fluorochemicals (GFL) started fluoropolymer business in 2007 with PTFE, and in past 14 years it has expanded its portfolio into value-added products in PTFE, and manufacturers many other variants of fluoropolymers including FKM, PFA, PVDF, additives and others.

Chart 4: GFL has expanded into many fluoropolymers in past 14 years

Source: Company data

Commodity grade PTFE are dominated by Chinese manufacturers while Western companies (as well as a few Japanese) dominate the value-added and high performance fluoropolymer market.

GFL is seeing a sweet spot in the global value-added fluoropolymers space given the limited capacity-addition by Western companies due to rising environmental regulations. These restrictions are impacting their return ratios, margins and operating costs amid limited raw material availability. R-22, a key raw material, is a restricted product due to its ozone depleting potential. Chinese manufacturers majorly focus on supplying to their local market with only 30% of their production exported (predominantly commodity grade).

GFL has over time tried to differentiate itself from Chinese manufacturers, or being a supplier of commodity-grade to a more Western style supplier. This is something we have found among many Indian specialty chemical makers, which makes the Indian chemical sector much more profitable compared to its Chinese counterpart. GFL has continuously improved its product quality and consistency. It has started working on more customised supplies, which increase customer stickiness. It focuses on producing many variants suitable for each industry requirement, and has expanded its warehouse footprint to facilitate smaller supplies / reduce lead time. This is aimed to establish itself as a reliable supplier geographically close to the customers. GFL has engaged business development and technical professionals who helped it hasten the process of market access, product acceptance and provide customer support.

Polytetrafluoroethylene (PTFE): >50% of products are value-added

PTFE is an opaque plastic fluoropolymer made by free-radical polymerisation of tetrafluoroethene (TFE) monomers. Globally, the PTFE market is estimated at 180-200ktpa and, at US$10/kg, the market size is US$1.8bn-2bn. Per Mordor Intelligence, PTFE volumes are expected to grow at a CAGR of 5% over 2021-26. Further, demand for PTFE in India domestic market is growing at 12-15% per annum, and GFL is the country's sole producer of the product category.

PTFE is sold in various forms including granular, fine powder, dispersion, and micronised. Granular PTFE is prepared by finely breaking down coarse particles obtained by suspension polymerisation. It is used for moulding using compression moulding or ram extrusion moulding. PTFE granular resins offer chemical inertness, high temperature resistance, outstanding chemical resistance, low coefficient of friction, exceptional adhesion, low-temperature toughness, electrical properties, and excellent water repellant properties.

PTFE is used in various industries including chemical & industrial processing, automotive & aerospace, electronics & electrical, building & construction, and consumer goods.

- PTFE is used in making various parts of an engine to improve performance and durability of automotive parts and components. Its use in automobiles results in lower emissions and increases fuel efficiency.
- In aerospace applications, PTFE is an essential material; it is a fire-retardant and emits low smoke and toxic gases. The various applications in aerospace require PTFE that can withstand aggressive application conditions under a broad range of temperatures.
- PTFE is extensively used in cookware industry for its non-stick properties.

- It is the material of choice for gaskets, vessel linings, pump interiors, washers, rings, seals, spacers, dip tubes, and well-drilling components. PTFE is unaffected by virtually all acids and caustics, and it functions in extreme environments. It is also used as coatings for heat exchangers, pumps, diaphragms, impellers, tanks, reaction vessels, autoclaves, shipping containers, etc.

PTFE prices have been increasing continuously due to shutting down of various Chinese and European manufacturing units. China accounted for more than 40% of the global consumption of PTFE in 2016 and is also the world's largest PTFE manufacturer. The arrival of a large number of relatively low-cost Chinese products in the global market has increased price pressures on PTFE manufacturers in other countries until 2016.

As per a study by *Markets and Markets*, prices of PTFE have increased by 40% between 2016 and 2017. For instance, in Europe, granular PTFE, which was priced at an average of US$6/kg in 2016, has increased to more than US$8/kg. China has largely influenced the price competition in PTFE market. The other factors that have affected PTFE prices are: prices of its raw materials including fluorspar, the demand and supply gap, and the changing regulatory environment affecting the PTFE market.

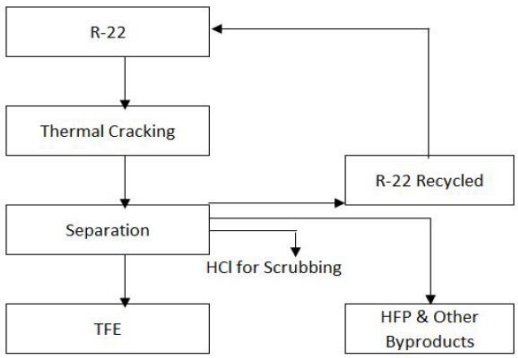
GFL has 18-19ktpa PTFE capacity (10-11% of global demand) and is among the large manufacturers of the product. Competitors include: Chemours (US), Daikin (Japan), 3M (US), Solvay (Belgium), Shandong Dongyue Group (China), Arkema (France), AGC (Japan), and others. GFL claims it is among the top-4 manufacturers globally. Dongyue Group, China has 45ktpa capacity and plans to expand it by another 20ktpa. SRF, the largest ref-gas manufacturer in India, is also in process of adding 5ktpa capacity in PTFE.

PTFE manufacturing process

Stage 1 – making TFE from R-22

TFE is produced by cracking of R22 at high temperatures in the cracking furnace. During the cracking, TFE is produced along with other gases, which is then fed to the separation units. In the first separation column, R-22 (recycled) and heavier components get separated. In the second column, TFE is further separated from lighter gases. TFE is further distilled to produce pure TFE.

Chart 5: Process to manufacture monomer – TFE

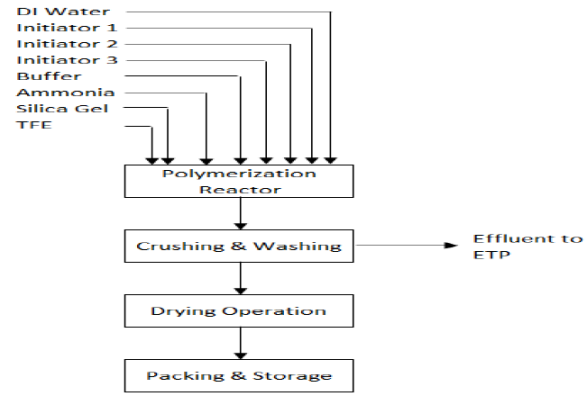


Source: Company data

Stage 2 – making PTFE from TFE (suspension)

PTFE is produced by polymerisation of TFE (in gaseous form) in the presence of water, initiators and activators. TFE monomer is sent to a polymerisation reactor with deionised water after heating, vaporisation and compression. The PTFE polymer with mother liquor from the reactor is sent to crushing, washing by fresh deionized water and drying. PTFE resin is sent to a cold air blowing system (which also dries it) and finally it is separated according to its size in a cyclone separator.

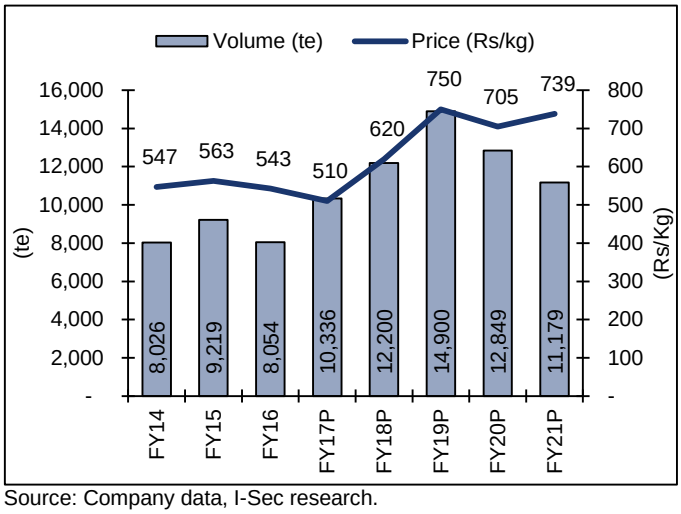
Chart 6: Process of manufacturing monomer - TFE



Source: Company data

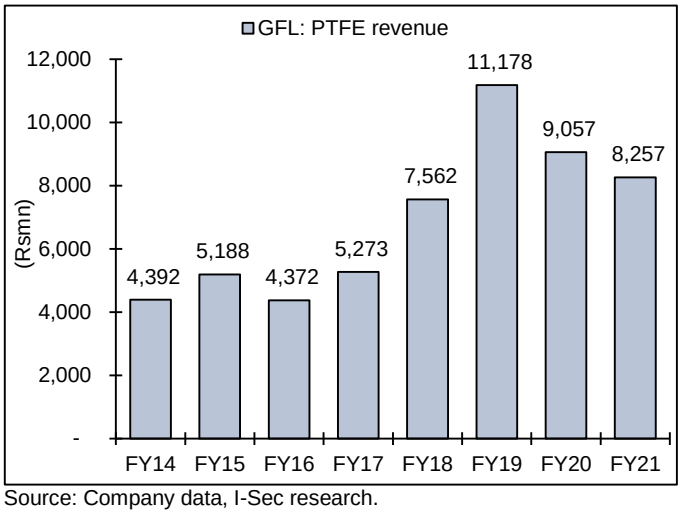
GFL volumes have seen consistent growth from FY16 to FY19 on the back on lower competition from China, and the company's efforts to drive higher volumes from value-added products. GFL had 48-50% of its revenues coming from valued-added products within the PTFE category over FY16-FY19. The regular-grade PTFE was impacted in FY20, but value-added revenues were stable taking its share for GFL to >60%. We see the ratio marginally coming down in coming years with normalisation of sales in regular-grade PTFE.

Chart 7: GFL benefited in FY18 and FY19 from significant turnaround in pricing after years of competition from China. It also has the benefit of improved mix within the PTFE category



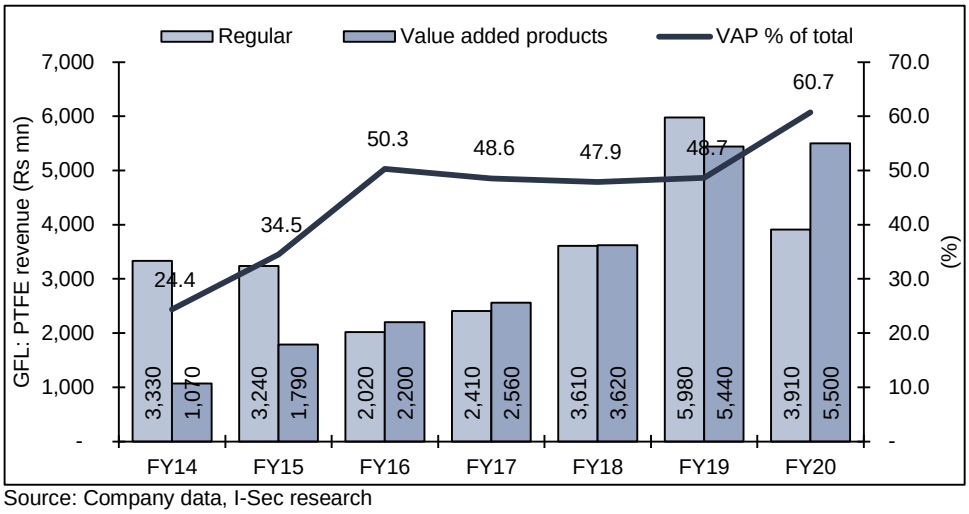
Source: Company data, I-Sec research.

Chart 8: FY20 and FY21 have been challenging years due to covid and limited demand for PTFE



Source: Company data, I-Sec research.

Chart 9: Within the PTFE value-added category, sales were steady even in the challenging year of FY20

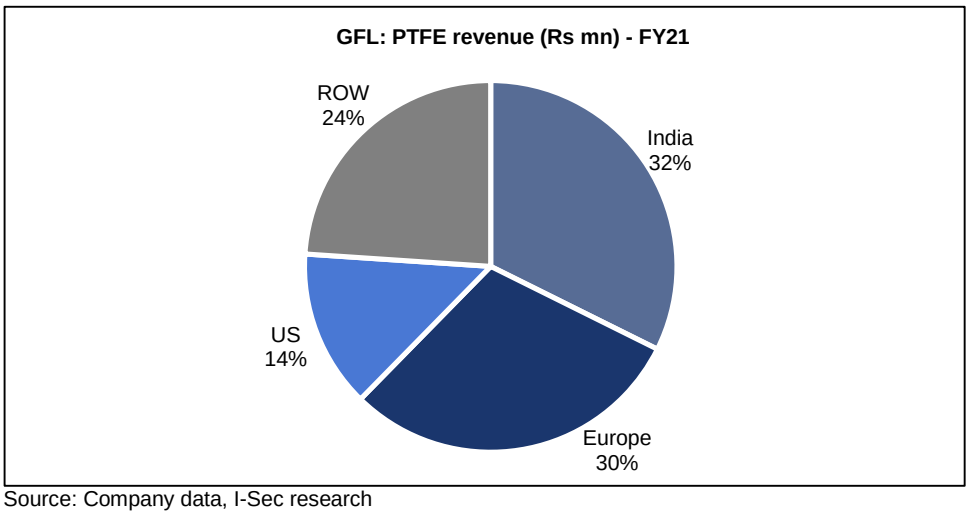


Source: Company data, I-Sec research

GFL earns 68% of its PTFE revenues through exports and India accounts for just 32% of it. Europe is the next-largest geography contributing 30% to revenues while the US accounts for 14%. We see huge scope for increase in contribution from the US market with rise in demand from new mega-semiconductor factories coming up in that country over the next few years. Company also has huge focus in the Americas region with four warehouses in the US.

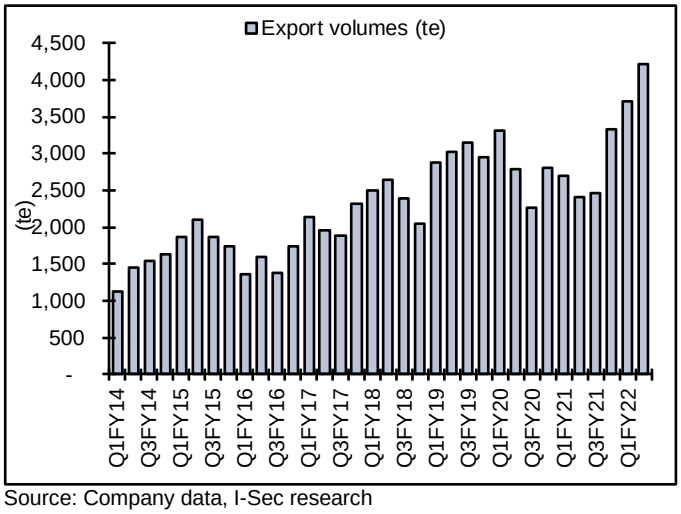
India export data for PTFE mostly pertains to GFL as it is the largest and only manufacturer of it in the country. Export trend in Q2FY22 is encouraging with volume recovery and slight hardening of prices.

