Gulf aluminium sector gains importance

- Metalworld Research Team

The aluminium industry of the Gulf States, including Bahrain, Kuwait, Oman, Qatar, Saudi Arabia and the UAE, has grown since the 1970's to become the most important, non-oil industrial sector in this rapidly expanding area of the world. Almost 40 years after Aluminium Bahrain (Alba) poured its first hot metal, the Middle East (ME) has become a significant global aluminium producer. ME produced about 3 million tons of primary aluminium in 2009, a 6.5 percent share of the global market. Of the total capacity in the Middle East, the Gulf contributed 1.8 million tons. Abdulla Kalban, CEO of the region's largest white metal producer Dubai Aluminium Company or Dubal had recently said, "The output of primary aluminium from the Gulf States has doubled to 1.8 million tons since 2000, and is projected to quadruple to more than 12 percent of global output by 2020. It is vital that, as our industry expands and becomes a major player on the worldwide stage, that we ensure that the aluminium industry in the Gulf leads the way in every aspect of how we do business".

Thriving to achieve high standards

The progress towards achieving sustainability requires constant vigilance, since society continually moves the targets towards high standards in the social, economic and environmental aspects. Furthermore, the achievement of sustainability is of crucial interest to all the stakeholders in the industry sector, the employees of the companies, the shareholders, investors, raw material suppliers, the customers, the neighbourhood communities, local and national governments and academia in the countries concerned.

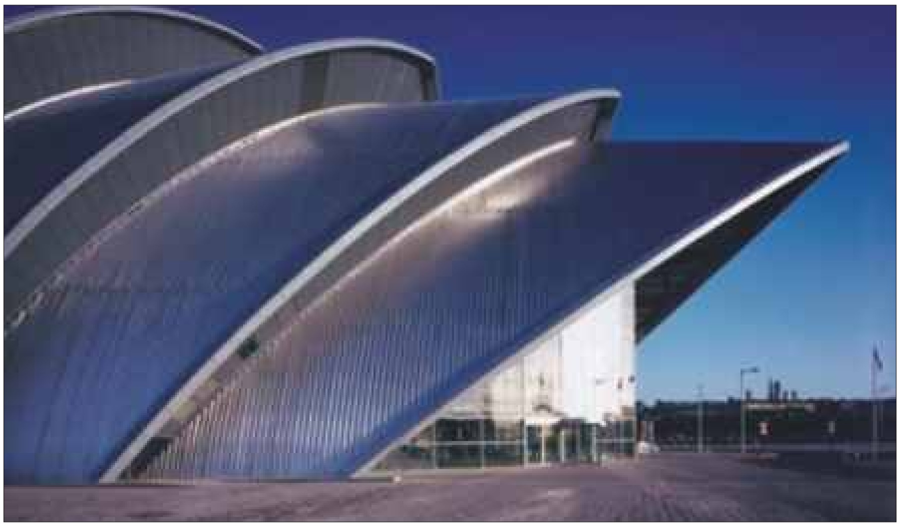
The mechanical and physical properties of aluminium alloys and its versatility in casting and fabrication by all of the commonly-used processes, make it the ideal material in the major markets. These, combined with light weight, good corrosion resistance and ease of joining, will ensure the expanding use of aluminium in every part of the world. In our energy conscious era, the energy savings in use, and the recyclability of aluminium, saving significant further amounts of energy, make it doubly attractive. Recycling rates of over 90 percent in transport and building and construction markets, and 50 percent in packaging make aluminium a first choice material. The aluminium industry in the Gulf states has developed from more than just very large primary smelters. Across the Gulf, there is a flourishing fabrication industry of aluminium hot, cold and foil rolling, many extrusion presses and finishing capacity and aluminium foundries, and aluminium powder production. With building and construction in the area expanding rapidly, this means that extruded, rolled and cast aluminium products are available locally. Much of the nearly 2 million tons of primary metal is exported, earning valuable revenues, but the downstream industry gives added value, as well as employment opportunities to the local

population. The indicators, by which the progress towards sustainability of the Gulf states aluminium industry are judged, cover the economic, social and environmental aspects.

Cheaper gas – An advantage

State and private investors in the Middle East have been attracted to new aluminium smelters and capacity expansions because of the relatively low cost of producing the metal in the region. Having access to cheap gas feedstock gives Gulf regional producers an advantage over their rivals in Europe, for example, which have to import gas at market prices. The first Gulf state-owned producers, such as Alba and Dubai Aluminium Company (Dubal), secured long-term gas feedstock contracts, which put them among the lowest-cost producers in the world. When the Alba smelter was built in 1971, a 20-year gas supply contract was agreed at US$0.50 a million BTUs. Even Gulf states without plentiful gas reserves benefit from the regional price advantage. Oman's first smelter, at Sohar, was launched in 2005 by a joint venture of state-owned Oman Oil Company and Abu Dhabi Water and Electricity Authority (Adwea), with 40 percent stakes, and Canadian mining giant Rio Tinto, which holds the remaining equity. It reached its full production capacity of 360,000 t/y in February and has one of the lowest cost bases in the world, thanks in part to the low-cost Qatari gas feedstock made available via the Dolphin pipeline, combined with the use of new, efficient smelter technology.

