

ISRAEL

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Will the war with Iraq change the Middle East? And how will it affect Israel? These questions remain unanswered as coalition forces turn their attention from war to peace. Israel's Ariel Sharon observed that it creates a new period of opportunity for peacemaking, which must not be allowed to slip by, and he would be pursuing that opportunity seriously. Indeed, for lasting peace he was ready for painful concessions and some settlements would have to go. Nevertheless, the road map to peace that Washington envisages may not necessarily lead anywhere soon. Mr Sharon wishes its implementation to be sequential rather than parallel, with the Palestinians moving first. Washington plans to make public its views when the new Palestinian Prime Minister, Mahmoud Abbas, forms a government. In the meantime, Israel is building an expensive 'security fence' on the northern part of the Israeli-West Bank border and also wants it extended.

Israel still suffers from the global downturn in the high-tech sector and a marked decrease in tourism as well as its own military costs. However, there has been a real recovery in the domestic diamonds industry, with positive trends indicated for 2003. The outbreak of SARS led, initially, to concern that it would undermine the US\$1 billion diamond export market, since the Far East receives 15-20% of Israel's diamond exports. By mid-year such concern was allayed when it became evident that the spread of the virus had been brought under control.

The minerals industry of Israel is based on the production of industrial minerals and, by extension, inorganic chemicals. The Dead Sea's mineral-rich saline waters have allowed Israel to become a large-scale producer of potash, salt, bromine, magnesia and magnesium metal, plus numerous downstream products. The country is also a significant supplier of fertiliser and chemicals based on the minerals and chemicals from the Dead Sea, plus phosphate rock.

Commercial production is dominated by the subsidiary companies of Israel Chemical Ltd (ICL), in particular, Dead Sea Works (DSW potash and salt), Dead Sea Bromine (bromine and bromine derivatives), Dead Sea Periclase (magnesia-based precuts), Dead Sea Magnesium (magnesium metal), Rotem Amfert Negev (phosphates, phosphate chemicals and fertilisers), Rami Ceramic Industries (ceramics and refractories), Negev Industrial Materials, Fertilisers and Chemicals, and PAMA (oil shales). Dead Sea Works and Rotem now conduct the marketing and transportation of these products. Oil-shale mining continues on a small scale to supply the power plant, and the waste material continues to be sold for cat litter by Rotem.

Potash, phosphate rock, fertiliser-grade phosphoric acid, phosphate-based and compound fertilisers, and specialty fertilisers represent 40% of ICL's

revenues. While ICL Chemicals Ltd's fertilisers division, ICL Fertilizers, is a leading supplier of fertilisers in Europe and developing new advanced soluble fertilizers, it is expanding its markets overseas. In Israel, DSW is also one of the lowest-cost potash producers in the world and its geographic location allows shipment westwards through the Mediterranean Sea and eastwards through the Red Sea. Overseas, ICI controls significant potash capacity outside Israel. ICL Fertilisers now owns Cleveland Potash located in North Yorkshire, UK which produces approximately 1.0 Mt/y of potash and over 500,000 t/y of by-product road salt from underground mines. The company has annual sales of £90 million. In addition, ICL owns 80% of Berpotash SA in Spain (the Spanish sepiolite producer Tolsa holds the balance).

Overall, DSW potash production in Israel, UK, and Spain is approximately 5.0 Mt/y, making it one of the five largest producers in the world and the second-largest producer in Europe. Overall, the group controls 11% of world potash production and 17% of international potash trade excluding the cross-border trade between the US and Canada.

Rotem Amfert Negev Ltd produces 1.3 Mt/y of fertilisers, 340,000 t/y of P₂O₅ fertiliser-grade phosphoric acid, 80,000 t/y (as P₂O₅) of food-grade phosphoric acid, 4.0 Mt/y of phosphate rock, 50,000 t/y of monopotassium phosphate, and 12,000 t/y of liquid detergents for the dairy products industry. Production is based on the Zin, Oron and Arad phosphate-rock mines in the northern Negev. The group accounts for 3% of world phosphate rock production and 3% of international phosphate rock trade (excluding the cross-border trade between the US and Canada). Overall, ICL is one of the world's most integrated manufacturers and suppliers of phosphate products and one of the five largest fertiliser companies in the world with manufacturing facilities in Israel, Spain, England, Holland, Germany, Turkey and Belgium.