Chart 10: Exports contributed 68% of PTFE revenues for GFL in FY21



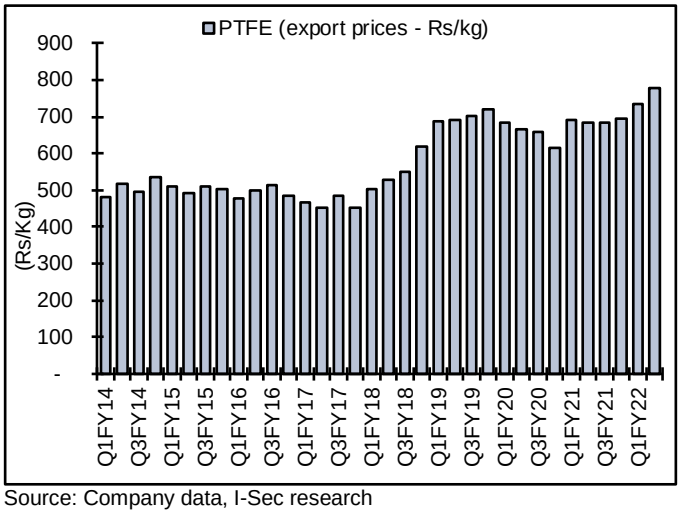
Source: Company data, I-Sec research

Chart 11: India PTFE export volumes (significantly supplied by GFL) reached previous peak, which should help gain sales momentum



Source: Company data, I-Sec research

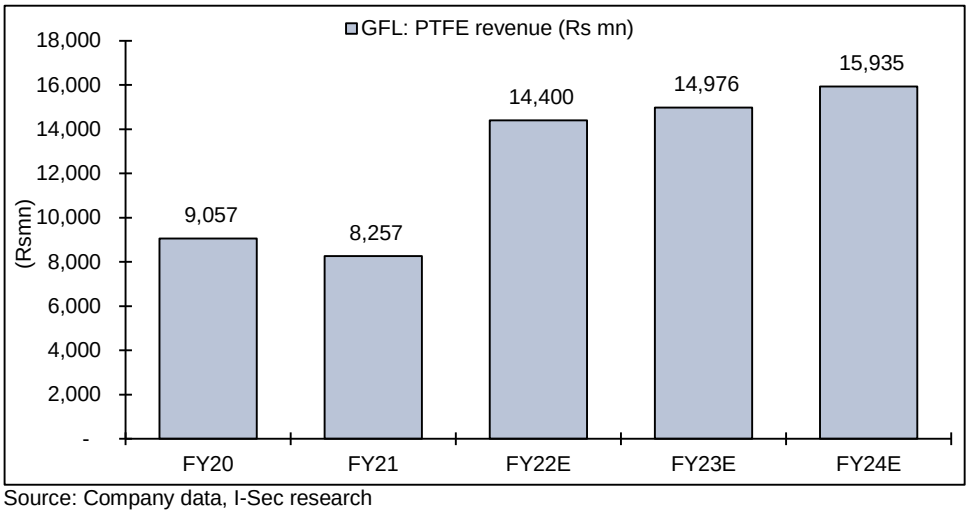
Chart 12: Prices have come down slightly from previous peak, but it should improve with improving mix from new fluoropolymers



Source: Company data, I-Sec research

- GFL has achieved 100% capacity utilisation in Q2FY22. Though the company expects price hike in coming quarters due to hardening prices of ref-gas, we remain conservative on price increase in our estimates.
- Company plans to expand capacity by 25% in Q3FY23. This should ease pressure on volume growth which is constrained by capacity. Demand for PTFE continues to be strong, which gives visibility on utilisation of new plant. Company has enough R-22 / TFE capacity to support the imminent expansion in PTFE capacity.
- GFL does not wish to backward-integrate further for chloroform as it expects the new chloromethane capacity addition to provide enough supplies of the product in India. It buys 50% of its chloroform requirement from the market.
- Value-added products contribute 55% to revenues and the company does not see much scope for further improvement in mix due to the configuration of plants.
- Our estimate suggests PTFE revenue growth at 24% CAGR to Rs16bn over FY21-FY24; however, from FY22E-FY24E, revenue growth remains muted at just 5.2% due to capacity constraints and assumption of lower realisation.

Chart 13: PTFE revenue growth will be restricted due to capacity bottlenecks; new capacity addition only in mid-FY23E



Source: Company data, I-Sec research

New fluoropolymers: Fast-growing opportunity with higher margin profile

Gujarat Fluorochemicals (GFL) has established itself as a reliable PTFE supplier globally and has created large capacities. Company has in the past six years been working on new fluoropolymers which puts it in an advantageous position with a large portfolio of the product category. It launched fluoroelastomer (FKM) in 2015 and subsequently has added PFA (2016), FEP (2018), additives (2018) and PVDF (2020). It has 8.4ktpa capacity for new fluoropolymers, which provides visibility on future growth. Further, GFL is working on adding more variants in fluoropolymers in the coming years. New fluoropolymers global market size is 135ktpa and is growing at 5-6% per annum.

1. Fluoroelastomer (FKM)

FKMs are fluoro-rubber containing vinylidene fluoride (VDF) as a monomer. There are various types of FKM available, including copolymers and terpolymers with addition of hexafluoropropylene, tetrafluoroethylene, perfluoromethylvinylether and propylene. High ratio of fluorine to hydrogen, exceptional oil resistance, and outstanding heat stability due to the absence of saturation make fluoroelastomers a superior rubber additive.

Fluoroelastomers have their largest application in automobile and aerospace industries for their increasing use in O-rings, gaskets, seals, and hoses. They are used in fuel system applications where they provide chemical resistance against various fuels and act as a barrier against evaporative emissions. Pharmaceutical and food processing industries also use fluoroelastomers for protection from high temperatures and preventing corrosion.

Global demand for fluoroelastomers is estimated at 25ktpa, which is growing at 5% per annum. Key competition comes from Chemours, 3M, Solvay and Daikin. We understand GFL has ~2.4ktpa capacity in FKM and plans to double it by FY23.

Chart 14: FKM products – Gasket, O-Ring and seal

Source: Company data

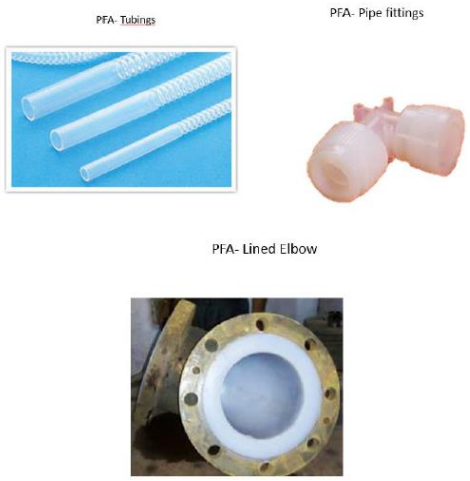
2. Perflouroalkoxy alkane (PFA)

PFAs are copolymers of tetrafluoroethylene and perfluoroethers. The properties of PFA are similar to PTFE. However, PFAs have better anti-stick properties and higher chemical resistance, but less scratch resistance. Unlike PTFE, the alkoxy substituents allow the polymer to be melt-processed. PFAs are more translucent and have improved flow and creep resistance, with thermal stability close to or exceeding PTFE. PFAs are used when extended service is required in hostile environments involving chemical, thermal, and mechanical stress.

PFAs are used as a material for piping and as fittings for aggressive chemicals, and as corrosion-resistant lining of vessels in the chemical-processing industry. The applications include the construction of gas scrubbers, reactors, containment vessels, and piping. In coal-fired power plants, it is used for lining heat exchangers.

Global demand for PFAs is estimated at 5.5ktpa, growing at 5% per annum. The key competition comes from Chemours, 3M, and Daikin. GFL has 720tpa capacity in PFA.

Chart 15: PFA products – Tubing, pipe fittings and lined elbow



Source: Company data

3. Fluorinated ethylene propylene (FEP)

FEP is a copolymer of hexafluoropropylene and tetrafluoroethylene. It differs from the PTFE resins in that it is melt-processable using conventional injection moulding and screw extrusion techniques. FEP is poorly soluble in almost all solvents, the polymerisation is conducted as an emulsion in water, often using a surfactant such as perfluorooctanesulfonic acid (PFOS). The polymer contains ~5% of the propylene component.

FEP is an excellent insulator, with unique thermal, mechanical, and chemical properties. It is the best substitute for PTFE, and PFA owing to its properties and advantages. FEP non-stick coatings are rapidly replacing the conventional PTFE type non-stick cookware coatings due to their ability to withstand temperatures up to 260ºC, higher wear resistance, and resistance to oxidation. It has good resistance toward sunlight and is used as an insulation material for outdoor electrical wires, and jacketing material for optical fibre cables. It is an excellent semiconductor for manufacturing

electrical fittings and appliances. FEP coatings are one of the important coating materials in the chemical industry as they can hold and transport harsh chemicals used in industrial manufacturing processes. For example: The integrated circuits of semiconductors are manufactured using processes, such as photolithography, etching, cleaning, thin film deposition, and polishing. It takes about 270 chemicals and gases to produce a typical integrated circuit. Many of these chemicals, including nitric acid, hydrochloric and hydrofluoric acid, are extremely corrosive.

Global demand for FEP is 29ktpa, growing at 5% per annum. The key players are Chemours, 3M, Daikin, and Donguye. GFL has 480tpa capacity in FEP.

Chart 16: FEP products – cable, wires and films

Source: Company data

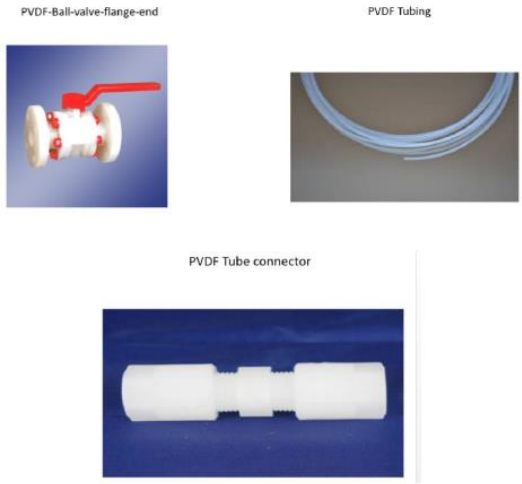
4. Polyvinylidene fluoride (PVDF)

PVDF is a highly non-reactive thermoplastic fluoropolymer produced by the polymerisation of vinylidene difluoride. It is a specialty plastic used in applications requiring the highest purity and resistance to solvents, acids and hydrocarbons. PVDF has low density compared to PTFE. It is available in various forms – piping products, sheet, tubing, films, plates and an insulator for premium wire. It can be injected, moulded or welded, and is commonly used in chemical, semiconductor, medical and defence industries and in lithium-ion batteries.

PVDF can also be used in products that have repeated contact with food, as it is FDA-compliant and non-toxic below its degradation temperature. As a fine powder grade, it is an ingredient in high-end paints for metals. PVDF paints have good gloss and colour retention. PVDF is also used as a binder component for the carbon electrode in supercapacitors and for other electrochemical applications.

Global demand for PVDF is 42ktpa, growing at 5% per annum. The key players are Arkema, Solvay and Donguye. GFL's existing capacity in PVDF is at 1.2ktpa, and it plans to double it in the next few quarters to 2.4tpa.

Chart 17: PVDF products: Ball-value-flange-end, tubing and tube connector



Source: Company data

5. Mircro powder (PTFE)

There are some special grades of micropowder made by direct polymerisation; most are made by degradation using either an electron beam, cobalt irradiation, or heat. Degrees of degradation may be controlled to calibrate molecular weight and molecular weight distribution. A grinding process is used to control the particle size and particle size distribution.

Micro powder is used widely due to its characteristic properties such as wear and abrasion resistance, low coefficient of friction, flame retarding properties, and tensile strength. It is used as an additive in a range of applications such as inks, thermoplastics, coatings, grease & lubricants, and elastomers. The use of PTFE micro powder has been increasing over the years due to increase in the demand for high performance polymers that operate under extreme conditions of temperature and pressure.

Global demand for micro powder is 25ktpa, growing at 5% per annum. The key players are 3M, Solvay and Shamrock. GFL's existing capacity is 3ktpa, and it plans to increase it to 4.5ktpa.

6. Polymer processing aid (PPA)

PPAs are used in polymer formulations to increase processing efficiency and quality of polymeric compounds. They are based on a large diversity of chemistry, and used in different polymers (polyolefins, PA, PVC and many others).

Global demand for product is 7ktpa, growing at 6% per annum. The key players are Chemours and 3M. GFL's existing capacity in PPA is 600tpa.

Backward integration

There are three key inputs for manufacturing new fluoropolymers, viz. tetrafluoroethene (TFE), hexafluoropropylene (HFP) and vinylidene fluoride (VDF) monomers. GFL is backward-integrated to manufacture TFE, and does not intend to backward-integrate for HFP due to low quantity requirement. However, it plans to

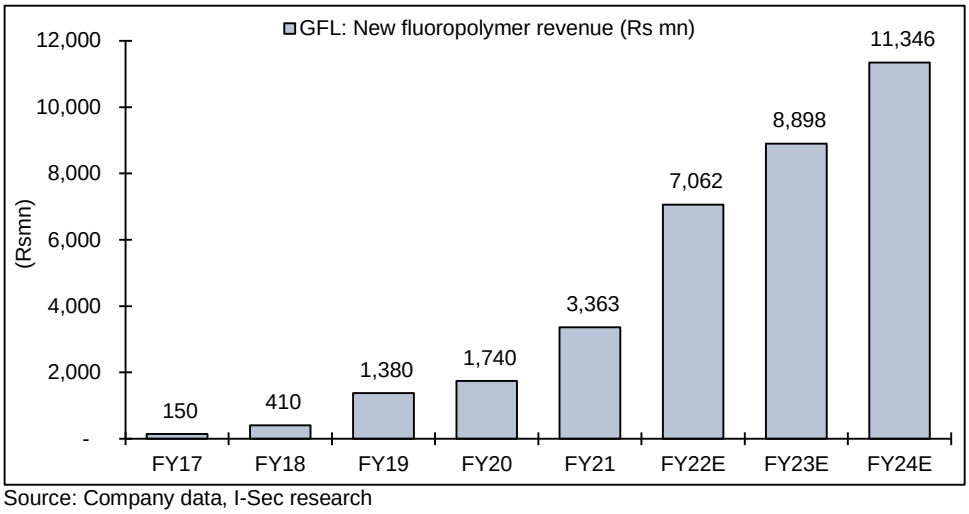
backward-integrate for VDF, which requires R-142B, which is today majorly produced in China. R-142B is produced from VCM, a sufficiently available bulk commodity.

VDF backward integration is critical for PVDF for which demand is expected to grow rapidly as it is used widely in lithium-ion-battery, solar panel (backsheet) and hydrogen fuel cell. Backward integration in the manufacturing of R-142B will enable GFL to expand its PVDF capacity along with demand, and significantly cut its dependence on Chinese players for R-142B. GFL's R-142B capacity is expected to be commissioned by end-FY22 with a capex of Rs1bn.

New fluoropolymers revenue expected to grow at 50% CAGR over FY21-FY24E

- In H1FY22, new fluoropolymer revenues have grown 2.6x to Rs3.3bn; capacity utilisation in Q2FY22 stood at 65%. Unlike with PTFE, GFL has enough capacity to further expand revenues from new fluoropolymers over the next few quarters. Company expects to achieve peak utilisation for existing capacity sooner.
- GFL is already planning to expand its new fluoropolymer capacity by 4.8ktpa to 13.2ktpa by 1HFY23 (commission) to cater to growing demand in the key products of FKM, PVDF and micro powders.
- GFL also plans to add a new fluoropolymer I-SAN. These powders have high molecular weight and are emulsion-polymerised PTFE particles that have been encapsulated by a Styrene-Acrylonitrile (SAN) shell. It finds application as a flame retardant.
- New fluoropolymer realisations are at >25% premium to PTFE, thus are margin-accretive. For example: GFL's PTFE realisation were Rs800/kg in Q2FY22 while new fluoropolymers had realisation of Rs1,100/kg.
- Demand for new fluoropolymers is driven by rising application of high performance polymers in industrial manufacturing, and new demand coming from new-age verticals like electric vehicles, solar panels, etc.
- We estimate new fluoropolymers revenue to grow at a CAGR of 50% over FY21-FY24E to Rs11bn while revenue growth over FY22E-FY24E would normalise at 26.7%.
- The rising contribution from new fluoropolymers should benefit gross profit and EBITDA margin. Our estimates suggest new fluoropolymers' contribution in GFL's revenues will increase to 24% in FY24 from 12.8% in FY21.

