

# Valves

## Relevant Market Shares



# Understanding Relevant Market Share is Important

Whether a valve company is selling, buying, or seeking organic growth and higher profits, the knowledge of valve company market shares is important.

- Selling: In general another valve company with synergisms will pay more for a valve supplier than will a private equity investor. This continuing analysis of market shares is a good way to select potential acquirers.
- Buying: The analysis of market shares is very important to valve company acquirers. This analysis should really be just the starting point. Market shares by specific product, process, industry, and location are each significant. While market share for all valves in Asia is part of the report, it is possible to expand this to market share for turbine bypass valves for coal fired power plants in India.
- Organic growth: Sales are not made in a vacuum. Expanding sales means taking share away from some of the existing suppliers. So a market share analysis is the starting point and also a continuing effort. The competitor share knowledge is important for many throughout the organization including the local salesperson. As competitors merge and gain share it is important to track these changes.
- Higher profits: The # 1 and # 2 suppliers in a given market have the potential for higher profits due to efficient use of resources. Analyzing the profitability of competitors provides insights on how to raise profits. The starting point is market shares.
- A new concept entitled Market Share Hierarchy Analysis provides a unique route to obtaining accurate and relevant share information.

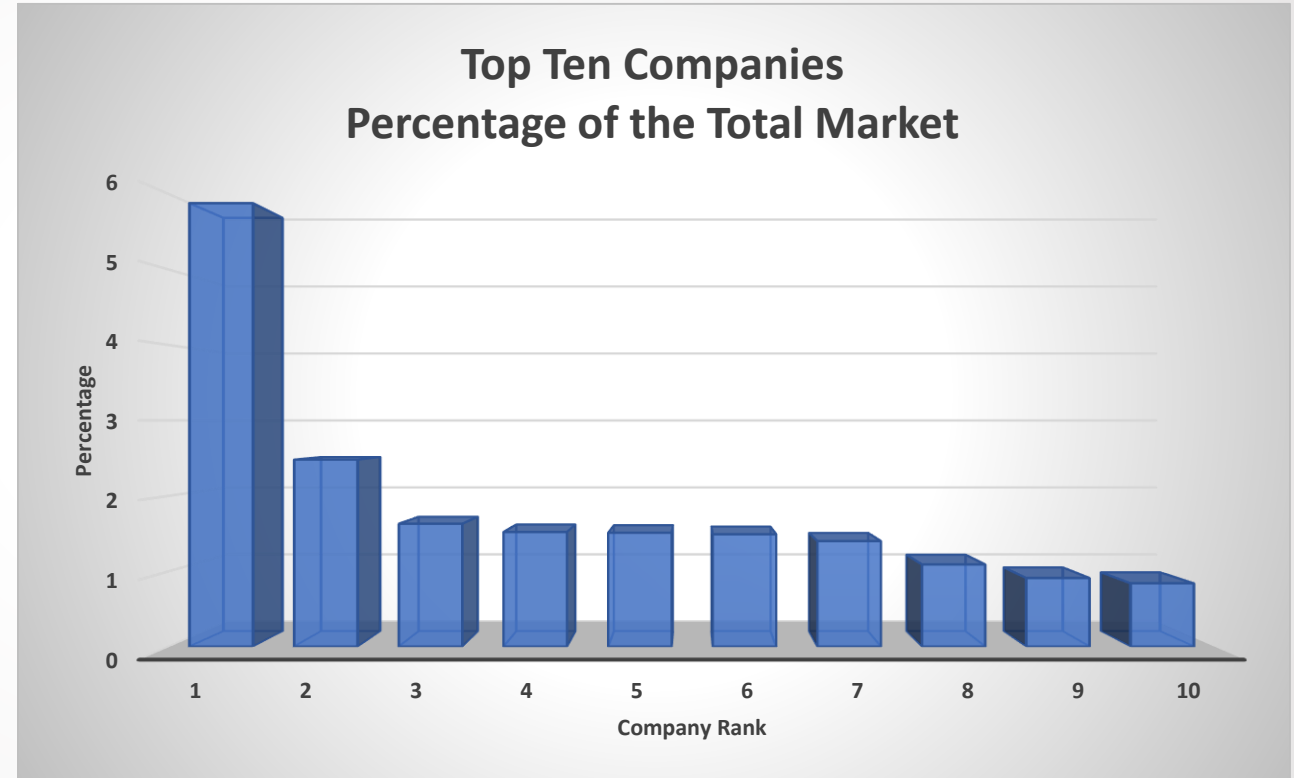


# Market Shares for 140 Valve Companies

The McIlvaine market share analysis for each valve supplier is valuable for those companies considering acquisitions, divestiture or seeking to increase share organically. This continually updated database and analysis is part of *Industrial Valves: World Markets*.

