AWE Most Profitable Market Program

The Most Profitable Market is an Aggregation of Niches

- The $10 trillion Air, Water, Energy (AWE) Market is an aggregation of 1 million niche markets.
- The Most Profitable Market (MPM) is achieved by selecting those niches which are most appropriate.
- The size and requirements for success in each niche are determined by the relevant facts multiplied by the appropriate factors.
- The more shared facts and factors across products the higher the potential EBITDA
- A niche network of facts and factors can be continually updated to provide revenues and other estimates used for the forecasts, and value propositions.
- Reliable forecasts can become the foundation of management strategy as well as use throughout the organization down to quotas in sales territories.
- Mcilvaine has been supplying forecasts and niche knowledge since 1974 and can support any or all niche programs.

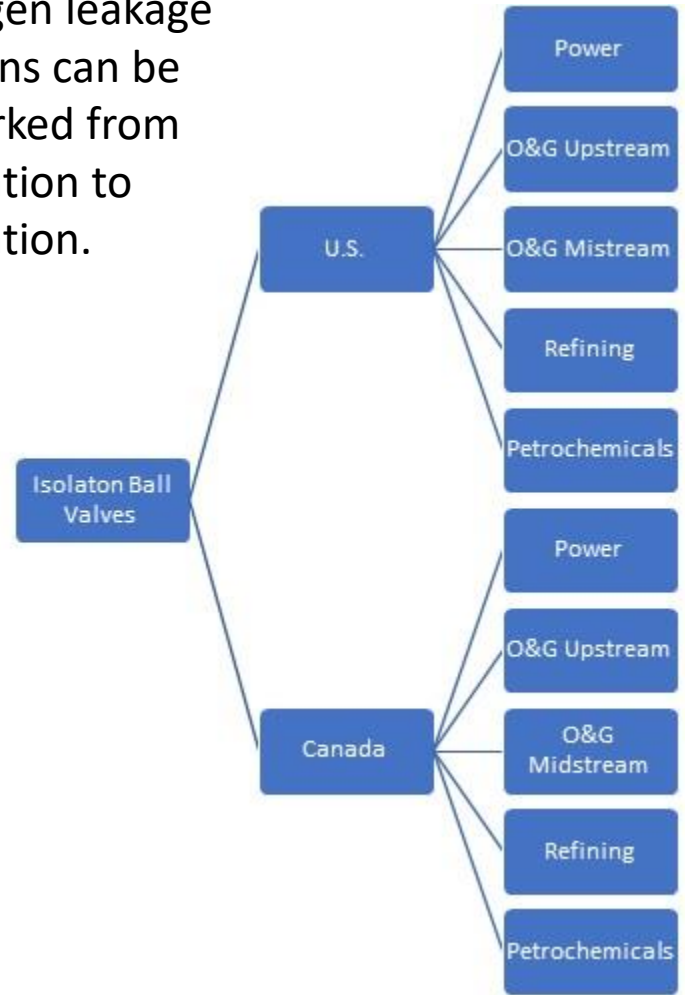# Thousands of products in thousands of applications in 258 locations

There are thousands of products and thousands of unique application niches spread across 258 geographical entities.

What makes accurate analysis affordable is that an understanding of each application niche and geographical entity is transferable from product to product in a niche network.

It is also what makes it desirable to work with a company such as Mcilvaine who has been providing knowledge networks since 1974.

For example all the new developments around hydrogen impact O&G Midstream but also Power with similar challenges for valve leakage.

Hydrogen leakage solutions can be networked from application to application.