Chart 18: New fluoropolymers' revenue growth expected at 50% CAGR over FY21-FY24E



Source: Company data, I-Sec research

Fluorospecialty: Capitalising on opportunity

Fluorospecialty is a range of intermediate products that form part of final agrochemicals, pharmaceutical APIs and other industrial chemicals. Fluorine-based intermediates have been growing at a higher rate (6-7%) compared to the other segments (3-4%). It is expected to follow the trend due to the evolving need in the end-use applications. Pharmaceuticals are among the fastest-growing segments. The importance of fluorine is rising due to many advantages such as potency, selectivity, metabolic stability, and solubility, among others.

Fluorospecialty forms 29% of the fluorine market, which was US$22.5bn in 2019 and growing at 5% CAGR. Pharmaceuticals and agrochemicals form 9% and 10% of total fluorine industry. In pharmaceuticals, fluorine penetration is ~25%, while the new product pipeline has 40% penetration. In agrochemicals, fluorine penetration is 30%, and new product penetration is 50%. Further, fluorine is a highly reactive element, and only a handful of manufacturers have expertise in fluorine chemistry, which we believe puts GFL too in a sweet spot.

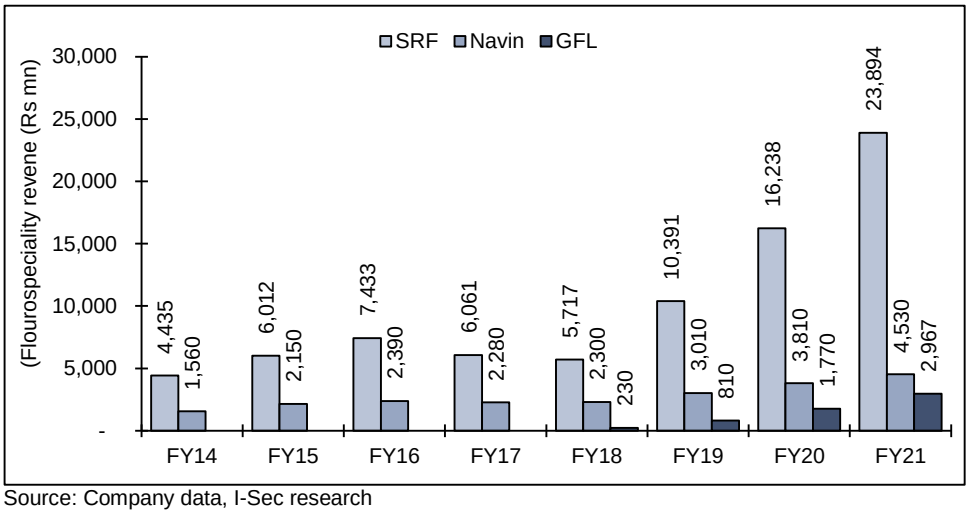
Though China has an advantage on raw material availability, we have seen India fluorine players gaining good traction, particularly SRF which has grown its fluorospecialty revenues 4x in past four years, while Navin Fluorine has grown the same 2x. GFL has been investing in capacity and product development in fluorospecialty. It has 11 products commercialised as at end-Q2FY22.

Fluorospecialty is not a core focus area for GFL unlike SRF and Navin, but we see near-term growth driven by eight additional product launches for which GFL is putting up three new plants. Its performance was impacted in Q2FY22 due to two product discontinuations as a result of cost rise and margin erosion. GFL's fluorospecialty segment derives 60% of its revenues from pharmaceuticals while 40% comes from agrochemicals. This compares to SRF's 85% of fluorospecialty revenue coming from agrochemicals, and Navin's 40% coming from each pharmaceutical and agrochemical segments.

GFL has a gross block of Rs3bn-3.5bn in fluorospecialty and it plans to incur additional capex of Rs2.5bn in FY22. It sees peak revenue potential at Rs8bn-9bn (asset turnover of 1.4-1.5x). Management sees achieving peak potential soon with normalisation of pharmaceutical manufacturing; and new product ramp-up.

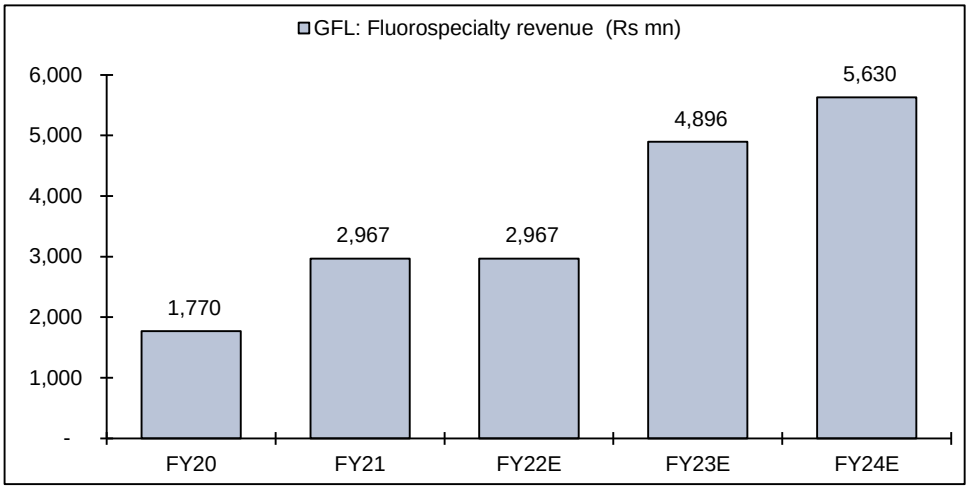
GFL remains optimistic on revenues from FY23. In FY22, it was impacted by discontinuation of two products in pharmaceuticals, resulting in muted revenue growth. Company expects to bounce back in FY23; however, we remain conservative and have assumed a revenue CAGR of 23.8% over FY21-FY24E to Rs5.6bn. GFL's margins in fluorospecialty are 22-25%, which is lower than the company average. We don't see large capital allocation by GFL in fluorospecialty going forward as the company would focus on growing new-age verticals faster.

Chart 19: Fluorospecialty: SRF has outperformed while Navin and GFL have not scaled up so aggressively



Source: Company data, I-Sec research

Chart 20: GFL's fluorospecialty revenues are expected to grow at 23.8% CAGR over FY21-FY24E



Source: Company data, I-Sec research

New-age verticals: Successful execution can create huge value

Gujarat Fluorochemicals (GFL) is expanding its footprint in the new-age verticals of battery chemicals, solar panels and hydrogen fuel cells (electrolysers). The immediate opportunity for GFL is to sell fluoropolymers across the three segments and it is now expanding into other new product categories too. This increases the addressable market for GFL in new-age verticals.

The fluoropolymers used in batteries are PVDF (for electrode binders, separators), micro powders and I-SAN for flame retardants, etc. PVDF sheets are used as back sheet in solar panels while hydrogen fuel cells use multiple fluoropolymers including FKM, PTFE and FEP. It also uses flame retardant materials like micro powder and I-SAN.

Table 3: GFL eyeing beyond fluoropolymers opportunity within new-age verticals

APPLICATIONS	ELECTRIC VEHICLES	SOLAR PANELS	HYDROGEN FUEL CELLS / ELECTROLYZERS
PRODUCTS	• PVDF Electrode Binders • Battery Chemicals • LiPF6 • Additives • Electrolyte Formulations • Battery casing	• PVDF Films • Back-sheet	• Fluoropolymers(FKM, PTFE, FEP) • Membranes • Charging Accessories

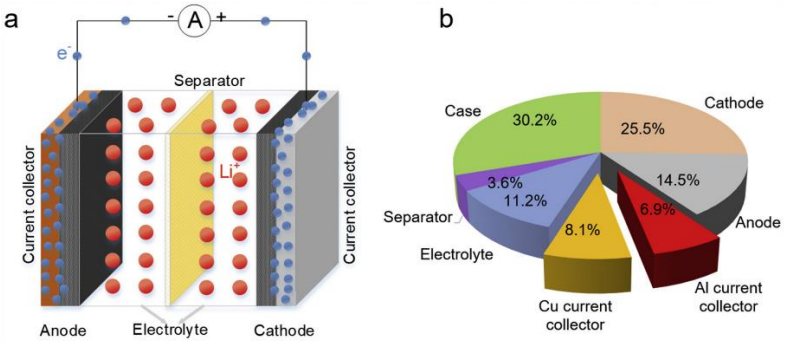
Source: Company data

Battery chemicals – LiPF6 and electrolyte formulation are big opportunities

GFL has presence in PVDF, which is used in electrode (cathode) binders. Company also has micropowders and I-SAN, which find application in battery casing. It is planning to set up an integrated battery chemical complex, and the components supplied by GFL will account for 15% of battery manufacturing costs. These components include:

- fluoropolymers
- electrolyte salt (LiPF6)
- additives
- electrolyte formulations including main electrolyte salt (which constitutes 17% of solution) such as LiPF6, organic solvent (glyme), and other additives including fluoroethylene carbonate (FEC), vinylene carbonate (VC), etc.
- battery casing

Chart 21: Battery components and their contribution in overall battery cost



Source: Link

Lithium hexofluorophosphate (LiPF6) is popular electrolyte salt used in making lithium-ion-batteries. Global LiPF6 market is likely to see healthy growth on the back of favourable government support in adoption of electric vehicles which will increase demand for lithium-ion-battery manufacturing. In a Li-ion battery electrolyte, LiPF6 offers high energy densities and appreciable power densities.

We have seen large deals being signed for supply of LiPF6 in China. Example: BYD has signed an agreement to buy not less than 56kte LiPF6 from Do-Fluoride over Jan'22 to Dec'25. This is only one deal, and multiple such deals have been signed for LiPF6 manufacturing by EV players. Do-Fluoride has announced its plan to build a new production facility with 100ktpa of capacity for LiPF6 in Jiaozuo city in central China's Henan province. The project will be developed in three phases and start production by end-2025.

LiPF6 is manufactured using industrial-grade lithium carbonate, anhydrous hydrogen fluoride (AHF) phosphorus pentachloride, acetonitrile and sodium hydroxide as feedstocks. We understand the GoI (though its entities) may help GFL in securing supply of lithium carbonate, which is key for LiPF6 plant success.

According to a news article (link), the price of LiPF6 has increased to JPY600,000/te in Nov'21 from JPY95,000/te a year earlier, while prices for 99.5% grade lithium carbonate are stable at JPY195,000-203,000/te.

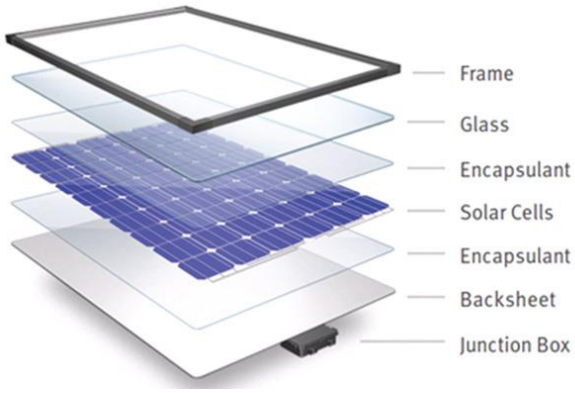
GFL's capex for its planned integrated battery complex is Rs2.5bn, which could potentially generate an asset turnover of 1.8-2x. Plant is likely to be commissioned by end-FY23. Company sees huge demand for battery chemicals from India EV battery manufacturers; it also sees export opportunity to markets like the US and Europe.

Solar panel – PVDF sheets

The solar panel backsheet is placed under repeated mechanical and environmental stress, so it must perform well in ensuring the overall longevity of the entire panel. A backsheet is made of a polymer or a combination of polymers, and is used to cover the back of solar PV (photovoltaic) modules. The main function of this layer is to provide electrical isolation of internal circuitry with the external environment. Therefore, any damage may pose a serious safety hazard.

Most backsheets have multiple layers, but there are also single layer backsheets used in PV modules. Widely used PV backsheets have layers based on polymers such as PET, polyvinyl fluoride (PVF), PVDF and polyamide.

Chart 22: Typical layer structure of a solar module



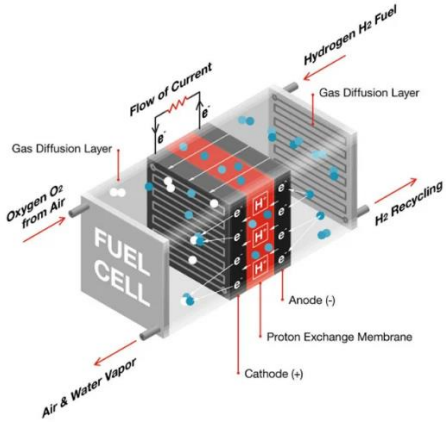
Source: Link

GFL is incurring capex of Rs1bn to manufacture PVDF sheets, which will go into backsheet of solar panels (anticipated asset turnover is 1.5x). The plant is expected to be commissioned by Sep'22.

Hydrogen fuel cell – PEM manufacturing capability will be key differentiator

Though hydrogen fuel cells and related businesses are not expected to take off in the near future, they could be big over the next decade. Hydrogen fuel cell has large usage of fluoropolymers including FKM, PTFE and FEP, which GFL can easily supply with certain modifications to its existing fluoropolymers. However, company is working on making in-house PEM (proton exchange membranes), which is the heart of fuel cells and electrolysers. It expects to come up with indigenously developed PEM membranes over the next 2-3 years.

Chart 23: A typical hydrogen fuel cell



Source: Cummins

Case study: Chemours has raised its guidance for growth & margins in advanced performance materials (fluoropolymers)

The Chemours Company (Chemours) is an American chemical company founded in Jul'15 as a spin-off from DuPont. DuPont is credited with finding a majority of the variants of fluoropolymers and is still the market leader in the segment, particularly in high-performance materials.

Chart 24: Chemours is market leader with most variants of fluoropolymer

	Teflon						Viton		Krytox		Nafion	
Applications	Semicon Equip & Fab	Electronic Components	Auto Components	Sensors & Electronic Cables	Industrial Coatings	Medical Components	Auto Components	Consumer Wearables	Industrial Machinery	Auto Under-the-Hood	Chlor-Alkali	Fuel Cells & Water Electrolysis
Chemours	#1	#1	#2	#1	#2	#1	#2	#1	#2	#1	#2	#1
Competitor 1	#2	#2	#1				#3					
Competitor 2				#2			#1	#2	#3			#2
Competitor 3						#2					#1	#2
Competitor 4		#3	#3									
Competitor 5	#3			#3								#3
Competitor 6					#1							
Competitor 7									#1	#2		

Source: Company data: Note: Teflon is PTFE, PFA, FEP, etc; Viton is fluoroelastomer FKM; Krytox is lubricant and Nafion is ion exchange membrane.