Features include

- Continuous updating for last 12 months
- Expansion of number of companies
- Unique accuracy due to Market Share Hierarchy Analysis



# Market Share Analysis for any Valve Design

Market shares can be provided for any specific application such as choke valves used in oil and gas extraction

## Other examples are

- Turbine bypass
- Anti surge
- Lined valves for chemical
- Molecular sieve switching
- Gate valves for 5000 psi
- Rising Stem Ball Valves
- Butterfly valves for biopharmaceutical closed systems
- Aseptic valves for juice processing

Choke Valve Market Shares					
Company	Descriptor Axial	Size	Max Pressure psig	Revenues 2019	Share %
Cameron		1"-6"	10,000	xx	xx
Carter				xx	xx
Circor	In line choke ball			xx	xx
CCI ( IMI				xx	xx
Flowserve				xx	xx
FMC				xx	xx
Master Flow	Diver or ROV retrievable	1"-10"	20,000	x	xx
Mokveld				xx	xx
N-Line	Distinguish between control and choke	2"-16"	20,000	xx	xx
Emerson				xx	xx



# Market Shares by Application and Process

Industry	Process	Supplier								
		F	S	X	IT	U	I	G	B	5
Oil & Gas	Artificial Lift or Fracking	0%	0%	0%	0%	0%	0%	5%	26	13%
Refinery	Intake	5%	1%	12%	4%	0%	0%	0%	0%	0%
Refinery	Steam	8%	0%	1%	0%	1%	0%	0%	4	0%
Refinery	Process	8%	3%	1%	8%	3%	1%	0%	3	0%
Refinery	Wastewater	5%	3%	12%	4%	1%	0%	0%	3	0%
Petrochemical	Intake	5%	1%	12%	4%	0%	0%	0%	0%	0%
Petrochemical	Steam	8%	0%	1%	0%	1%	0%	0%	4%	0%
Petrochemical	Process	8%	3%	1%	8%	3%	1%	0%	3	0%
Petrochemical	Wastewater	5%	3%	12%	4%	1%	0%	0%	3	0%

## Valve Purchases by Food Manufacturers in 2018 - \$ millions

	ADM	Anheuser Busch	Cargill	Coca Cola	Con Agra
Total	8	10	7	10	3
• Ball	3				1
○ Americas	1.5				1
○ EMEA	0.7				0
○ Asia	0.8				0
• Butterfly	1				0.3
○ Americas	0.5				0.3
○ EMEA	0.2				0
○ ASIA	0.3				0
• Globe	1.2				0.4
○ Americas	0.8				0.4
○ EMEA	0.2				0
○ Asia	0.2				0
• Gate	1.3				0.3
○ Americas	0.8				0.3
○ EMEA	0.2				0
○ Asia	0.2				0

### Forecasts for 550 Purchasers

Industry	No. Included
Total	555
Chemical	40
Electronics	15
Food	40
Metals	30
Mining	20
Oil and Gas	50
Pharmaceutical	30
Power	70
Pulp & Paper	50
Refinery	60
Stone	50
Wastewater	50
Water	50

Check, industrial plug, and  
safety relief valves also  
included.



## Valve Purchases by Indian Customers in 2019

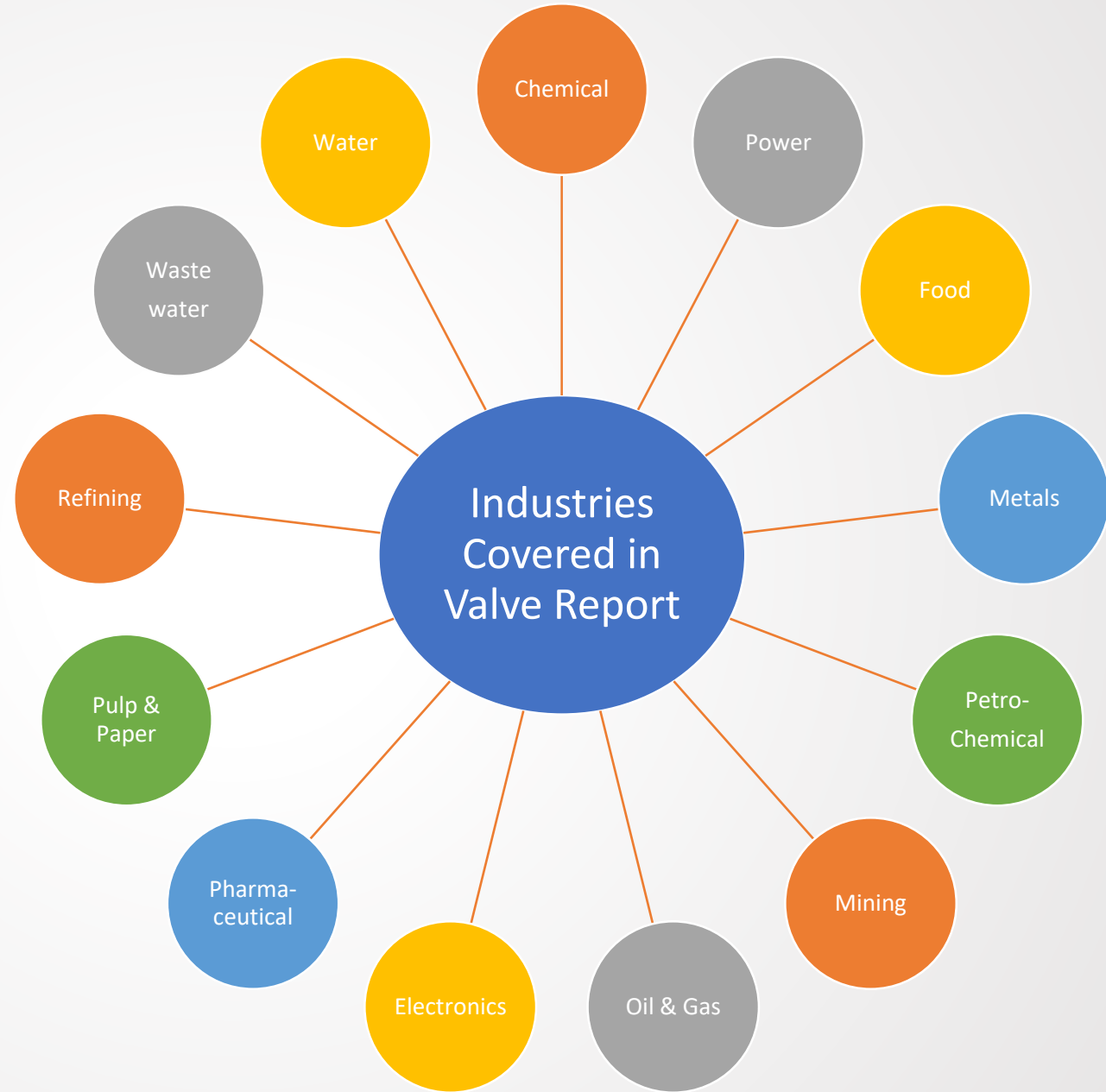
Customer	Type	Country	Industry	Valve Purchases \$ Millions
Bharat Petroleum	Operator	India	Oil & Gas	70
Coal India	Operator	India	Mining	30
Hindustan Petroleum	Operator	India	Oil & Gas	61
Hindustan Zinc	Operator	India	Mining	20
Indian Oil Corp.	Operator	India	Oil & Gas	130
NTPC	Operator	India	Power	200
ONGC	Operator	India	Oil & Gas	38
Reliance Industries	Operator	India	Oil & Gas	117
Vedanta	Operator	India	Mining	13



