

AUSTRIA

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Austria has a well-developed market economy and its population of just over 8 million enjoys a high standard of living. The country is landlocked, covers an area of around 84,000 km² and its mineral resources include iron ore, lignite, tungsten (scheelite) and a variety of industrial minerals. Mining, however, is a minor sector and the economy is driven mainly by the service industry which provides employment for more than two-thirds of the workforce. The economy is tied closely to that of Germany and last year it grew by only 0.6% (2001: 1.2%). The principal industries are construction, machinery, vehicles, food, chemical, wood processing, communications equipment and tourism. Exports last year were worth US\$70 billion against imports worth US\$74 billion. Almost 70% of trade is with EU partners.

Austria produces some iron ore, tungsten (scheelite), lignite and a range of industrial minerals. However, the major activity in the metals and minerals industry is the production of alloys by Treibacher Industrie AG (formerly Treibacher Chemische Werke) in Treibach Province, Carinthia. The company produces a wide range of ferro and noble alloys and relies entirely on imported raw materials. In the late 1970s it did attempt a brief foray into mining through an involvement in a copper-molybdenum project in Iran but withdrew because of the political turmoil there at the time. Most recently, it has a minority interest in a project to develop a niobium deposit in West Africa.

Ferroalloys

Treibacher's best-known products are ferrovanadium and ferromolybdenum. Vanadium is contained in slag produced at steelworks in South Africa, and Treibacher receives some 40,000 t/y of this slag which averages 20%-24% V₂O₅. At the company's hydrometallurgical plant, two oxides are produced (V₂O₅ and V₂O₃), and annual production of V₂O₅ is about 4,400 t. In a further step, aluminium and iron are added, in order to produce Ferrovanadium 80. Depending on the market situation, annual production varies between 4,700 and 5,500 t of FeV80.

The company imports technical molybdenum oxide (MoO₃) from China, Chile, the US, Iran and Belgium, and the molybdenum oxide is converted into ferromolybdenum in an aluminothermic process by adding ferro-silicon, iron and aluminium. Annual production ranges between 3,200 and 3,700 t of molybdenum in ferro-molybdenum, depending on the market situation.

Treibacher also obtains metals from recycling spent catalysts. These are roasted and converted to ferronickel 40 and ferrovanadium 45 in an electric arc furnace. Annual production amounts to some 1,000 t of Ni in ferronickel and 800-900 t of Va in ferrovanadium 45.

The company's customers include many of the better-known international steel works, and about 80% of production is sold in Europe, where the customers include Voest, Böhler, Thyssen Krupp Stahl, Corus, Arcelor, Salzgitter, Dillingen, Riva and Valbruna.

The company is also in the field of specialty alloys and earlier this year it purchased a 25% interest in the Estonian company, Silmet. The latter produces mainly tantalum and niobium products, and receives rare earths as by-product from the Solikamsk magnesium plant in Russia which processes loparite ore and concentrates mined on the Kola Peninsula (as a by-product of apatite mining for phosphate fertiliser production).

One of the more intriguing developments in recent years has been Treibacher's 14% interest in the Mabounie niobium project in Gabon. There is an indicated resource of 21.6 Mt averaging 1.6% niobium oxide equivalent, and a feasibility study is under way for a mine and processing plant producing 6,000 t/y of ferro-niobium.

Iron ore

According to an UNCTAD report on iron ore, Austria's state-owned Ertzberg iron-ore mine maintained production last year at 2.0 Mt, the same level as previous years. All production is delivered to the Donawitz and Linz steel works operated by Voest-Alpine.

Industrial minerals

Knauf GmbH is the largest plasterboard manufacturer in Austria and needs to increase its reserves. It is investigating a deposit in Hall near the famous monastery of Admont in Styria, and is drilling over a large area. The local community, however, is broadly opposed to mining, and any development could be delayed.

One of the most important building-material producers is Baumit Wopfing in Lower Austria near Neustadt. The company mines around 1.3 Mt/y of limestone, sourcing from two quarries. Some 45,000 t/y of marl are mined as a primary raw material for cement production. Baumit also has operations in Hungary, the Czech Republic, Poland, Croatia, Bulgaria and Romania. In Austria, annual group turnover is of the order of €60 million, while the whole group as a whole achieves a turnover of some €300 million.

Wienerberger Baustoffindustrie AG is one of the world's largest brick manufacturers and sources its raw materials from numerous clay pits in the country. This is currently not a problem but a mining law introduced in 1998 requires that all pits operated by the company must be at least 100 m from the local communities. This could prove an obstacle for future clay extraction activities. Total production of brick clay last year is estimated to have been 379,284 t.

Other smaller companies producing building material, especially bricks, have already had difficulties in securing adequate supplies within Austria and several have moved their operations to neighbouring countries.

A court ruling during 2002 concerning the 1997 talc mine disaster in which ten miners lost their lives as a result of a mud inrush into the shaft, has caused much consternation. The unanimous opinion of mine experts in Austria is that this disaster was a non-foreseeable natural event and that the operating company was not to blame. However, in the initial court proceedings the mine manager was given an eight-months suspended sentence and in the appeal court an unconditional imprisonment of eight months was imposed. Defending counsel has said that it will take the case to the European Court for Human Rights.

Production 2002 (t)

Commodity	Output (t)	% Change on year
Lignite	1,298,652	+ 9
Iron ore	1,935,500	+ 5
Iron Mica	6,259	+ 51
Tungsten ore (scheelite)	448,446	- 4
Gypsum	847,117	+ 7
Anhydrite	122,085	- 12
Talcum	138,195	0
Kaolin	50,908	- 43
Oil schist	336	- 18
Magnesite	728,235	+ 7
Expanding clay	60,125	- 69
Diabas (basaltic rocks)	4,533,083	- 3
Dolomite	5,839,671	- 5
Clay	1,539,061	- 11
Quartz sand	834,671	- 7
Quartz gravel	5,261,800	+ 27
Quartz & quartzite	362,144	- 10
Amphibolite	249,367	na
Marl	1,534,917	- 2
Limestone	24,884,098	+ 5
Granite	284,115	Na
Salt brine (m ³)	3,212,571	+ 8
Rock salt	1,111	- 20
Crude oil & NGL (condensate)	1,032,204	- 2
Natural gas (1,000 Nm ³)	2,014,567,9	+ 3