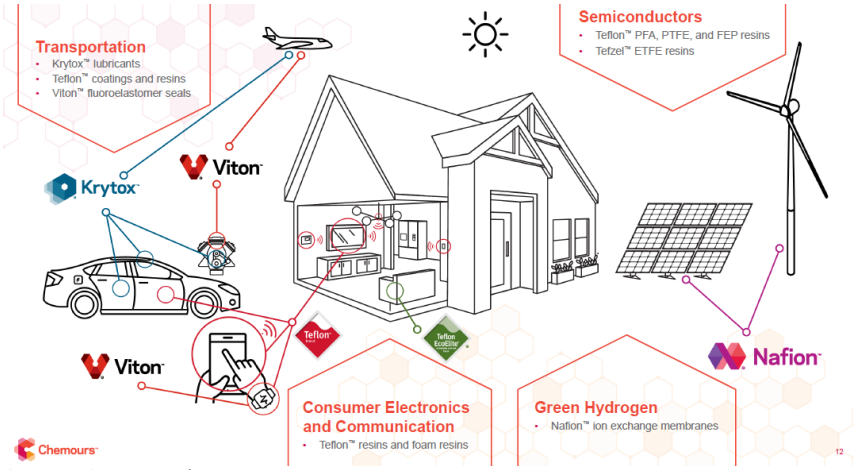
Chemours has shared an encouraging outlook for the fluoropolymers segment with growth exceeding the GDP rate in near term and accelerating through the decade (super long-term visibility!). This is on the back of rising demand for high-performance polymers in new-age verticals such as semiconductors, 5G and hydrogen fuel cell. Chemours does not have any material presence in PVDF, which has limited its ability to capture demand from battery and solar panel manufacturers.

Chemours has also increased its EBITDA margin guidance from mid-teens to low-twenties, which again demonstrates return of pricing power and reduced competitive intensity. It is also benefiting from rising demand for new fluoropolymers, which are priced higher and have superior profitability.

Chart 25: Chemours has shared encouraging outlook on fluoropolymers with growth exceeding GDP growth rate, and EBITDA margins to expand to low-20s% in 2022

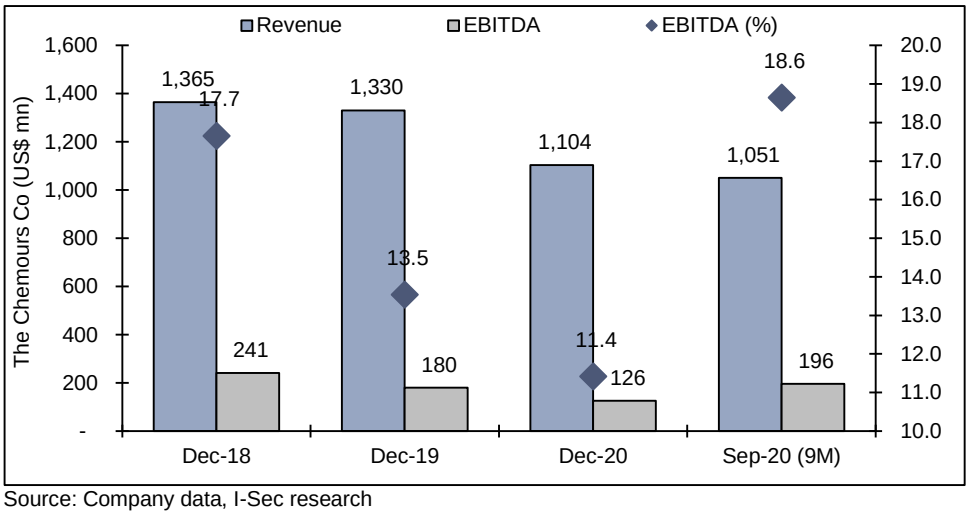
Source: Company data

Chart 26: Fluoropolymers benefiting from rising demand from new-age verticals



Source: Company data

Chart 27: Historical performance has not been encouraging due to various issues including covid, while 2021 has seen good bounce-back

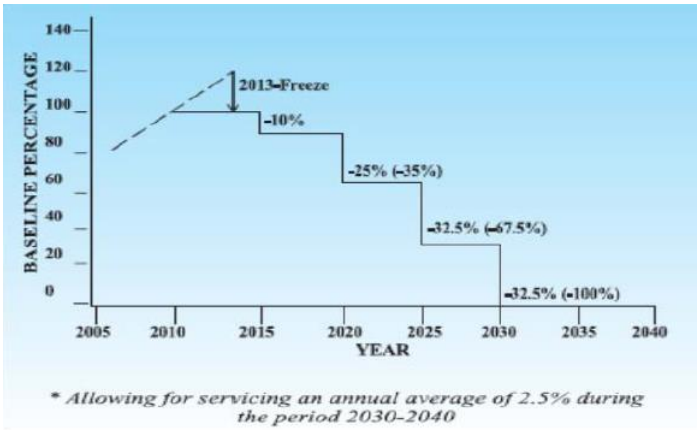


Source: Company data, I-Sec research

Ref-gases: Gradually building production in HFC

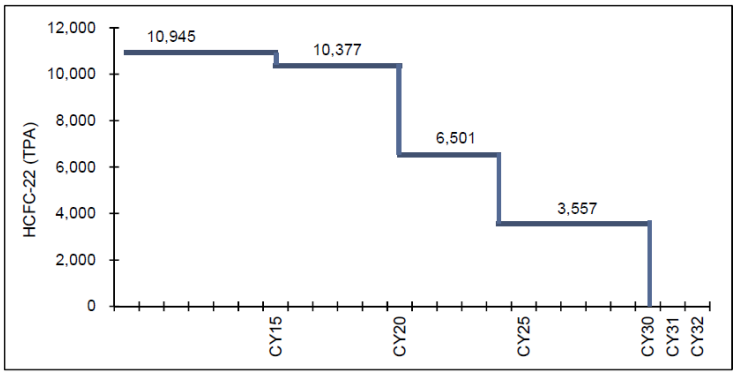
Gujarat Fluorochemicals (GFL) is the largest producer of R-22 in India. The product is under phase-out as per the Montreal Protocol due to its ozone depletion and high global warming potential. India had freezed R-22 production in 2013, and saw 10% cut from base line in 2015 and another 25% (cumulative 35%) cut from base line in 2020. Another two rounds for phase-out will take place in 2025 and 2030 with equal cuts of 32.5% each in these two timeframes. Post-2030, R-22 will not be allowed to be used as a ref-gas though it could be used as feedstock for making other products such as fluoropolymers, pharma and agrochemical intermediates, and other products.

Chart 28: India R-22 phase-out schedule



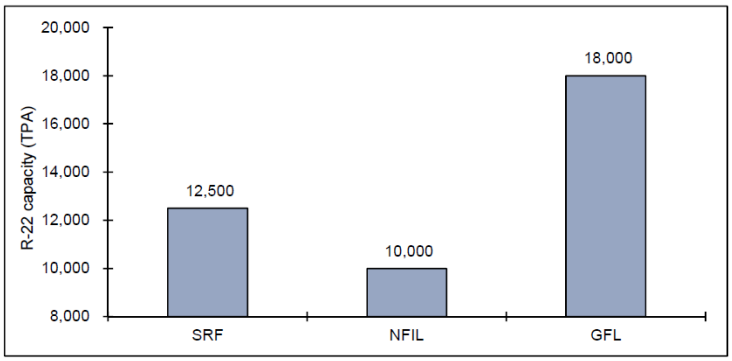
Source: I-Sec research, MoEF

Chart 29: India R-22 consumption allowed in each phase-down



Source: I-Sec research, UNEP

Chart 30: Base-line manufacturing quota for three key R-22 manufacturers

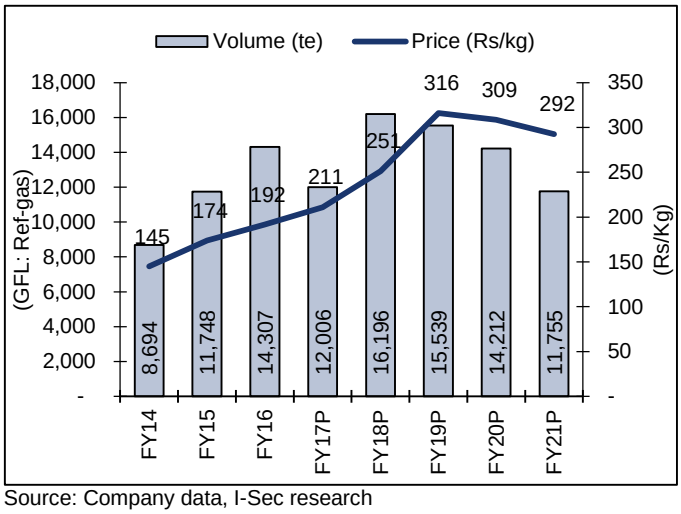


Source: Company data, I-Sec research

Though consumption of R-22 in India is low at just 6.5ktpa, the country is allowed to manufacture more than its consumption quota to cater to export markets where restricted consumption is allowed but does not have manufacturing quota (e.g. Gulf region). Manufacturers in India and China compete to get higher share of the export market for R-22 in such regions.

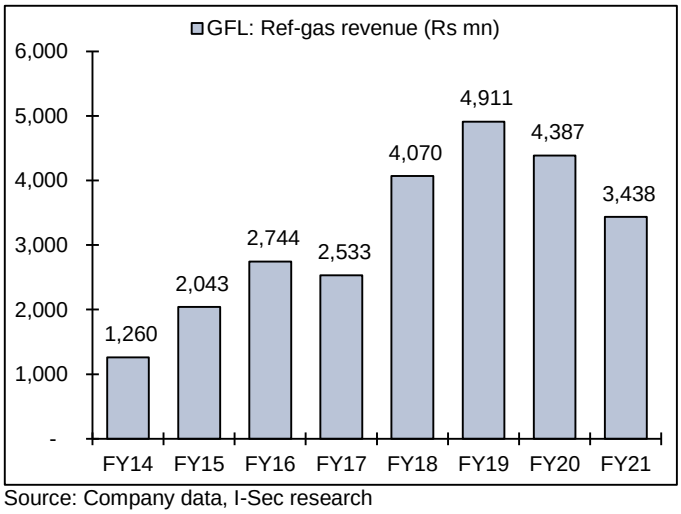
The export opportunity and limited competition have helped GFL grow its R-22 volumes during the first phase-down. However, the company has seen a decline in volumes post the second phase-down, which also coincided with the covid outbreak. Generally, phase-down of ref-gas drives prices up due to limited availability and replacement demand, which has low demand elasticity. However, we believe the covid outbreak impacted demand and prices have remained weak despite the phase-down. However, in the past few months, prices have started gaining traction with normalisation of demand, which should only increase in coming quarters, in our view.

Chart 31: Despite first phase-down, GFL's R-22 volumes continue to grow – probably from exports; however, the second phase-down in 2020 impacted volumes…



Source: Company data, I-Sec research

Chart 32: …and lower realisation, likely due to covid situation, impacted revenues much more. Lower domestic consumption is also a reason

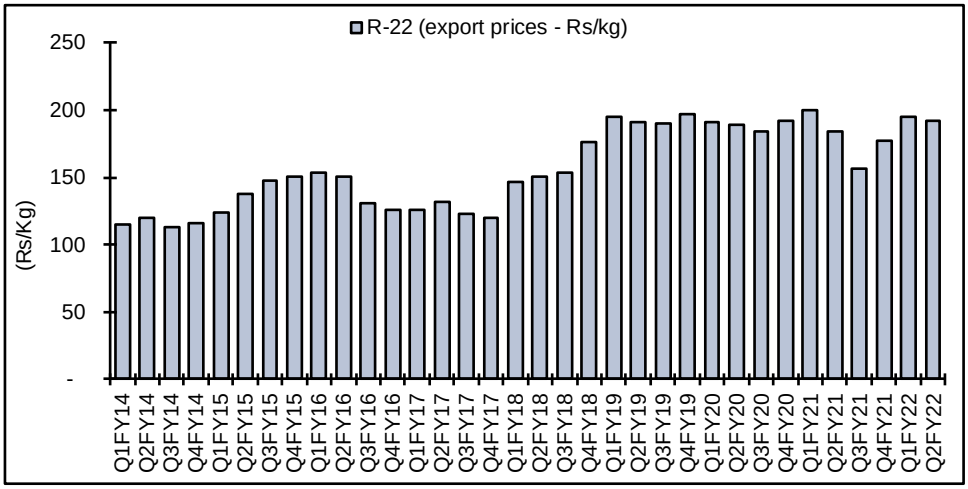


Source: Company data, I-Sec research

The dip in realisation is also a function of mix in domestic and exports sales. Domestic R-22 realisations are much superior *vs* export prices due to branding and own

distribution in India with no competition from China, while exports are B2B with significant competition from Chinese manufacturers.

Chart 33: Realisation on R-22 exports is significantly lower than GFL's blended realization; R-22 export prices have started improving again, but are yet below the previous highs



Source: Commerce ministry, I-Sec research

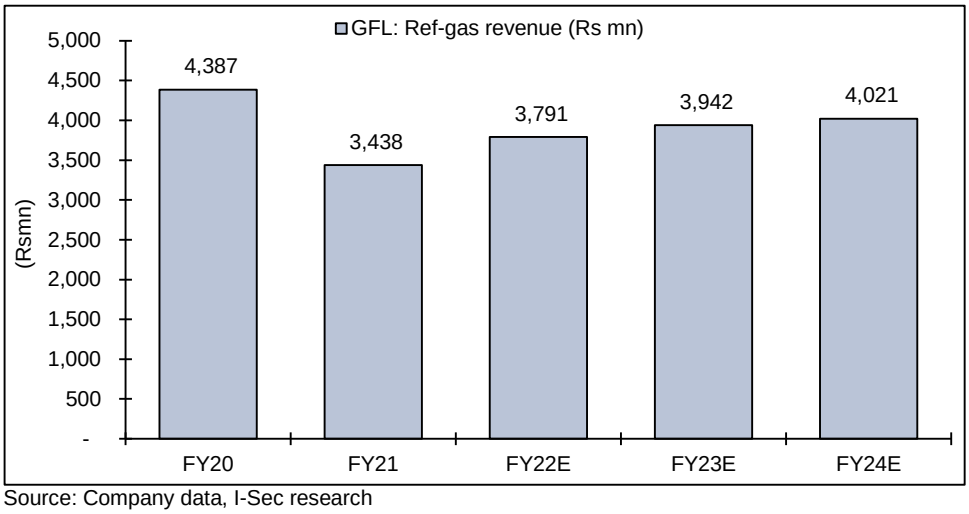
R-22 is a feedstock for manufacturing PTFE and fluoropolymers. This makes us believe that GFL will continue to utilise its R-22 plant at peak capacity as sales of fluoropolymers, including PTFE, are growing fast for GFL. Further, the company is also expanding its fluorospecialty business, and some agrochemicals and pharmaceuticals too will need R-22 as feedstock. Example: pantoprazole (pharmaceutical) uses R-22 as feedstock. Nonetheless, revenues will be booked in the respective segments.

GFL has started manufacturing R-125, and also imports R-32. A physical combination of R-125 and R-32 in 1:1 ratio produces R-410a, which is largely replacing R-22 in residential ACs. However, GFL has not seen much success in R-410a unlike peer SRF. GFL's R-410a revenue growth is impacted by aggressive Chinese pricing. Further, it has missed the R-134a opportunity.

GFL sees opportunity in new-age ref-gases such as HFO1234yf, which is expected to replace R-134a. It has chloromethane plant, which makes GFL backward-integrated for AHF and MDC. The product is currently patent-protected, and we are not sure on timing of the opportunity. SRF has said it has successfully tested its pilot plant for manufacturing HFO.

Thus, GFL's ref-gas revenue growth will come from price rise in R-22 and limited revenues from R-410a. Further, in 2025, the ref-gas segment may see a major step-down from cut in volumes due to phase-down in consumption quota by 32.5%. FY22 revenue growth is on the low base of FY21 and is attributable to normalisation of demand, and pricing.

Chart 34: Ref-gas revenues to recover in FY22E, but unlikely to reach FY20 levels soon



Source: Company data, I-Sec research

Bulk chemicals: Caustic soda and chloromethane – no major expansion plans

Gujarat Fluorochemicals (GFL) manufactures two chemical commodities – caustic soda and chloromethane. The company has fully integrated operations for its ref-gas and fluoropolymer business and in the process these products are produced as co-products. R-22, GFL's biggest ref-gas, and feedstock for fluoropolymers needs chloroform and AHF as inputs. GFL has fluorspar mines and manufactures anhydrous hydrofluoric acid (AHF). Chloroform is produced in the chloromethane plant using chlorine and methanol as feedstock. GFL gets its chlorine supply from its caustic soda plant while it imports methanol.