Industrial Valves: World Markets provides valve forecasts for 13 different industries in 80 countries and sub regions. There is further segmentation by 7 types of isolation and 7 types of control valves. These forecasts are updated continually during the year. Excel spreadsheets are supplied along with online displays.

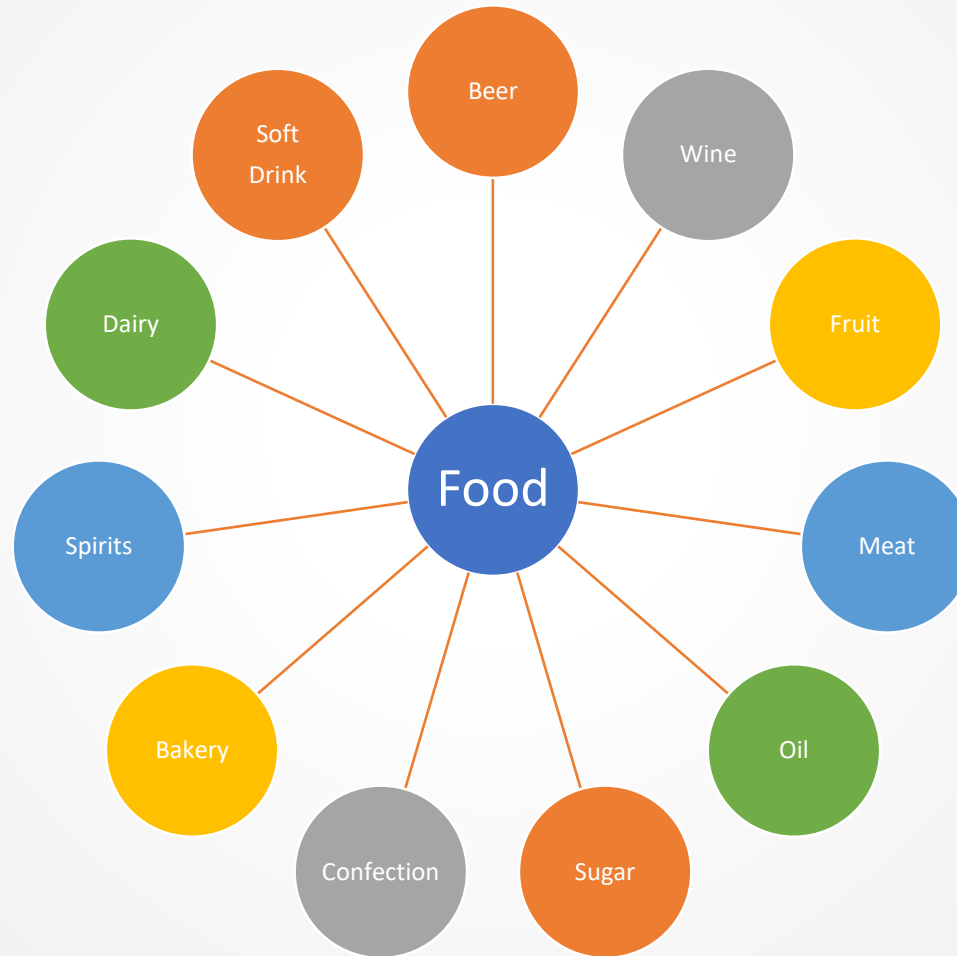
Valve purchases for the top 100 customers are included along with market shares for 140 valve companies.

This is the starting point for market shares in specific niches.