Dead Sea Bromine Group's (DSBG) bromine and bromine compounds account for about 25% of ICL's revenues; at Sdom on the Dead Sea the group operates the world's largest elemental bromine production plant, having a capacity of almost 250,000 t/y of bromine, equivalent to about 35% of world bromine production. The main markets for ICL's bromine-based products are in industrial chemicals, flame retardants (FRs), soil and space fumigation, organic intermediates for numerous industries, monomers for specialty polymers, chemicals and inorganic salts for oil drilling, and products for the photo, cosmetic and air conditioning industries.

After the US, Israel is the second-largest producer of bromine in the world and the largest producer of elemental bromine; about 90% of production is for export and accounts for some 80% of the international trade in bromine compounds to over 100 countries.

In 2003, DSBG signed an agreement for long-term co-operation with Manac of Japan for the production and marketing of a flame retardant for engineering plastics. Projected sales during the first year of production are about US\$2 million and the market potential is estimated at US\$30 million per year. According to the agreement, DSBG will receive the rights for the production

and marketing of the flame retardant, Brominated Polystyrene (FR 803), for engineering plastics for the world market in return for annual royalties to be paid to the Japanese company.

ICL is also expanding and diversifying its chemical product lines into downstream value-added products that represent about 30% of sales. Magnesium chloride flakes and pellets have helped increase revenues, as have sales of aluminium chloride used as a catalyst in organic production processes. Through a joint venture with Volkswagen AG, it additionally produces pure magnesium metal and magnesium alloys, representing about 45% of sales, and accounting for about 9% of total primary magnesium production in the world. Lower prices for magnesium and high energy demands are challenges and the company is in the forefront of negotiations about the new gas findings in the Mediterranean.

Dead Sea Periclase has the capacity to produce 100,000 t/y of high purity, sintered magnesia at Mishor Rotem, as well as 13,000 t/y at the extremely high-purity fused magnesia plant operated by Tateho Dead Sea Fused Magnesia Co., a 50-50 joint venture between DSP and Tateho Chemical Industries Co. of Japan (TCI). Magnesium hydroxide for use in flame-retardants is also produced and marketed by Dead Sea MFR, a 50-50 joint venture between DSP and sister company, Dead Sea Bromine Group.

ICL is also involved in the development of new domestic gas fields with installation of the production infrastructure scheduled for the end of 2003 or the beginning of 2004. It is hoped that access to the natural gas will improve the profitability of some ICL operations, in particular, the energy-intensive magnesium plant. This natural gas supply should also have a positive impact on the domestic energy market since more gas and less coal would be used in Israeli power stations.

Climate, topography, as well as geographic conditions make Israel an ideal location for solar salt production. Israel Salt Industries operates highly mechanised solar evaporation plants that produce pure, high-quality industrial and edible salts, and over 15% of annual production is exported to the Far East, Africa, and Europe from the three plants (Atlit on the Mediterranean, Eilat on the Red Sea, and Kalia on the Dead Sea) which process seawater into table salt as well as salt for the food industry, water softening, and for other industrial applications. Costing almost US\$10 million, new evaporation ponds have been built at Ein Evrona north of Eilat for mainly export production. A US\$3 million salt washing and packing plant operates at Eilat, and the company has a significant interest in one of Israel's leading redistributors to the institutional market and intends to invest in further real estate projects

The domestic cement industry has faced problems with a decline in demand and cheap material coming in from Jordan and Turkey. One plant has closed and clinker only produced in the Ramle plants. Neshor Israel Cement Enterprises has been the country's cement producer and has traditionally accounted for over 7 Mt/y of cement. Production of flint clays and most kaolin

has ceased so that only brown clays are mined (in the Ramon Crater). There is, however, an increase in production of the Mamshit carbonate clays, which supplies the raw materials for two tile plants, one of which is new in Yeroham and a joint Italian venture.

With the opening of two flue-gas desulphurisation (FGD) units in Ashqelon, there has been an increase in the consumption of industrial limestone. Negev Industrial Minerals (NIM) closed its activity in Makhtesh Ramon (flint clays and kaolinites) so that only the 'chocolate' kaolinitic clays are still mined. Along with lime (at least 275,000 t), there is also production of gypsum (50,000 t), silica sand (230,000 t) crushed stone (35,000 t), and caustic soda (15,000 t). In fact, there is new sand quarrying activities in Mishor Rotem. It is aimed for the building industries, but increasing amounts are going to industrial uses (competition with sands supplied by Negev Industrial Minerals).