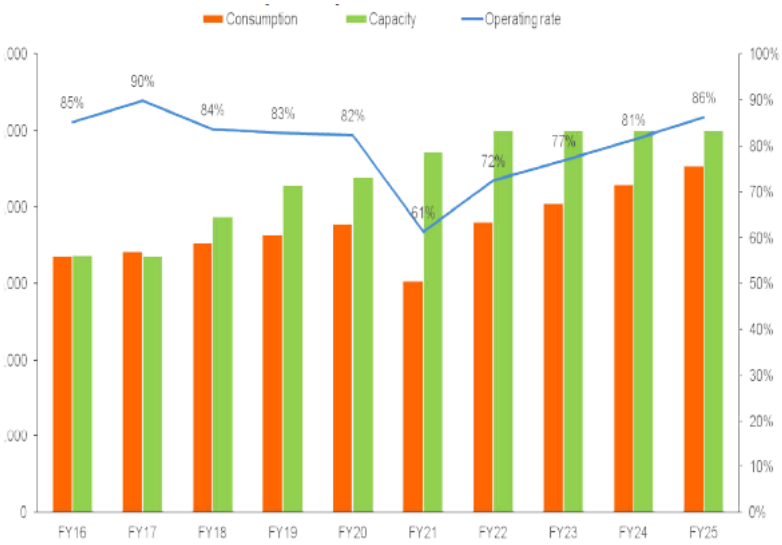
Caustic soda prices have significantly hardened

India demand for caustic soda was 3.8mtpa in FY20 and was impacted from covid, which caused industry capacity utilisation to dip to a low of 61%. This was due to weak end-market demand from alumina, textiles, pulp & paper, and soaps & detergents. Majority of India caustic soda demand is met through domestic manufacturers. It is estimated that India has 32 domestic units with wide-ranging capacities from just 25ktpa to 270ktpa.

The key challenge for caustic soda plants is their huge requirement of power, and high power cost. Caustic soda is produced by the electrolysis process on brine (salt water, a highly concentrated water solution of common salt or sodium chloride). Caustic soda plants generally have captive power plant/s. Caustic soda is a regional product as it is bulky and inexpensive, thus not economical to transport across long distances. The other issue with caustic soda plants is forward integration for chlorine, which is a co-product of caustic soda plants, produced in ratio of 1:1. Chlorine is sold at a significant discount, and in the past was sold at negative spreads as well. It is estimated that 75% of capacity in India is not integrated for chlorine. Thus, disposal of chlorine weighs on caustic soda RoIC. For GFL, caustic soda is a co-product, and it uses the chlorine for its chloromethane plant.

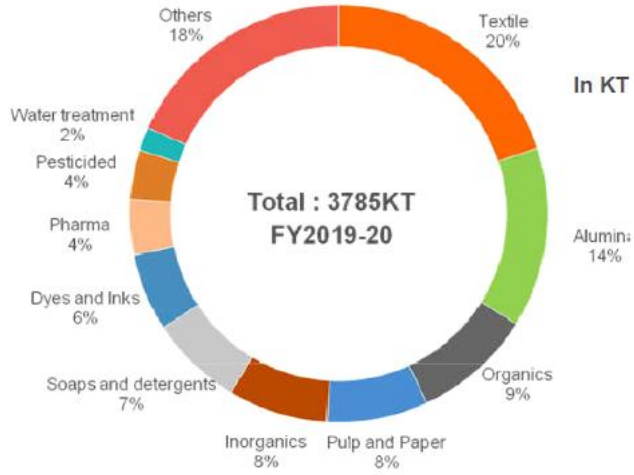
Grasim is the largest producer of caustic soda in India with 27% market share, DCM Shriram has 14%, and GACL 10%. GFL has <5% market share in caustic soda and caters to demand in western India.

Chart 35: Caustic soda business underwent challenging times during covid



Source: Company data

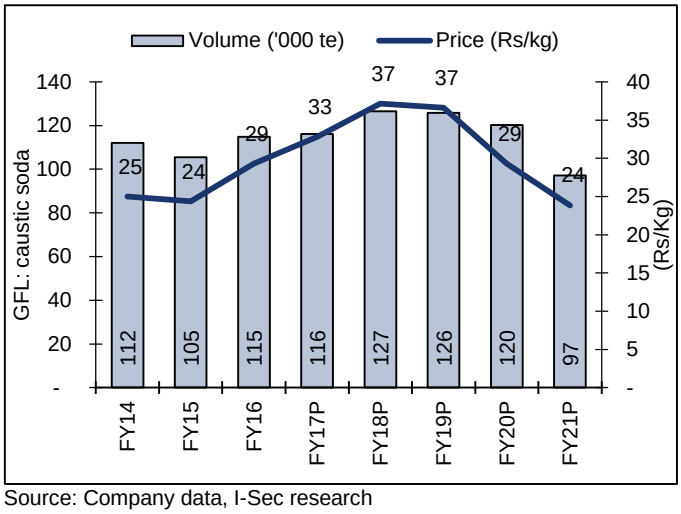
Chart 36: Textile, aluminium, organic and pulp & paper segments contribute >50% of demand for caustic soda



Source: Company data

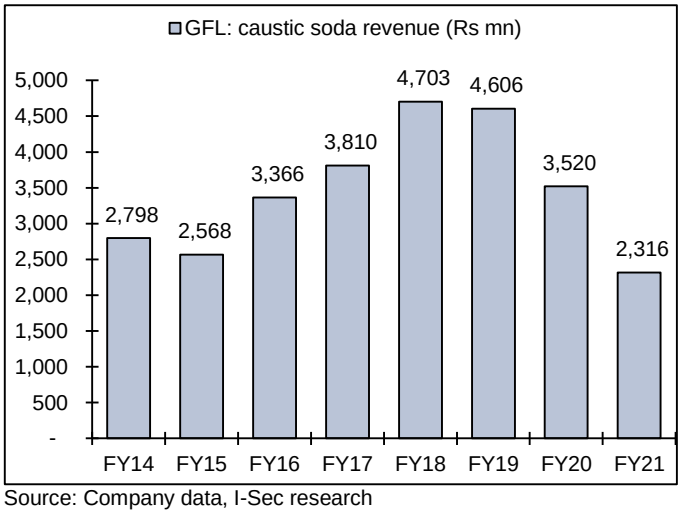
GFL has no plans for adding capacity in caustic soda in the foreseeable future, and it was completely utilising its plant prior to covid. However, owing to the severe impact on demand for caustic soda in past 12 months, prices have been depressed. However, prices have significantly hardened recently due to China's dual control policy on power consumption.

Chart 37: Caustic soda plant was run at optimal utilisation pre-covid, but FY21 was impacted due to covid



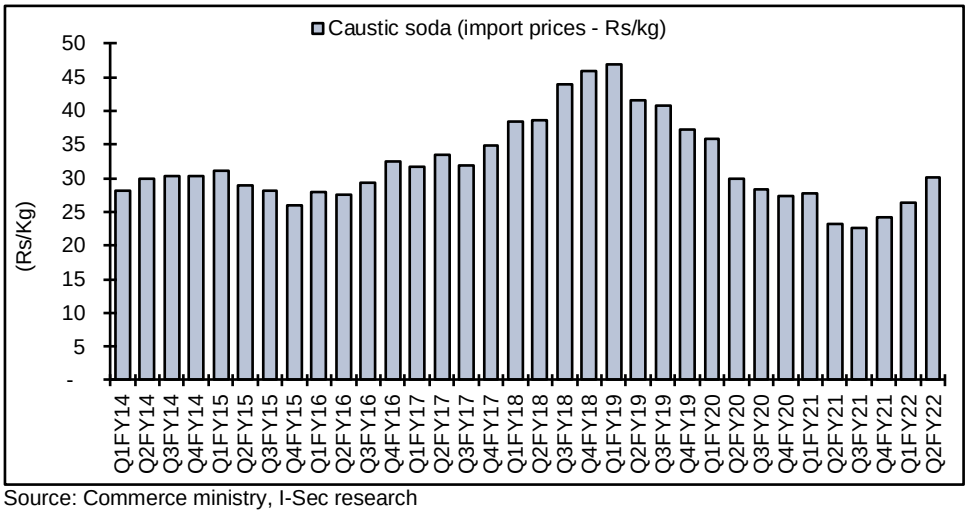
Source: Company data, I-Sec research

Chart 38: FY21 revenues were down due to lower volumes and pricing; this should have put significant pressure on margins



Source: Company data, I-Sec research

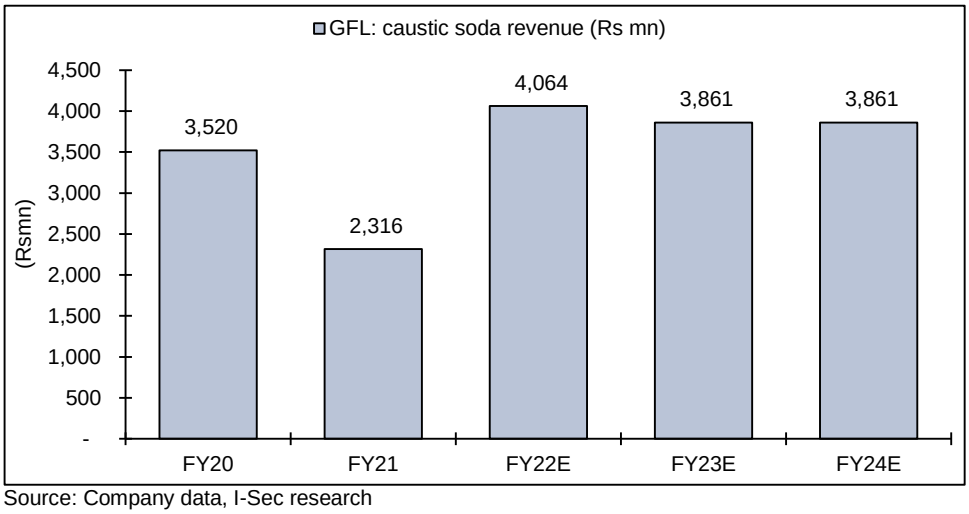
Chart 39: Caustic soda import prices show same trend, and prices should show an improving trend in coming quarters



Source: Commerce ministry, I-Sec research

China's dual policy on power consumption has given a fillip to caustic soda production and prices, which have increased from Rs25/kg to Rs40-45/kg. We don't see these prices sustaining in the medium term though they will benefit FY22 caustic soda revenues (we expect prices to gradually ease over next few years). The improvement in caustic soda revenues will significantly contribute to expansion of gross profit margins.

Chart 40: Caustic soda is a large contributor to margin expansion in the immediate future for GFL



Source: Company data, I-Sec research

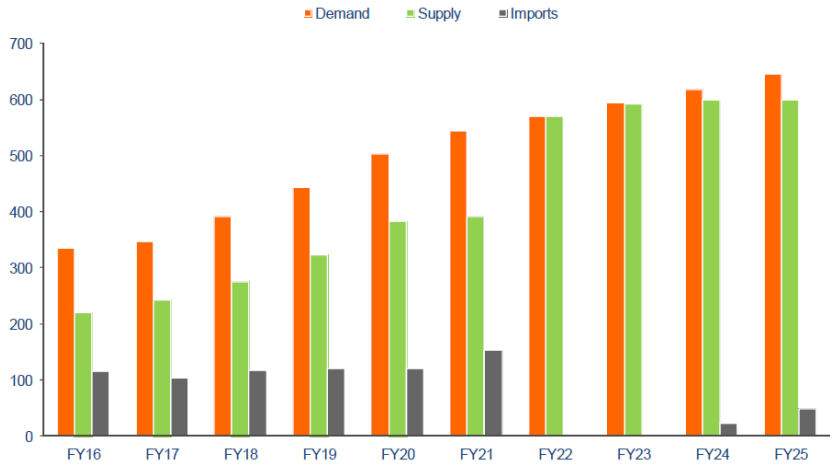
Chloromethane – applications mostly in captive use or pharma

GFL's chloromethane plant uses chlorine and methanol to produce three products: **1)** methylene-dichloride (MDC, or dichloromethane), **2)** chloroform, and **3)** carbon tetrachloride (CTC). GFL has built chloromethane plant for chloroform which is key feedstock for manufacturing R-22. We understand the company has capacity of 108ktpa, and is the largest producer chloromethanes. However, competition is imminent with large capacities, which should push GFL to third position over next 12-18 months. GFL has no plan to add more capacity in chloromethane.

India has six chloromethane producers: **1)** GFL with capacity estimated at 108ktpa; **2)** SRF has 100ktpa capacity, and is in the process of adding another 100ktpa in the next few quarters; **3)** GACL has 60ktpa capacity; **4)** Meghmani (45ktpa); **5)** TGVSRAACL (41ktpa) and **6)** Chemplast (35ktpa).

MDC is the largest product among the three chloromethanes which derives demand from the pharmaceutical industry as solvent. In small quantities, it is used as feedstock for ref-gas. In fact, rise in new-age ref gas HFO production will increase demand for MDC. The chemical is also used to produce foam and agrochemicals, but in very small quantities. India meets its demand for MDC partially from imports (25-30% is imported); however, India new capacity expansion should completely replace MDC imports into India. Chloromethane demand has been growing at ~9% CAGR in past 10 years with the current demand seen at 500ktpa.

Chart 41: Domestic demand for MDC; imports likely to be replaced when new capacity addition comes on-stream

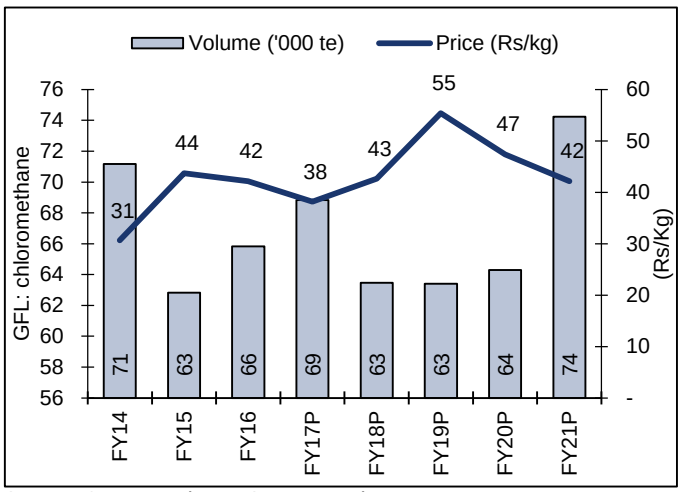


Source: Company

GFL uses chloroform mainly for manufacturing R-22, which again goes in making fluoropolymers, particularly PTFE. Other uses of chloroform are in pharmaceuticals as a solvent, and adhesives and agrochemcials. The recently added manufacturing facility has capabilities to produce slightly more MDC, and restrict production of chloroform.

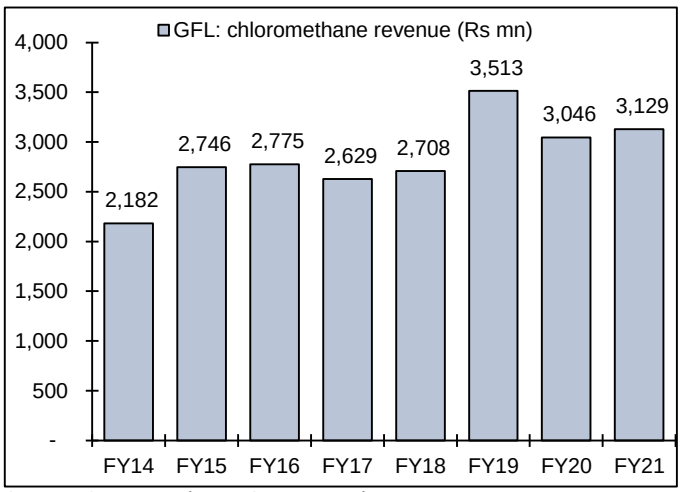
CTC comprises very small portion of chloromethane production, and the new plants produce insignificant quantity of it. CTC is mainly used in insecticide cypermethrin (an agrochemical). Demand for CTC is growing in the fluorospecialty segment as well.