# Food Market Segments



The basic report provides food value forecasts by type of value and country.

Further segmentations are available for each industry in each country.

Edible oil forecasts are available for corn oil, palm oil and other oils.

Sugar can be segmented into cane and beet.

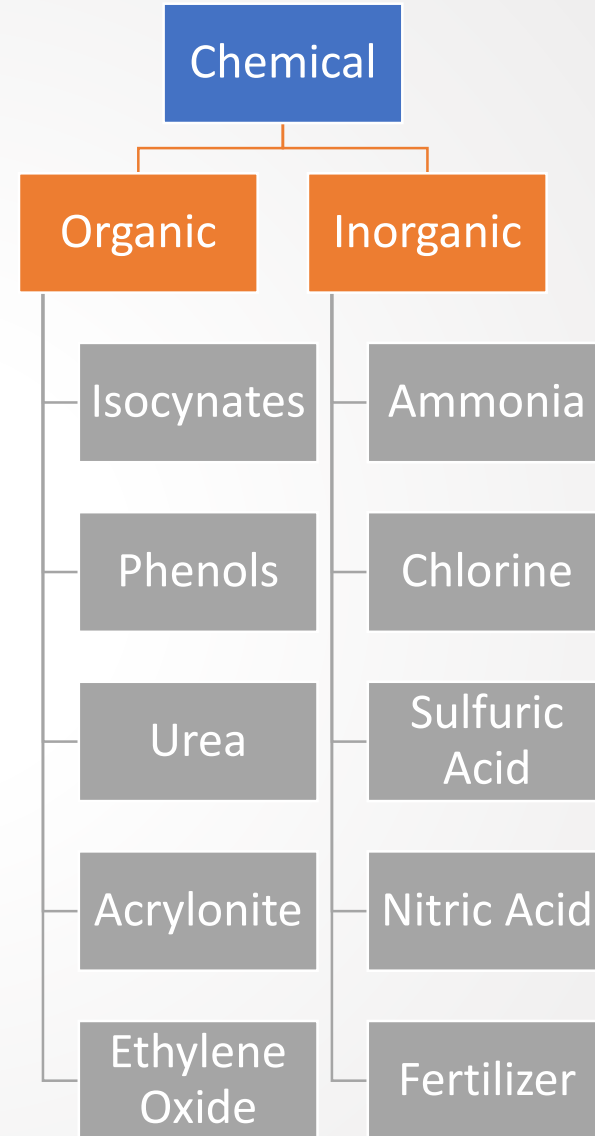
It can also be segmented by process.

Cane sugar plants often produce power with bagasse combustion. This adds to the value potential for these plants in India, Brazil and elsewhere

The chemical industry can be segmented by two major categories and then by 10 sub categories.

Each sub category can also be further segmented. For example some chlorine manufacturers also have processes which use the chlorine which is produced.

The use of special plastic line valves for each application can be and has been analyzed