Isolaton Ball Valves

U.S.
- Power
- O&G Upstream
- O&G Mistream
- Refining
- Petrochemicals

Canada
- Power
- O&G Upstream
- O&G Midstream
- Refining
- Petrochemicals

The Starting Point is TAM and the results are strategy and quotas

A total available market forecast leads you to the niches bearing further investigation. The Serviceable Available Market forecasts quantify these niche opportunities. The serviceable obtainable market forecasts assess the achievable revenues given the competition and other factors.
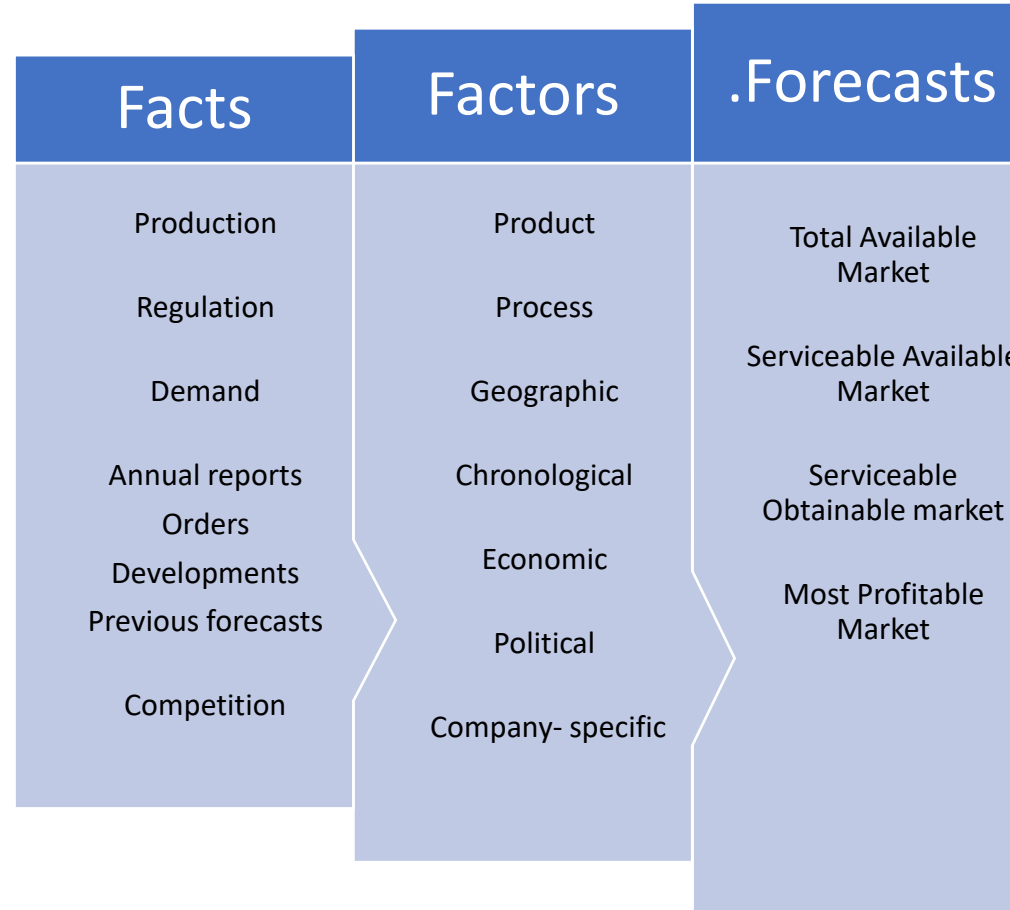
The most profitable market forecasts include only those revenues for which a validation plan can be created to assure significant market share.

The present revenue projection can be used to assign sales targets for each sales territory. The future forecasts should be the foundation of management strategy.

Facts x Factors = Forecasts

The relevant facts need to be multiplied by the relevant factors. The result is revenues and quantities which can be the foundation of business strategy and local sales targets.

Facts	Factors	.Forecasts
Production	Product	Total Available Market
Regulation	Process	Serviceable Available Market
Demand	Geographic	Serviceable Obtainable market
Annual reports	Chronological	Most Profitable Market
Orders	Economic	
Developments		
Previous forecasts	Political	
Competition	Company- specific	

Products

Product Segmentation Around Network Niches

- There are many thousands of products used to treat, transport, or measure air, gases, water, liquids, and products of combustion.
- Classification has been created to facilitate niche networking. For example, the many valve types are further segmented by service. The categories are severe, critical, general, and unique. There could be more facts and factors common to a ball and butterfly valve in severe service than between a ball valve for general and one for severe service.
- Automaton is divided into guide, control and measure
- In general products are divided into segments reflective of the supplier offerings.
- Another distinction is between discrete and process. Some large suppliers of AWE products for the automotive industry are not active in any process application.