Chart 42: Chloromethane volumes rose due to rise in demand for pharmaceuticals, which saw a spurt during covid; yet prices fell



Source: Company data, I-Sec research

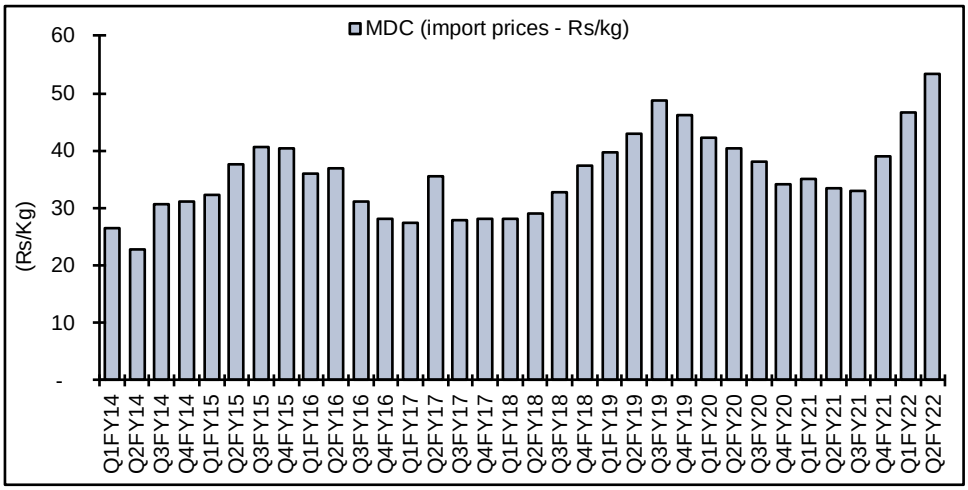
Chart 43: Revenues from chloromethane have been stable for GFL



Source: Company data, I-Sec research

Price of imported MDC has marginally declined in Q4FY21, but we expect prices to recover in FY22 as it would benefit from limited chlorine availability in China on the back of lower chloralkali capacity utilisation.

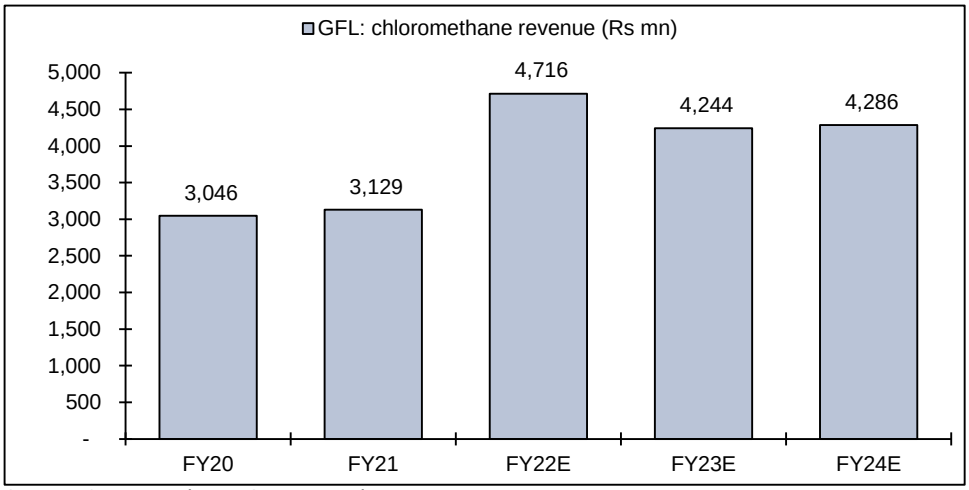
Chart 44: MDC import prices showed falling trend, but prices have bounced in 1HFY22



Source: Commerce ministry, I-Sec research

GFL's chloromethane revenues are expected to decline due to huge capacity addition anticipated in FY23 and the price increase in FY22-TD is unreasonable due to shortage from China dual policy. Though India is a net importer of MDC, two big plant commissionings in FY23 should make India self-sufficient, and until new capacity gets absorbed we expect MDC prices to remain benign.

Chart 45: Chloromethane prices may come under increased pressure due to significant capacity addition in FY23



Source: Company data, I-Sec research

Investment thesis

New-age verticals have huge option value

Gujarat Fluorochemicals (GFL), through its large portfolio of fluoropolymers, has presence in materials which are used by new-age verticals like lithium-ion-battery, solar panels and hydrogen fuel cells. Fluoropolymers such as PVDF, PTFE and FEP would find good use in these verticals. Further, GFL is planning capex targeting certain new fluorine derivatives, which could expand its addressable market in new age segments, in our view.

- It is establishing a battery chemicals complex which would manufacture electrolyte salt (LiPF6), and electrolyte formulations including solutions and additives; other battery chemicals, etc. The planned capex is Rs2.5bn for the initial capacity, which is expected to be commissioned by end-FY23. The potential asset turnover from this capex is 1.8-2x (revenues of ~Rs5bn at peak).
- For solar panels, the company is planning capex for PVDF sheets, which is used as backsheet in solar PV modules. The anticipated capex is Rs1bn and potential asset turnover is 1.5x (potential revenues of Rs1.5bn) by Sep'22.
- In hydrogen fuel cells, the company is planning to indigenously develop and produce PEM (proton exchange membrane) over next 2-3 years (PEM forms the heart of fuel cells and electrolysers).

We believe the entry into new-age verticals puts GFL ahead of its Indian peers in high-performance materials and could prove key for longevity of the company's growth. Further, backward integration for most of these materials by GFL would prove to be a high entry barrier for others. Revenue contribution from the new-age verticals in our forecast period is very small, but successful execution and long-term contracts at least with India OEMs could prove to be ice breaker, and would be key to watch.

PTFE volumes grew after two muted years

PTFE volumes were hit in FY20 due to slowdown in the auto segment, the largest market for GFL's PTFE, and FY21 was impacted by lockdown. We estimate PTFE volumes dipped to 11kte in FY21 from 15kte in FY19. PTFE prices have remained in a narrow range of Rs700-750 per kg during the period. Revenues of the segment declined 26% to Rs8.3bn in FY21 *vs* FY19. However, the segmental revenues bounced back 1.7x YoY in H1FY22 to Rs6.8bn. In Q2FY22, the company said it has attained peak utilisation for PTFE. Management sees scope for price rise from raw material inflation (R-22), higher demand and curtained supplies from China. GFL is in the process of adding another four reactors (25% capacity addition) by H2FY23, which should help drive volume growth FY24 onwards.

Smart scale-up in new fluoropolymers

New fluoropolymers too staged strong growth in H1FY22 (up 2.6x YoY to Rs3.3bn). Capacity utilisation was only 65% in Q2FY22, which leaves enough headroom for growth in coming quarters. GFL has 8.4ktpa capacity and is in the process to add another 4.8ktpa by H2FY23, which should further provide growth visibility in new fluoropolymers. Market growth for new fluoropolymers is driven by GDP growth and

rise in demand from the aforementioned new-age verticals. Realisation in this segment are >25% higher than in PTFE.

Demand for PVDF and PPA is increasing, but the company fears unavailability of the key raw material R-142B (largely supplied from China) could limit its future growth. GFL plans for backward integration in manufacturing R-124B with VCM as key feedstock (VCM is a bulk chemical). With VDF and TFE plants, GFL is largely backward-integrated for fluoropolymers except for HFP (hexafluoropropane). This will likely provide GFL with huge flexibility for future capacity expansion.

Margins to expand on rise in contribution from higher-margin businesses and more backward integration

GFL's margins remain healthy with the gross profit margin at 66.6% and EBITDA margin at 29.4% in H1FY22. However, we see scope for further increase in margins from: **1)** Potential price rise in PTFE. Company is fully backward-integrated; hence higher PTFE prices largely flow into EBITDA. Further, increase in India's chloromethane capacity should potentially reduce prices of chloroform. GFL buys 50% of its chloroform requirement from the open market. **2)** Higher contribution from new fluoropolymers. We estimate this segment's contribution to rise from 12.8% in FY21 to 24% in FY24E. New fluoropolymer realisations are >25% higher compared to PTFE, thus they are more profitable. GFL also plans to backward-integrate for the manufacture of R-142B, which too should add to profits, in our view.

In addition, the company plans to add capacity in its captive power plant based on its wind mill. It expects to add 20-25MW of capacity by end-FY22. If government policies remain favourable, it plans to take its total wind power capacity to 125MW. GFL has already paid an advance of ~Rs9bn to INOX Wind (related party) for execution of wind power. We are factoring only Rs0.5bn of cost-saving from wind power in our model assuming only 25MW of capacity.

Our estimates factor an EBITDA margin of 31.3% in FY22E, 37% in FY23E and 38.3% in FY24E. The expected margin improvement is mostly on the back of operating leverage as in the same period our gross profit margin assumption has remained flattish because we believe prices of caustic soda and chloromethane will dip offsetting superior product mix. EBITDA margin improvement can be attributed to lower freight, and coal cost.

Pre-tax ROCE will improve to 23.9% in FY24E (from only 9% in FY21)

We estimate a revenue CAGR of 21.6% over FY21-FY24E for GFL, while significant growth is front-loaded as revenues bounce back from covid impact. Further, the company has benefited from price rise in caustic soda and chloromethane. It also saw PTFE reaching peak utilisation in Q2FY22. Nonetheless, growth in the coming quarters will come from continued growth in new fluoropolymers, and new product launches in the fluorospecialty segment. Revenues from new-age verticals will only commence from FY24E, hence we don't expect it to add much to revenue growth in our forecast period.

We estimate EBITDA CAGR of 39.5% to Rs18.3bn over FY21-FY24E. Even if we ignore FY22 which is benefiting from low base, EBITDA CAGR will still be 22.8% over

FY22-FY24E. This is due to operating leverage and implementation of the wind-based power plant. Adjusted net profit will grow at a CAGR of 45.9% over FY21-FY24E (23.6% over FY22-FY24E) to Rs11.3bn.

GFL will generate operating cashflow (before change in working capital) of Rs10bn in FY22E, Rs12.7bn in FY23E and Rs14.5bn in FY24E. It has a large capex plan of Rs8bn-9bn per annum over the next two years, which can easily be funded through internal accruals. Working capital will remain volatile with significant rise in FY22E on higher revenues (while GFL is working on reducing working capital days), and likely reversal of advances in FY23E (if it decides not go ahead with full roll-out wind power plant).

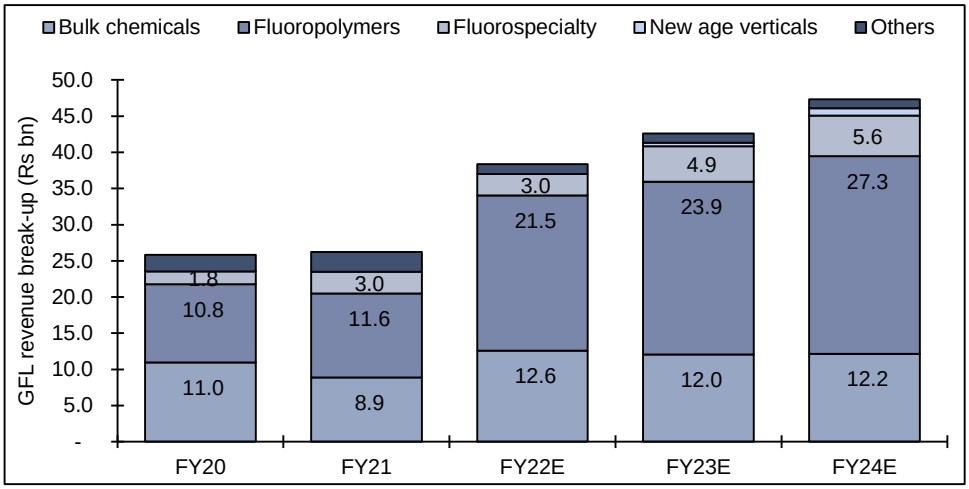
We expect RoCE (pre-tax) to improve to 23.9% in FY24E from 9% in FY21 on rise in profitability. RoEs too will jump to 21.1% in FY24E from 10.1% in FY21. FY21 numbers were depressed due to covid impact and higher capital employed due to advances given to INOX Wind, which is yielding lower returns.

Related-party transactions to be cleaned up soon

The biggest pushback from investors on GFL is the related-party transactions, including: 1) advances of a total of Rs9bn given to INOX Wind, and 2) guarantees given by GFL for loans taken by INOX Wind and other renewable energy companies in the group. Company has guided that it would use advances partial for wind power rollout in FY22 and that the final decision on remaining capex will depend on the government's renewal power policies. In worst case, the company expects unspent money to be returned by INOX Wind by Sep'22. It has also guided that all guarantees given by GFL for loan facilities of group companies will be revoked by end-FY23.

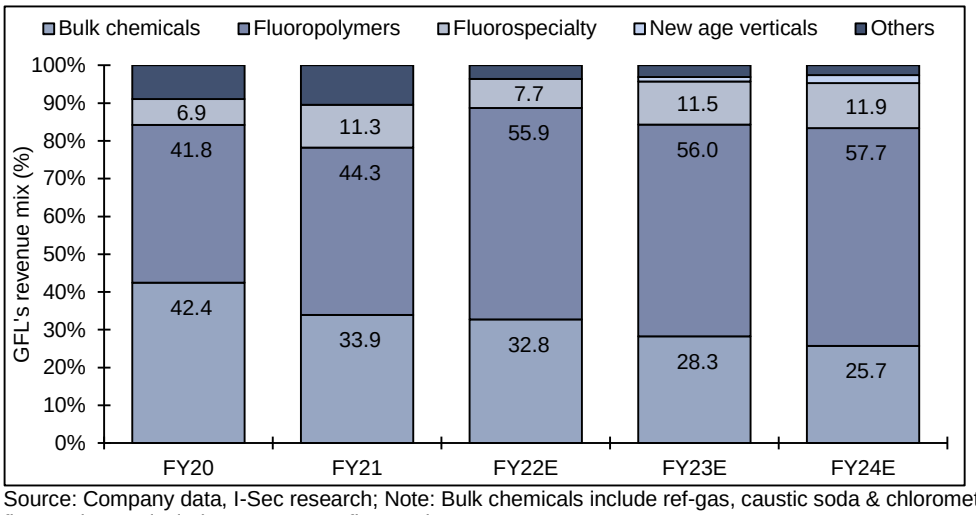
Financial analysis

Chart 46: Revenues to grow at a CAGR of 33% for fluoropolymers and 23.8% for fluorospecialties over FY21-FY24E (12.7% and 37.7% over FY22E-FY24E, respectively)