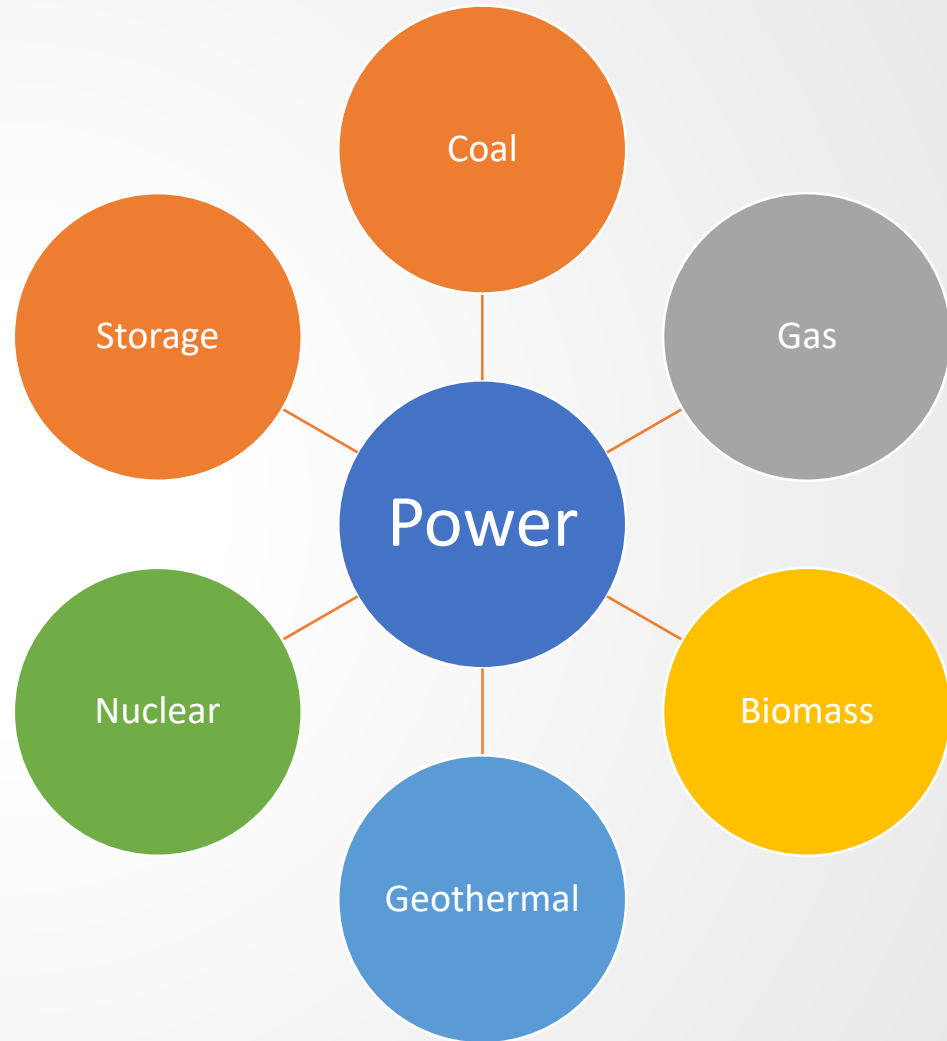


# Power

The largest use of valves in the power industry is for coal fired generators. Gas turbines is then followed by nuclear and biomass.

Geothermal and hydro require valves but solar and wind have few valves with exception of lubrication and in the case of solar, the molten salt technology.

The 15 largest power producers buy more than 50% of the valves. There are only 900 power generators with more than 1000 MW of capacity. Shenua Goudian has 200,000 MW



# Market Share Hierarchy to Determine Valve Shares

FGD in the power industry is used as an example to show that accurate forecasting can be achieved with the market share hierarchy approach. Power investment results from its share of GDP. Coal fired power is the share of power for this fuel. The FGD valves used in SO<sub>2</sub> capture are a function of the share of wet vs dry systems. Dry systems require fewer valves.

FGD Valve Market Share Hierarchy		
<b>Sequence</b>	Choice	Alternative
<b>GDP</b>	Power	Other
<b>Power</b>	Fossil Fuels and Waste	Hydro, Wind, Solar
<b>Fossil Fuel</b>	Coal and Waste	Gas Turbine
<b>SO<sub>2</sub> Removal</b>	Incorporated	Not Utilized
<b>Absorption</b>	Wet	Dry
<b>Wet</b>	Limestone	Lime, Ammonia, MgO
<b>Design</b>	Spray Tower	Tray Tower

Spray tower designs use twice the slurry used in tray towers. The lower fan costs are offset by higher pump and valve costs. Dry systems are further split into semi dry and circulating dry scrubbers. The semi-dry scrubbers require some slurry valves associated with spray driers. The circulating dry scrubbers require knife gate and other valves associated with the recycle of powdered lime and gypsum. Each process and sub process in the sequence needs to be predicted in order to obtain the most accurate forecast.

When the market share for each of the processes and sub processes is determined, the market for the valves can be determined.

The market share for individual suppliers is impacted by process choices. Fujikin has a leadership position in control slurry valves for semi-dry systems.

ITT and Emerson have leadership in the large knife gate valves for the spray tower systems.

Since the McIlvaine Company is already preparing market share analysis by absorber type, it can make these more accurate valve determinations.

FGD Valve Market 2021 \$ millions	
Total Valve	70,000
Power	9,000
Fossil	8000
Coal	5500
SO2	400
Wet	350
Wet Limestone	300
• New	160
○ Spray Tower	130
○ Tray Tower	30
• Replace, Repair	140
○ Spray Tower	115
○ Tray Tower	25