AWE Product Categories

| Air and gas movement	Fans, blowers, compressors
Air Pollution Control	Fabric filters, precipitators, scrubbers, adsorbers, thermal
Automation	Guide including software, controls and analyzers
Components	Seals, linings, drives, housings, materials
Filtration	Membranes, cartridges, filter presses, screens, strainers
Heat Transfer	Cooling towers, liquid and gas heat exchangers
Hose & Couplings	Also fittings, pipe, ducting
Pumps	Centrifugal, reciprocating, rotary and others
Solid/Liquid	Evaporators, dryers, mixers
Separation	Centrifuges, clarifiers, cyclones, thickeners
Treatment chemicals	Water treatment and product reactants such as lime
Valves	Control and isolation for liquids and gases

Applications

Thousands of Industries and Applications

Chemical	Inorganic and organic with many sub sectors
Electronics	Semiconductor, flat panel, nanotechnology
Food	Many segments and sub segments e.g. cane vs beet sugar
Oil and gas	Upstream and midstream from shale, sub sea
Refining	Various products including petrochemicals
Mining	Nany different ores with varied geographies and processes
Pharmaceutical	Non-biological and biological further divided in many segments
Pulp and paper	Pulp mills, paper mills, recycling plants
Iron and Steel	Basic oxygen, DRI, electric furnaces, foundries
Municipal Water	Lake, well, desalination
Municipal Wastewater	Primary treatment, secondary treatment, water reuse
Discrete	Lubrication, cooling, washing
Mobile	Automotive, ship, rail
Other Manufacturing	Many industry segments are included from textiles to furniture

Gas turbines require lots of AWE products. Mcilvaine has a knowledge network on this technology from which niche networks can be created.

Knowledge networks on other power segments such as solid fuel combustion, biomass, hydropower, wind, solar, and nuclear can also be leveraged to create niche networks.

One technology competes with another. With the ability to fire hydrogen and eliminate CO2 emissions the gas turbine market share is positively impacted.