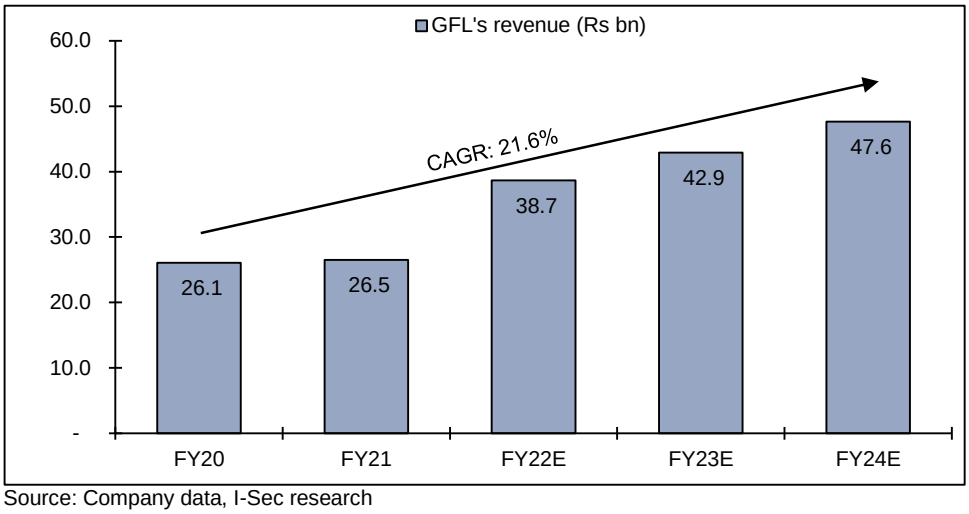
Source: Company data, I-Sec research; Note: Bulk chemicals include ref-gas, caustic soda & chloromethane; fluoropolymers include PTFE & new fluoropolymers

Chart 47: Fluoropolymers revenue contribution to rise to 57.7% in FY24E from 44.3% in FY21



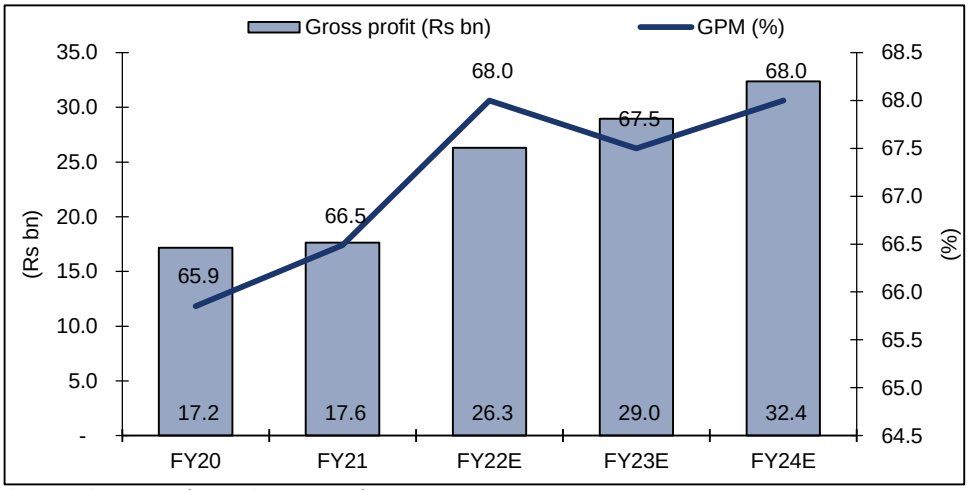
Source: Company data, I-Sec research; Note: Bulk chemicals include ref-gas, caustic soda & chloromethane; fluoropolymers include PTFE & new fluoropolymers

Chart 48: GFL's revenues to grow at a CAGR of 21.6% over FY21-FY24E and 11% over FY22E-FY24E



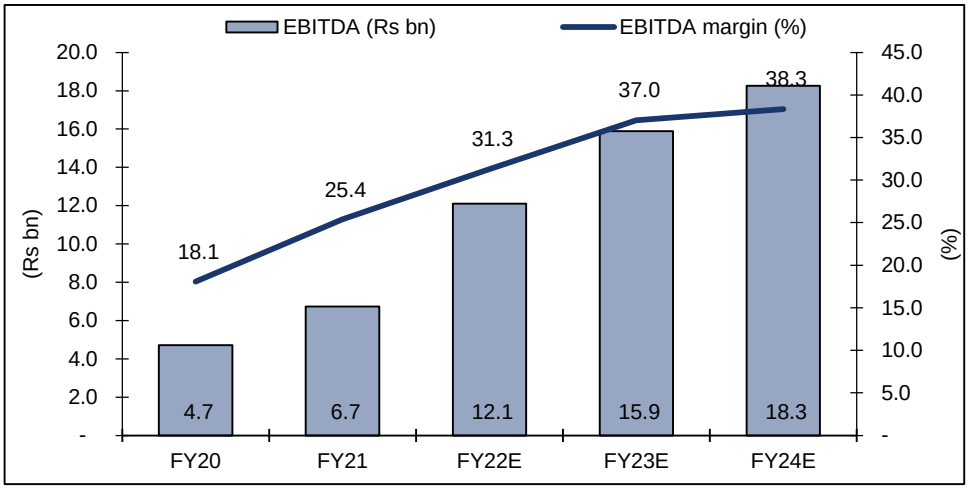
Source: Company data, I-Sec research

Chart 49: GFL's gross profit margin expected to remain stable. Reduction in realisation in bulk chemicals to be offset by higher revenue mix of fluoropolymers, which has much higher gross profit margins



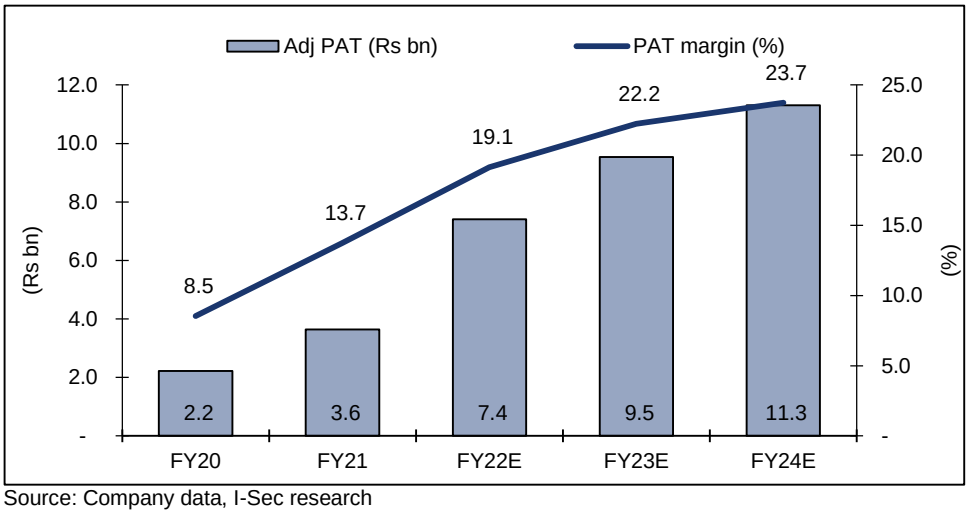
Source: Company data, I-Sec research

Chart 50: GFL's EBITDA to grow at a CAGR of 39.5% over FY21-FY24E and 22.8% over FY22E-FY24E. EBITDA to benefit from lower power cost and operating leverage. We have taken 25MW of wind power capacity to be commissioned by end-FY22E



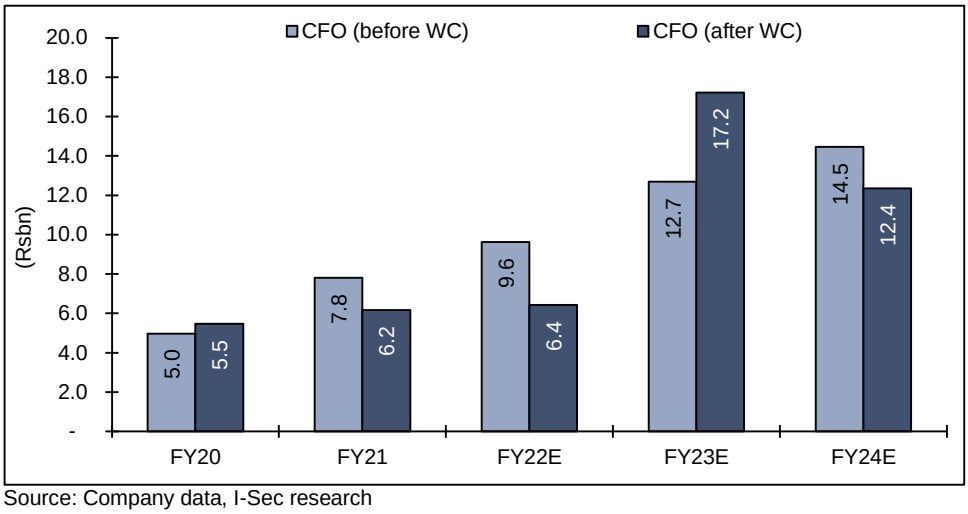
Source: Company data, I-Sec research

Chart 51: GFL's PAT to grow at CAGR of 45.9% over FY21-FY24E and 23.6% over FY22E-FY24E



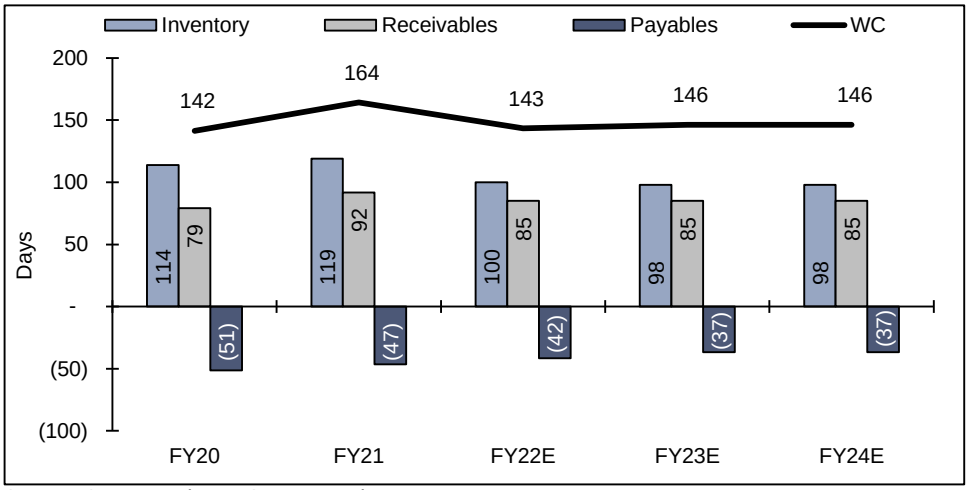
Source: Company data, I-Sec research

Chart 52: CFO generation post working capital to double in FY24E (over FY22E). FY23E CFO to benefit from reversal of related-party advances paid



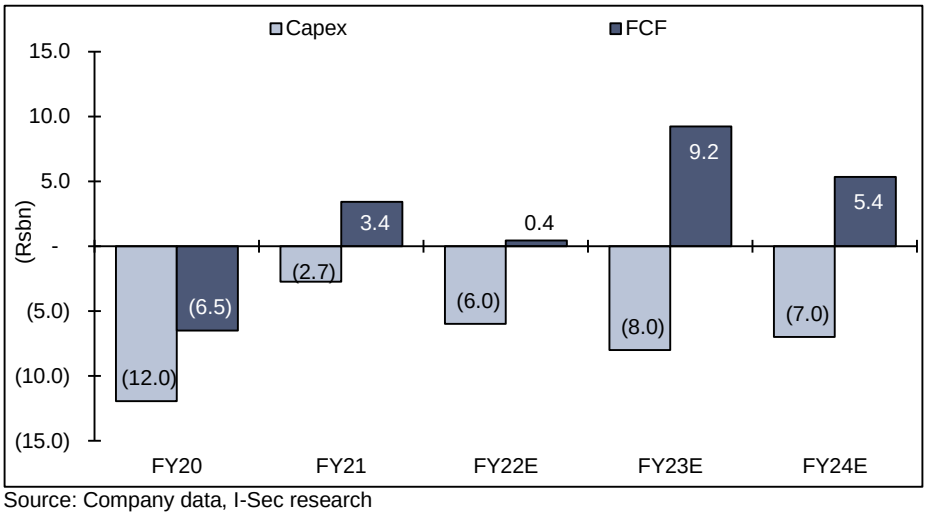
Source: Company data, I-Sec research

Chart 53: Our working capital days estimate is stable at 146 days; management is working on reducing it to 100 days. If successful, it would boost FCF and return ratios



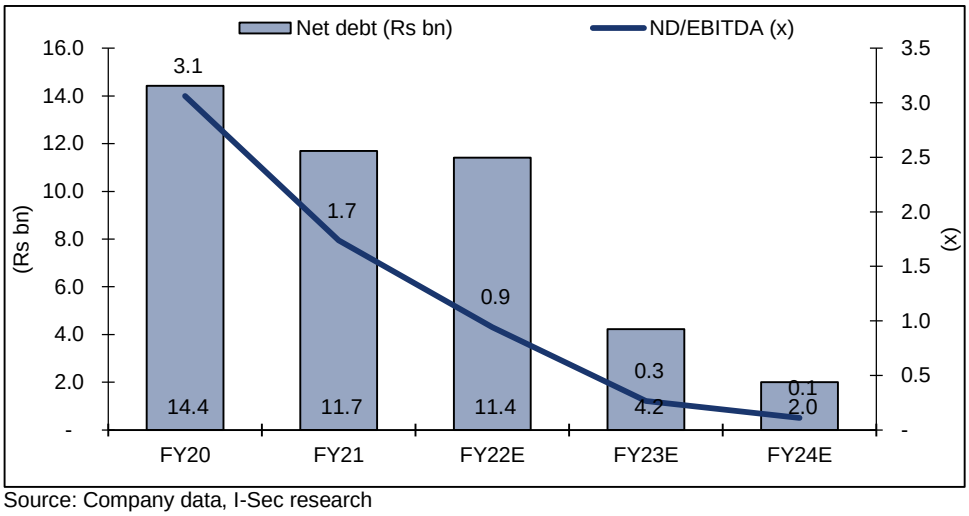
Source: Company data, I-Sec research

Chart 54: Despite large capex execution, we expect GFL's FCF to rise over the next two years



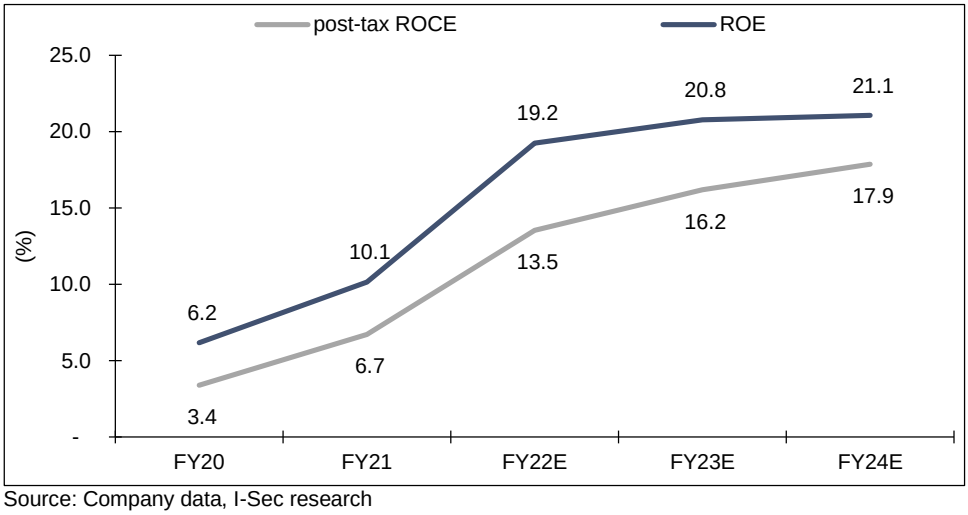
Source: Company data, I-Sec research

Chart 55: GFL will potentially become free of net debt by FY24E



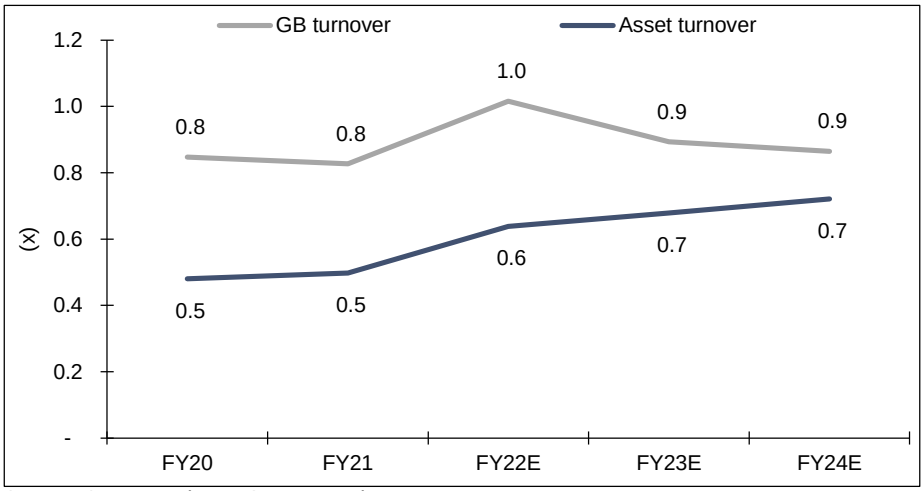
Source: Company data, I-Sec research

Chart 56: GFL's post tax RoCE improves to 18% in FY24E from 6.7% in FY21



Source: Company data, I-Sec research

Chart 57: Gloss block asset turn to remain around 1x considering large capex execution



Source: Company data, I-Sec research

Valuations – Initiate with BUY rating

We are initiating coverage on Gujarat Fluorochemicals with a **BUY** rating and target price of Rs3,086 valuing the stock at 30x FY24E EPS (P/E multiple). The 30x PE multiple is based on market capitalisation weighted average PE multiple for other Indian fluorine companies. Our target prices imply an EV/EBITDA multiple of 18.7x FY24E.