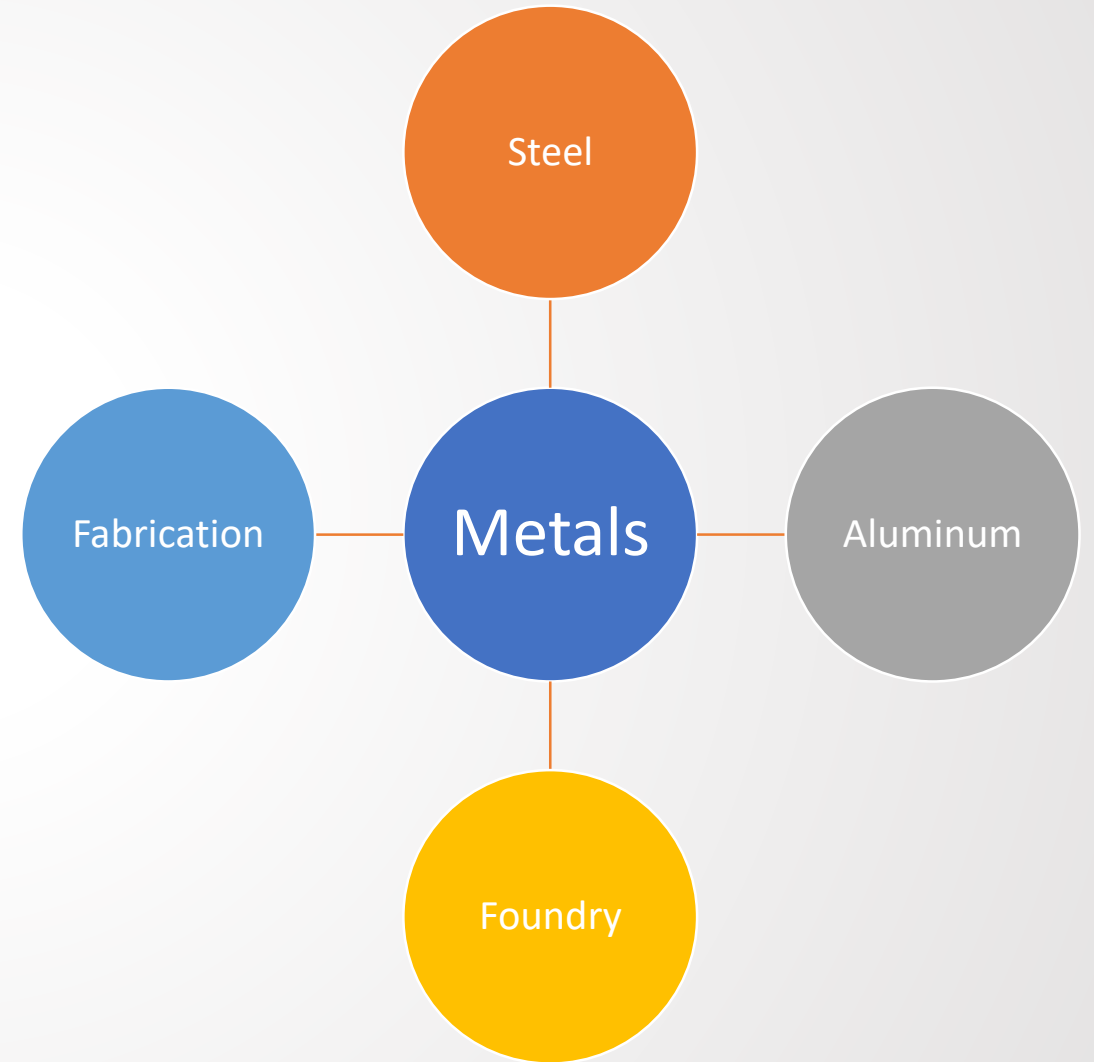


# Metals

Most large producers have plants in multiple countries. Arcelor Mittal has plants throughout the world and centralizes much of the decision making for flow and treat products in Belgium.

There are hundreds of niche applications in the metals segment. Analysis can be made for any one or many. A list with the NAICS code for each application in the metals sector is included along with analysis in the basic valve report. However, forecasts in the report are only for the entire sector.

Lubrication and cooling applications in metal working require many valves and those pursuing this market can justify further segmentation

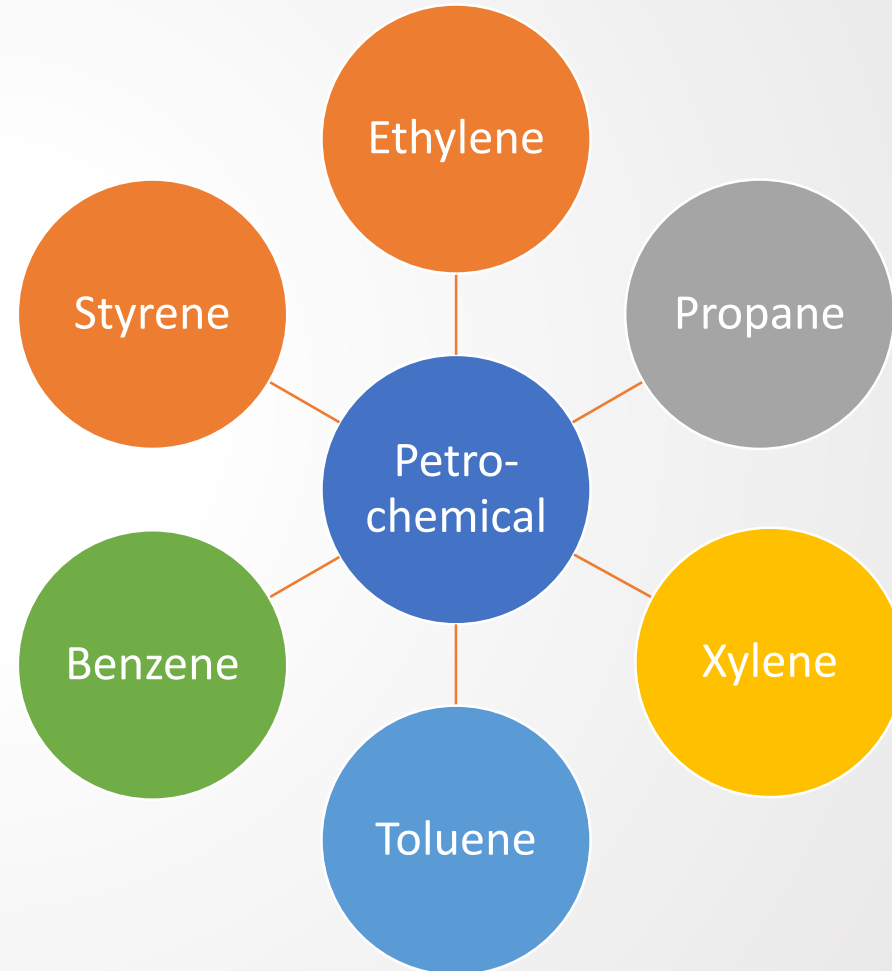


# Petrochemical

Process flow diagrams and analysis for each valve requirement can be provided.

With hydraulic fracturing and ethane production there is a big market to take advantage of this inexpensive feed stock for ethylene production in the U.S.