Gas Turbine and Combined Cycle Decisions
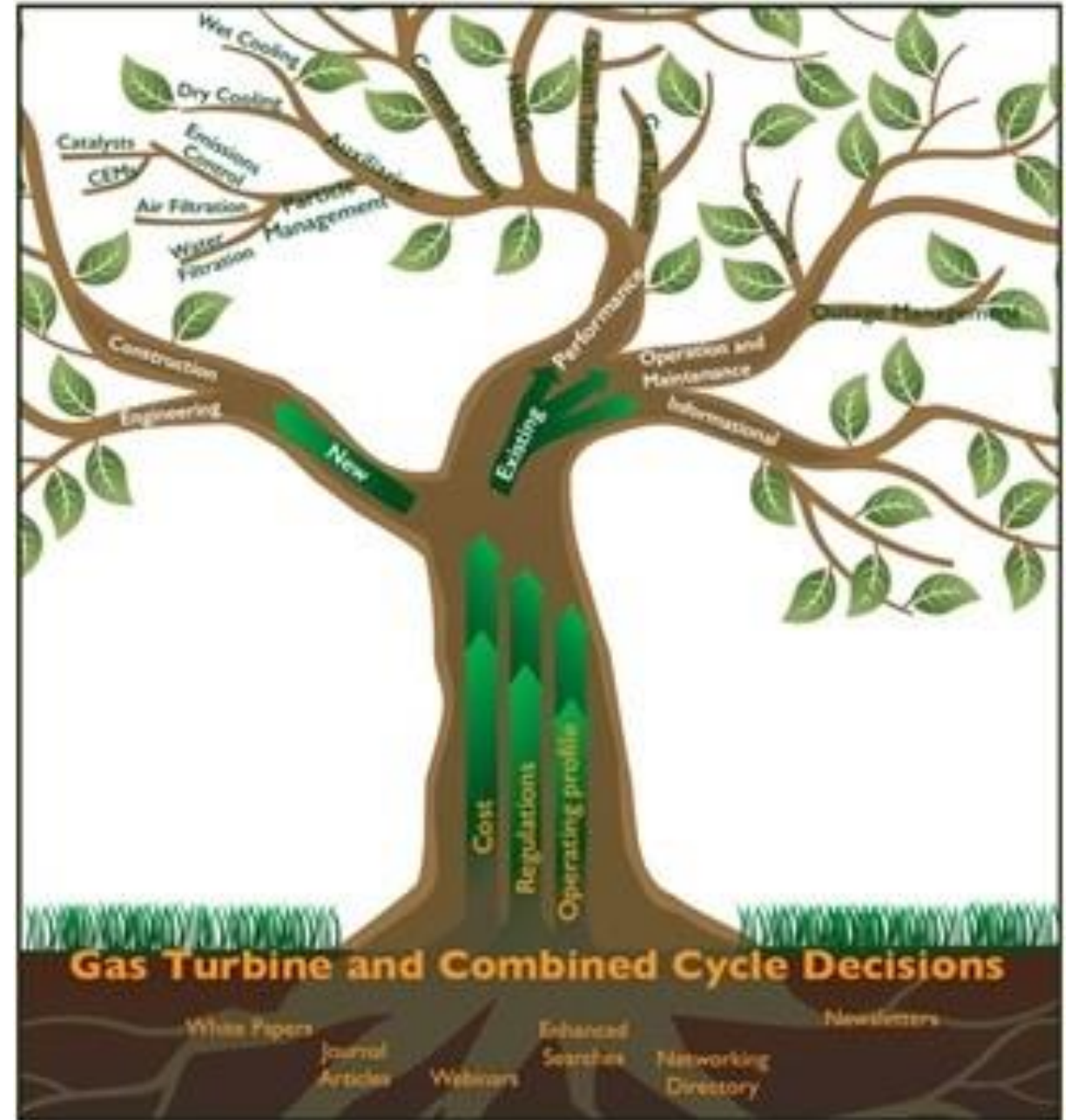
Geographical Niches

There are potentially 258 sub niches and niches. China is divided into 28 provinces. The U.S. is divided into 9 regions and 50 States. Countries are also aggregated into sub regions and regions. In a small market all the country sub niches in a sub region may need to be aggregated to constitute a MPM niche.

Standard

80 World segments

Tiny countries are aggregated in sub regions to warrant niche status

Supplemental

100 Small countries

Some tiny countries may be big in one industry such as palm oil or copper

Intra -country

78 States and Provinces

The U.S. and China have States and provinces large enough to constitute niches

The detailed analysis results in forecasts for next year for each salesman plus long-range forecasts for top management.