It has been well documented that fluorine chemistry is in a sweet spot with rising use in agrochemicals and pharmaceuticals. However, we are more excited about the growing opportunity for fluorine in new-age verticals. For example: fluorine has high negative charge while lithium is positive-charged. This combination has proven to be of great use in lithium-ion-battery. Thus, fluorine finds application in electrolyte salts and electrolyte solutions. Further, fluoropolymers are extensively used in battery for separators, wirings and battery casing due to superior performance. Similarly, PVDF sheets are used is in solar panels and find use in 5G equipment too. The production of green hydrogen, which is looked upon as future energy source, also uses multiple products from the fluorine basket.

Further, fluorine can be sink only through the anhydrous hydrofluoric acid (AHF) or potassium fluoride (KF) route. Road transport of AHF in India is restricted by PESO (The Petroleum and Explosives Safety Organisation) due to its hazardous nature. AHF poses difficulty in loading, storing and transporting, which makes backward integration critical for fluorine-based manufacturers. India has three large AHF manufacturers – GFL, SRF and Navin Fluorine. Further, fluoropolymers are made from ref-gases such as R-22, whose production for emissive use is restricted; thus its general availability is diminished. Thus, fluoropolymer manufacturers need to backward-integrate for feedstock, which significantly increase capital investment (major entry barrier).

We like GFL as it is the only company in India with a large portfolio of fluoropolymers that can capture the growing demand. SRF is expected start manufacturing fluoropolymers in FY23/FY24 with certain commodity grade PTFE. It would take multiple years for SRF to scale GFL's level in fluoropolymers. Globally, we see limited fluoropolymer manufacturers outside of China, which puts GFL in an even better position. Further, GFL's thrust on backward integration enables it to expand capacity at a much faster pace compared to non-integrated players.

GFL has made a bold move by entering into manufacture of battery chemicals and photon exchange membranes (PEMs), which is the heart of hydrogen fuel cells or electrolysers. These moves significantly expand its addressable market in new-age verticals. Company is in the process of setting up India's first lithium hexofluorophosphate (LiPF6) plant. It has also forward-integrated to produce electrolyte solvent, which boost battery manufacturing in India. With commercialisation of the battery chemicals plant, GFL sees itself addressing 15% of total battery cost.

Company's entry into new-age verticals provides visibility on its long-term growth. With rising contribution from specialised products, margins too will continue to expand. We estimate GFL's EBITDA to grow at a CAGR of 39.5% over FY21-FY24E (22.8% over FY22E-FY24E) and, considering its aggressive capex plans, we see our estimates as conservative if the management succeeds in executing the planned capex on time.

Related-party transactions are a big overhang on the stock. Company has guided for completion of its capex plan for wind power, or reversal of advances paid to INOX Wind, by Jun'22, and revoking bank guarantees by end-FY23. The reduced exposure to related-party companies and the improving health of group companies should significantly reduce risk from related parties and help in the rerating of GFL.

Though GFL is in a better position to capture opportunity in new-age verticals, it is trading at a significant discount to fluorine manufacturing peers SRF and Navin Fluorine. We expect GFL to outperform SRF and Navin over the next two years on earnings growth.

Table 4: Peer snapshot

Rs mn	CMP (Rs)	Mcap	Revenue FY22E	Revenue FY23E	Revenue FY24E	CAGR (%) FY21-24E	EPS (Rs) FY22E	EPS (Rs) FY23E	EPS (Rs) FY24E	CAGR (%) FY21-24E
SRF	2,006	5,94,133	1,17,151	1,28,794	1,46,929	20.5	55.5	62.6	73.3	21.9
Navin Fluorine	3,741	1,85,165	13,999	20,715	23,361	25.6	54.6	77.5	88.7	19.5
GFL	**1,967**	**2,16,157**	**38,666**	**42,921**	**47,623**	**21.6**	**67.4**	**86.8**	**102.9**	**45.9**

Rs mn	PE (x) FY23E	PE (x) FY24E	EV/EBITDA (x) FY23E	EV/EBITDA (x) FY24E	ROCE (pre-tax) FY23E	ROCE (pre-tax) FY24E	GB turnover (x) FY23E	GB turnover (x) FY24E	Capex FY23E	Capex FY24E
SRF	32.1	27.4	19.7	16.6	19.3	19.7	1.0	1.0	19,218	11,967
Navin Fluorine	48.3	42.2	33.6	29.1	23.0	22.5	1.7	1.3	4,887	3,157
GFL	**22.7**	**19.1**	**13.9**	**12.0**	**21.7**	**23.9**	**0.9**	**0.9**	**8,000**	**7,000**

Source: Company data, I-Sec research

Risks

Upside risks

- Prices of fluoropolymers are anticipated to harden over the next few years due to growing demand while supply addition is lagging. In our projections, we have assumed fluoropolymer (particularly PTFE) prices to dip.
- Faster than anticipated ramp-up of capacity utilisation in new fluoropolymers.
- Company has guided for significant expansion in fluorospecialty revenues while we remain conservative in our estimate due to lack of visibility.
- Faster than anticipated ramp-up of new-age verticals business.
- Favourable regulation on wind power and faster execution of wind power capacity could have potential significant power cost saving.

Downside risks

- Continued overhang from related-party transactions and any deterioration in the related parties' financial health.
- Slower than expected execution of new-age verticals and ability to secure lithium carbonate critical for success in battery chemicals.
- Higher than expected competitive intensity, lower realisation in fluoropolymers space, and slowdown in demand for fluoropolymers.
- Continued price erosion in fluorospecialties could prove to be a dampener.

Financial summary (consolidated)

Table 5: Profit and Loss statement

(Rs mn, year ending Mar 31)

	FY20	FY21	FY22E	FY23E	FY24E
Net revenue	**26,064**	**26,505**	**38,666**	**42,921**	**47,623**
Growth (%)	***(4.5)***	***1.7***	***45.9***	***11.0***	***11.0***
Less:					
Cost of goods sold	8,900	8,883	12,373	13,949	15,239
Gross profit	**17,164**	**17,622**	**26,293**	**28,971**	**32,383**
Gross profit margin (%)	***65.9***	***66.5***	***68.0***	***67.5***	***68.0***
Total Operating Expenses	12,448	10,894	14,190	13,081	14,130
EBITDA	**4,715**	**6,729**	**12,103**	**15,890**	**18,253**
EBITDA margin (%)	***18.1***	***25.4***	***31.3***	***37.0***	***38.3***
Growth (%)	***(40.2)***	***42.7***	***79.9***	***31.3***	***14.9***
Less: Depreciation & Amortisation	1,924	2,021	2,286	3,057	3,452
EBIT	**2,791**	**4,708**	**9,817**	**12,833**	**14,802**
Less: Financial expenses	1,048	1,126	1,079	908	567
Add: Other income	1,838	1,241	1,117	782	821
Recurring Pre-tax Income	**3,581**	**4,824**	**9,854**	**12,706**	**15,055**
Less: Taxation	1,428	7,039	2,483	3,202	3,794
Net Income	**2,154**	**(2,215)**	**7,371**	**9,504**	**11,262**
Minority / JV share	(70)	(28)	(32)	(37)	(43)
Net Income (Reported)	**2,224**	**(2,187)**	**7,403**	**9,541**	**11,304**
Net Income (Recurring)	**2,224**	**3,643**	**7,403**	**9,541**	**11,304**

Source: Company data, I-Sec research;

Table 6: Balance sheet

(Rs mn, year ending Mar 31)

	FY20	FY21	FY22E	FY23E	FY24E
ASSETS					
Current Assets, Loan & Advances					
Cash & cash equivalent	840	3,931	4,400	6,587	3,803
Debtors	5,647	6,671	9,004	9,995	11,090
Inventories	8,128	8,639	10,593	11,524	12,786
Other current assets	14,433	12,583	13,141	6,862	7,375
Total Current Assets	**29,049**	**31,824**	**37,139**	**34,968**	**35,055**
Current Liabilities & Provisions					
Creditors	3,671	3,387	4,411	4,308	4,780
Current Liabilities	2,382	2,622	3,051	3,258	3,472
Provisions	391	444	648	719	798
Total Current Liabilities & Provisions	**6,445**	**6,452**	**8,109**	**8,285**	**9,050**
Net Current Assets	**22,604**	**25,372**	**29,029**	**26,683**	**26,005**
Investments	**2,014**	**294**	**294**	**294**	**294**
Fixed Assets					
Net block	**27,222**	**27,568**	**31,282**	**36,225**	**39,773**
Goodwill	-	-	-	-	-
Total Assets	**51,840**	**53,234**	**60,605**	**63,201**	**66,072**
LIABILITIES AND SHAREHOLDERS' EQUITY					
Shareholders Fund					
Equity share capital	110	110	110	110	110
Reserves and surplus	37,046	34,818	42,222	49,855	57,768
Total Shareholders Fund	**37,156**	**34,928**	**42,332**	**49,965**	**57,878**
Borrowings	**17,175**	**15,807**	**15,807**	**10,807**	**5,807**
Deferred Tax Liability	(2,385)	2,638	2,638	2,638	2,638
Minority Interest	(107)	(139)	(171)	(208)	(251)
Total Liabilities & Shareholders' Equity	**51,840**	**53,235**	**60,606**	**63,202**	**66,072**

Source: Company data, I-Sec research

Table 7: Cashflow statement

(Rs mn, year ending Mar 31)

	FY20	FY21	FY22E	FY23E	FY24E
Cash Flow from Operating Activities					
PAT	2,803	6,229	7,371	9,504	11,262
Add: Depreciation	1,924	2,021	2,286	3,057	3,452
Add: Other Operating activities	246	(444)	(38)	127	(254)
Operating Cash Flow Before Working Capital change (a)	**4,973**	**7,806**	**9,619**	**12,688**	**14,459**
Changes in Working Capital	**491**	**(1,642)**	**(3,189)**	**4,534**	**(2,106)**
Net Cash flow from Operating Activities (a) + (b)	**5,464**	**6,164**	**6,431**	**17,222**	**12,353**
Cash Flow from Capital commitments (c)	**(11,961)**	**(2,737)**	**(6,000)**	**(8,000)**	**(7,000)**
Free Cash flow after capital commitments (a) + (b) + (c)	**(6,497)**	**3,427**	**431**	**9,223**	**5,353**
Cash Flow from Investing Activities					
Purchase of Investments	17	2,059	-	-	-
Others	22	(3,057)	1,117	782	821
Net Cash flow from Investing Activities (d)	**39**	**(998)**	**1,117**	**782**	**821**
Cash Flow from Financing Activities					
Equity issuance	-	-	-	-	-
Proceeds from fresh borrowings	7,252	(1,327)	-	(5,000)	(5,000)
Dividend paid including tax & others	(29)	(28)	-	(1,908)	(3,391)
Interest cost	(1,007)	(1,125)	(1,079)	(908)	(567)
Net Cash flow from Financing Activities (e)	**6,217**	**(2,480)**	**(1,079)**	**(7,817)**	**(8,958)**
Total Increase / (Decrease) in Cash (a) + (b) + (c) +(d) + (e)	(241)	(50)	469	2,188	(2,784)
Opening Cash and Bank balance	407	166	3,246	3,715	5,902
Closing Cash and Bank balance	166	116	3,715	5,902	3,118
Increase / (Decrease) in Cash and Bank balance	**(241)**	**(50)**	**469**	**2,188**	**(2,784)**

Source: Company data, I-Sec research

Table 8: Key ratios

(Year ending Mar 31)

	FY20	FY21	FY22E	FY23E	FY24E
Per Share Data (in Rs.)					
Recurring EPS	20.2	33.1	67.4	86.8	102.9
Reported EPS	17.9	(19.9)	67.4	86.8	102.9
Recurring Cash EPS	37.7	51.5	88.2	114.6	134.3
Dividend per share (DPS)	-	-	-	17.4	30.9
Book Value per share (BV)	337.1	316.6	383.6	452.7	524.4
Growth Ratios (%)					
Operating Income	(4.5)	1.7	45.9	11.0	11.0
EBITDA	(40.2)	42.7	79.9	31.3	14.9
Recurring Net Income	(48.1)	63.8	103.2	28.9	18.5
Diluted Recurring EPS	(48.1)	63.8	103.2	28.9	18.5
Diluted Recurring CEPS	(30.1)	36.5	71.1	30.0	17.1
Valuation Ratios (% YoY)					
P/E	101.8	62.1	30.6	23.7	20.0
P/CEPS	54.6	40.0	23.4	18.0	15.3
P/BV	6.1	6.5	5.4	4.6	3.9
EV / EBITDA	51.1	35.4	19.6	14.5	12.5
EV / Operating Income	9.2	9.0	6.2	5.4	4.8
EV / Operating FCF	44.1	38.6	37.0	13.4	18.5
Operating Ratio					
Other Income / PBT (%)	51.3	25.7	11.3	6.2	5.5
Effective Tax Rate (%)	39.9	145.9	25.2	25.2	25.2
NWC / Total Assets (%)	40.1	40.3	40.6	31.8	33.6
Inventory Turnover (days)	113.8	119.0	100.0	98.0	98.0
Receivables (days)	79.1	91.9	85.0	85.0	85.0
Payables (days)	51.4	46.6	41.6	36.6	36.6
Net Debt/EBITDA Ratio (x)	3.1	1.7	0.9	0.3	0.1
Capex % of sales	45.9	10.3	15.5	18.6	14.7
Return/Profitability Ratio (%)					
Recurring Net Income Margins	8.5	(8.3)	19.1	22.2	23.7
Post-tax RoCE	3.4	6.7	13.5	16.2	17.9
Post-tax RoIC	3.6	7.2	14.7	17.9	19.5
RoNW	6.2	10.1	19.2	20.8	21.1
Dividend Yield	-	-	-	0.8	1.5
Gross Margins	65.9	66.5	68.0	67.5	68.0
EBITDA Margins	18.1	25.4	31.3	37.0	38.3

Source: Company data, I-Sec research

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