One alternative is the gasification of coal which is quite popular in China. This source is the feedstock for 25% of the petrochemicals in China



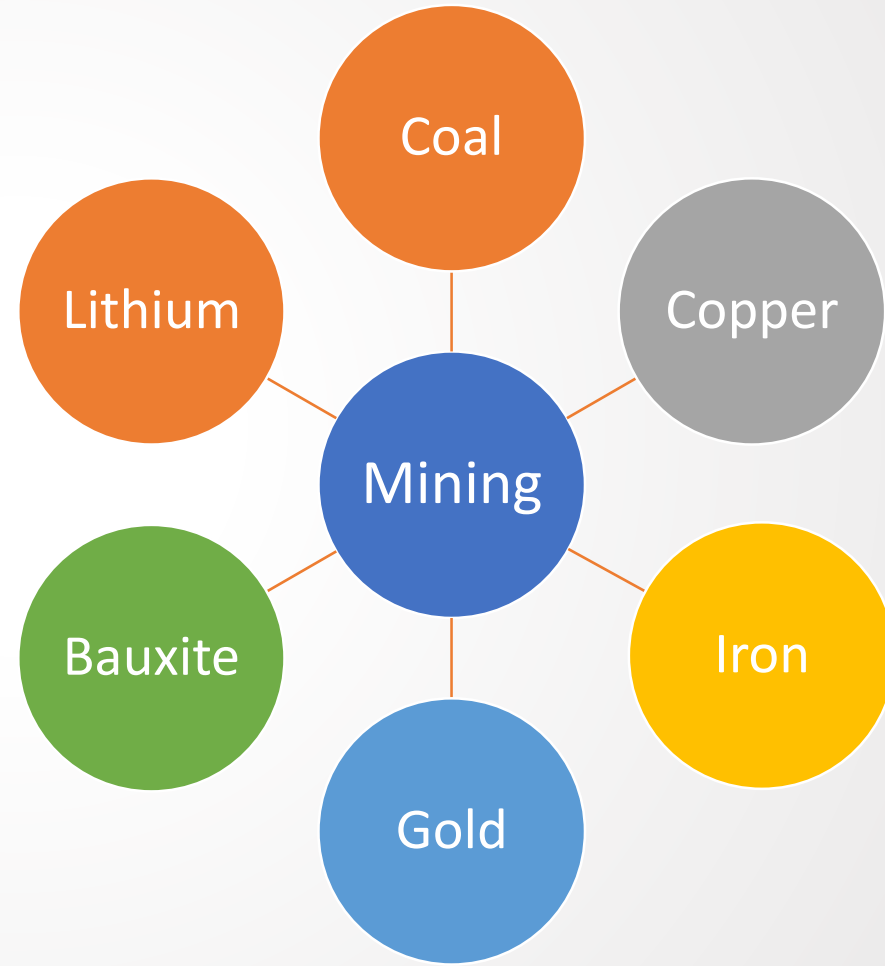
# Mining

Valves are used in ore extraction, processing, and ore transport.

Mogas sponsors a High Pressure Acid Leaching (HPAL) conference to further its leadership in this one valve niche.

The markets vary considerably depending on the ore and country e.g. Chile for copper and Australia for lithium as well as iron ore.

The market is concentrated with just 50 companies purchasing the majority of valves





# Oil and Gas

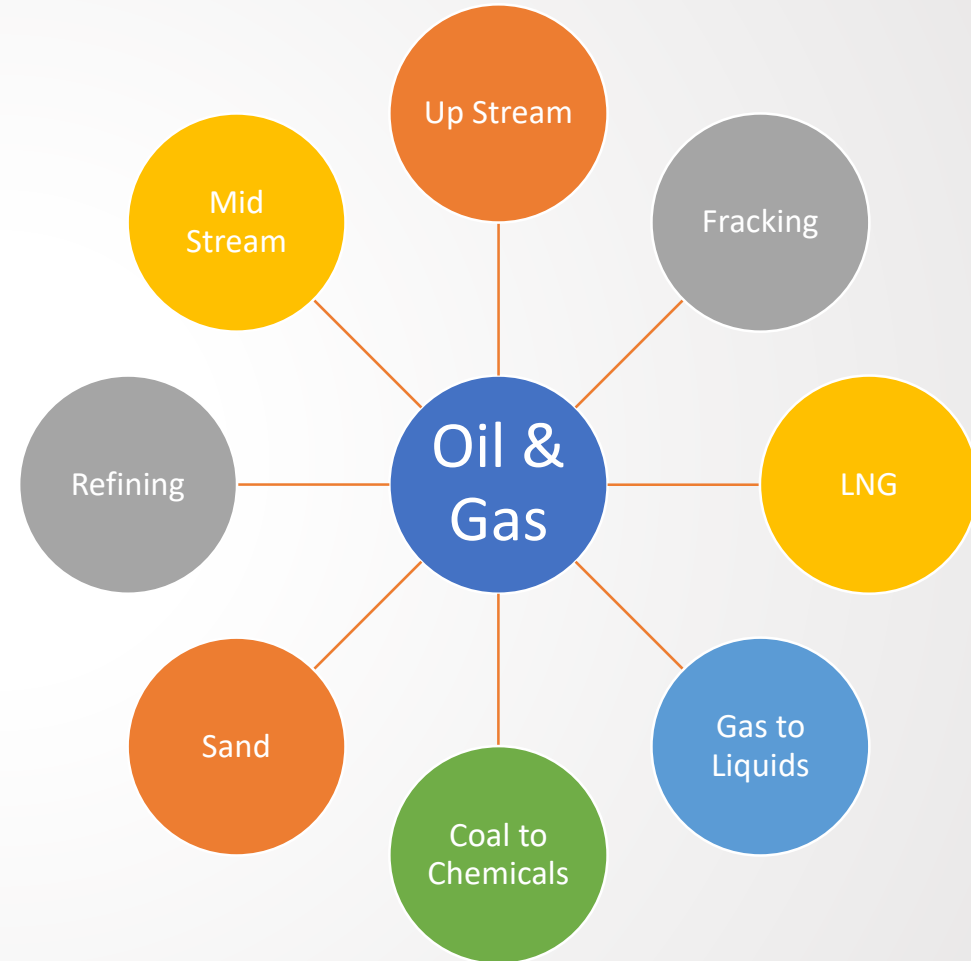
This is a big market for valves. It warrants segmentation and even sub-segmentation.