This graph shows the market for cleanroom isolators in cell and gene therapy in California. Since California represents a larger market for these isolators than all but one or two countries, this state-by-state analysis necessary.
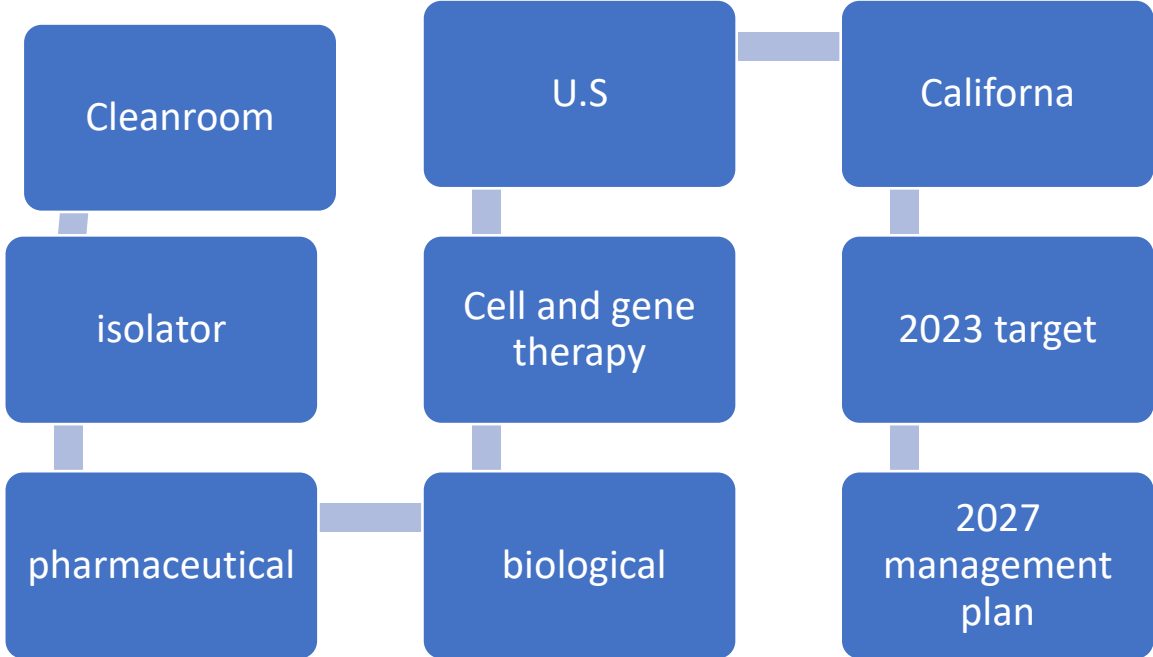
The forecasts should be reliable and detailed enough to be used for local sales quotas and for the longer-range management plan.

x

As shown below the local salesman in California is responsible for 3 product sub -nches in 2 industries or 6 sub- niches. The regional product manager is responsible for 1 product in 3 States in two industries or 6 sub- niches.   Since regional managers spend less time per sub niche it is likely that they are involved in more sub niches than the local salesman

Sub-niches for local salesman and regional manager				
Industry A	Product 1	Product 2	Product 3	
California	Cal local Regional	Cal local	Cal Local	Sub niches combine for different targets for local salesman and regional product manager
Wasington	regional			
Oregon	Regional			
Industry B				
California	Cal Local Regional	Cal Local	Cal Local	
Washington	Regional			
Oregon	Regional			

U.S. Regional sample for the pharmaceutical industry

Region	State	2022 Market %	5- Year CAGR	2027 Market %	2022 World %
Pacific	California	13.36%	6	17.90%	3.74%
Pacific	Washington	1.07%	6	1.44%	0.30%
Pacific	Oregon	0.35%	4	0.43%	0.10%
Pacific	Alaska	0.01%	4	0.01%	0.00%
	Total	**14.79%**		**19.78%**	**4.14%**

MPM Program

Moving Forward one niche at a time

- One factor: pharmaceutical market % by State or Lithium mining by country
- One niche: turbine bypass valves or rotary blowers for aeration
- One product: peristaltic pumps or particulate scrubbers
- All products: the entire product range of a company
- MPM Program: Continuous leveraging of facts and factors for forecasts used as the basis of management strategy and sales quotas