LNG can be further segmented into liquefaction, transport and regasification.

Special analyses are available for choke, molecular sieve switching, and other challenging processes.

Sub-sea valves have high pressure and other unique requirements.

Coal to chemicals is a growing market in Asia.

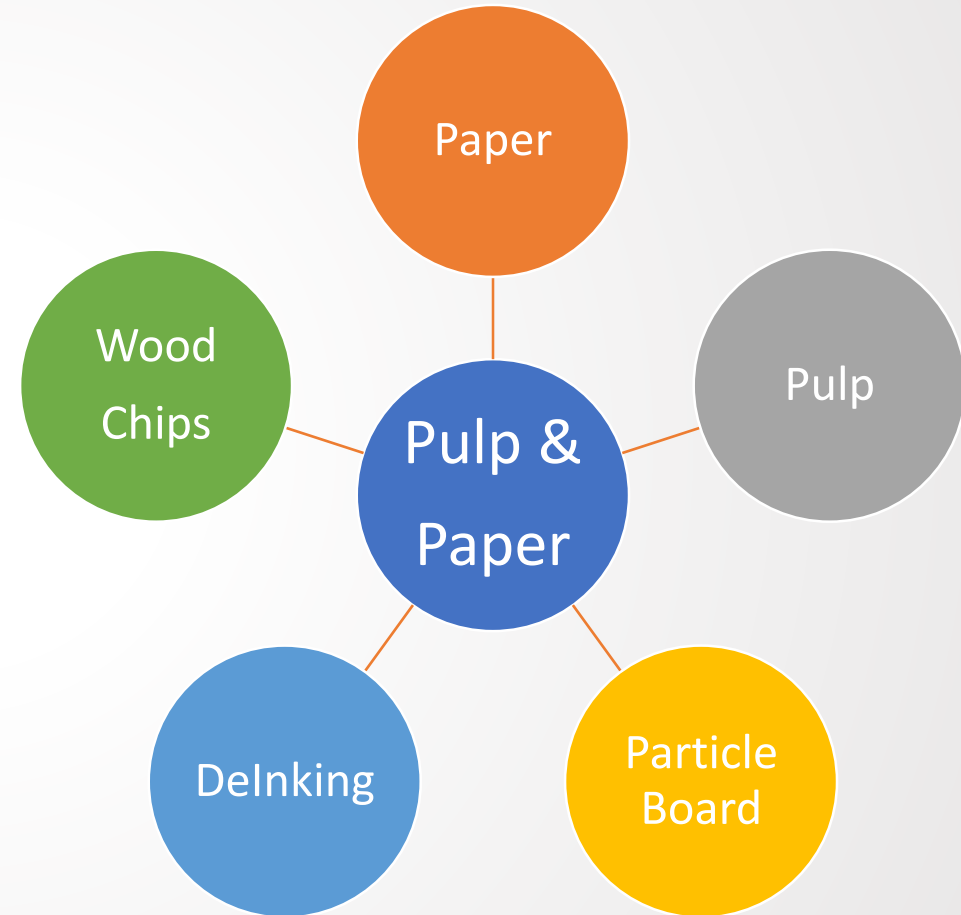


# Pulp and Paper

Recycled pulp using deinking and processing of scrap paper is a growing segment.

Wood chips are being supplied for use in plants switching from coal to renewable fuels. Environmentalists are saying that this approach sucks the CO2 out of the air and see the planting of a trillion trees as the solution to greenhouse gas emissions.

The black liquor recovery boiler is a challenging valve application.



# Pharmaceuticals

The biopharmaceutical industry is growing rapidly. Gene therapy (monoclonal) is growing at double digit rates. Closed systems require special butterfly fly valves to allow safe transfer of product from one process to another. Relatively few producers buy most of the valves. Some of the market is now in small cell therapy facilities making very expensive drugs.

The trend toward pre fabricated facilities means that companies such as Danaher now can supply a plant on a trailer complete with installed valves and accelerate the time from order to plant operation for a new biopharmaceutical plant. This is critical due to the limited time until patents expire. This approach shifts some of the valve decision making to the system supplier and away from the operator.