One factor

One niche

One product

All products
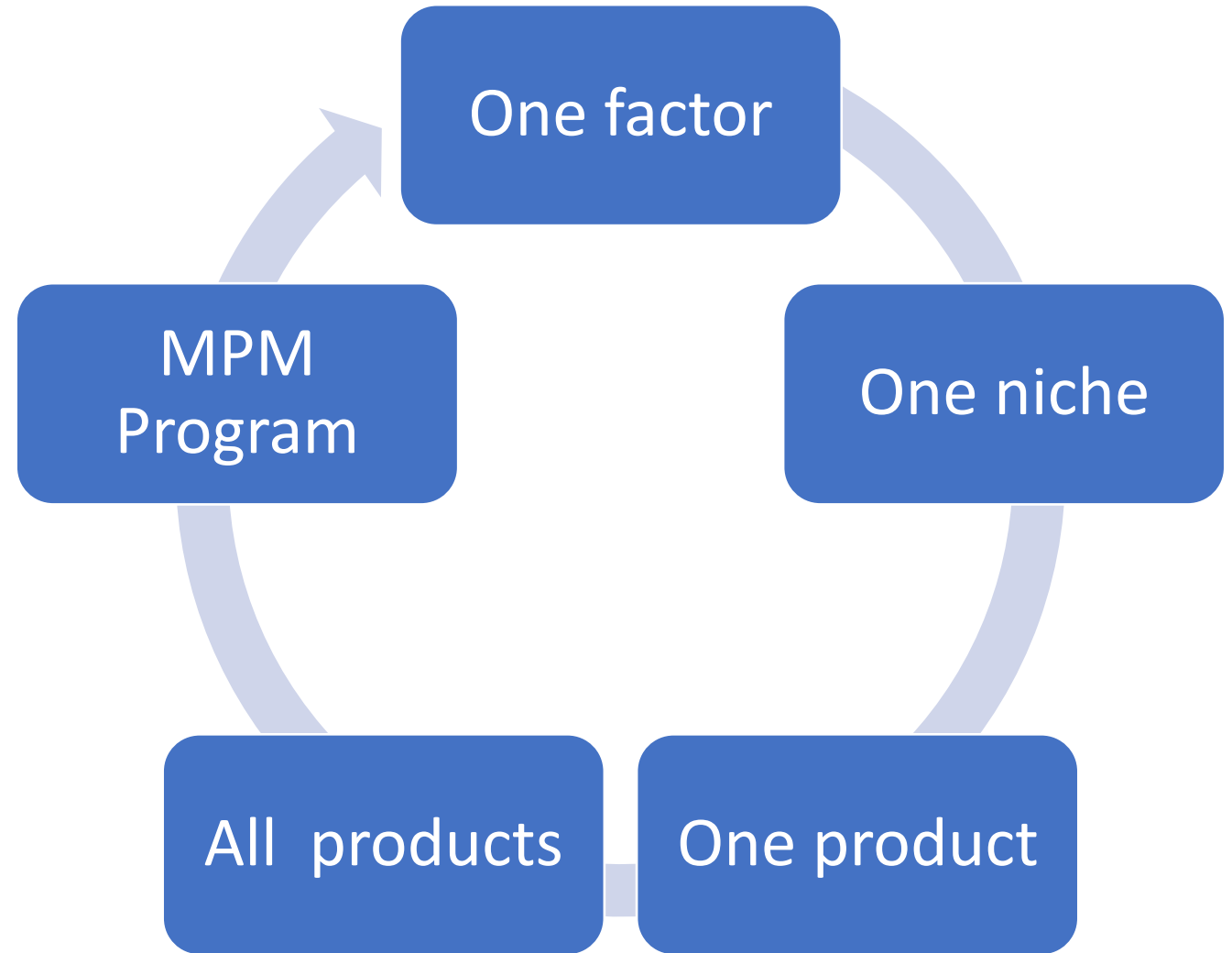
MPM Program

Utilize existing reports plus consulting

- The MPM program can be introduced one niche at a time or for all niches.
- The project can be entirely executed with a consulting contract or in combination with standard reports.
- Standard Repots include:
  - No 64 AWE Markets with an overview of all segments
  - Individual reports on fabric filters, scrubbers, FGD, NOx, IIOT, liquid filtration, centrifuges, pumps, valves, cleanrooms, membranes, air filtration
  - Focused reports on sub segments such as BECCS or pfa lined pumps, lithium miming, beet or cane sugar etc.
  - Industry segmentation by country: The percentage AWE market by country through 2027 for all power or just coal or nuclear; all mining or just copper etc.
  - Industry segmentation by State: Same industries as by country

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