Although the energy supply in the Gulf is reliable on a long-term basis, it must still be used prudently. The energy source for the production of electricity for the primary smelters is natural gas, the cleanest of all of the carbon-based fuels in terms of transport, storage and emissions on combustion. Aluminium producers in the region require to show a 10 percent reduction in energy consumption per ton of aluminium produced in primary smelters in 2010 compared to 1990. The Gulf aluminium companies are on line to achieve this.

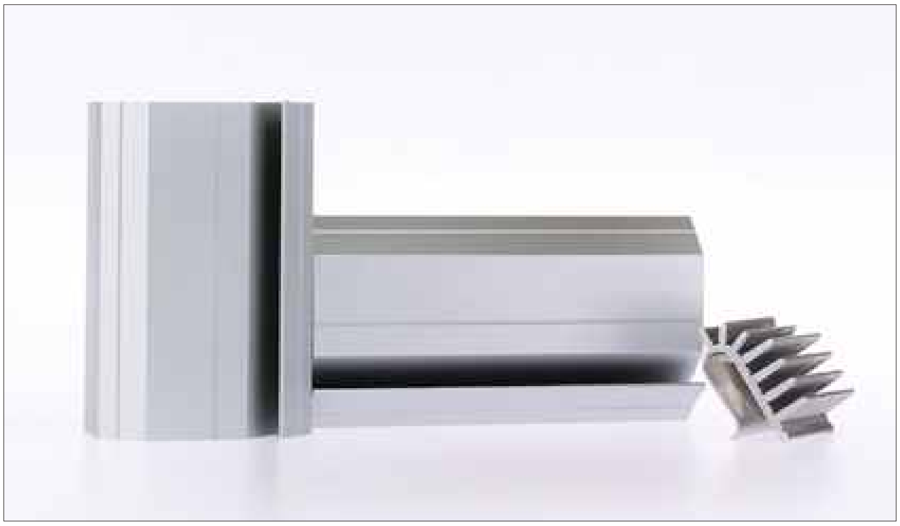


Exports

Geographically, the Gulf region scores highly since the major markets for aluminium in US, Europe, Japan and the Far East are easily reached by shipping from the Gulf. Additionally, the export of fabricated aluminium products from the Gulf to all of the countries of the world, makes a very significant contribution to the Gulf States economies. Bahrain, Saudi Arabia and UAE all realise significant earnings, particularly for extruded, drawn and rolled aluminium products. The earnings from these exports from the Gulf States in 2007 totaled US$1.7 billion. In the near future, primary aluminium production in the Gulf will expand rapidly with smelter projects planned in Oman, Qatar, Abu Dhabi and Saudi Arabia and expansion plans at the existing plants in Dubai and Bahrain. In all of the projected plants, environmental protection and social progress are key objectives.

Widespread challenges

Securing affordable long-term power supplies is also a major challenge for the region's producers. Aluminium smelters compete for gas supplies with the petrochemicals and power industries, and it is up to producers to convince their respective



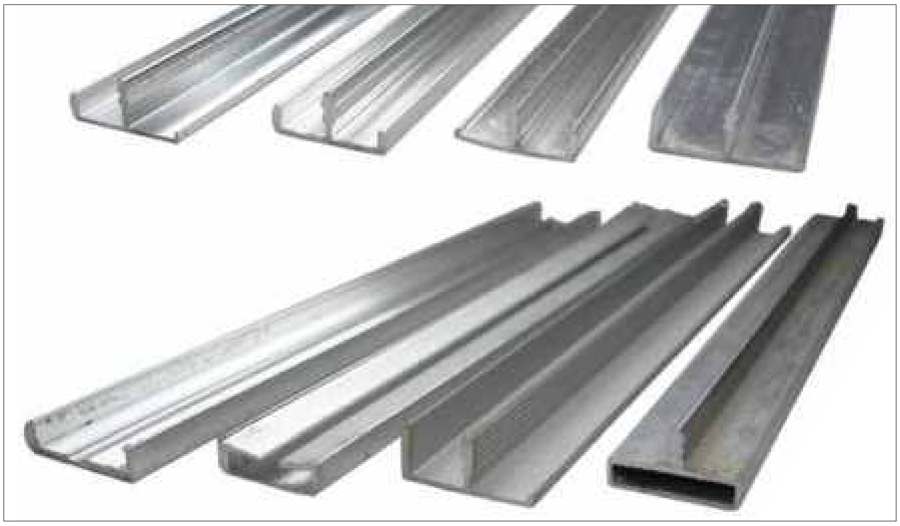
governments of their case for receiving new allocations of gas. There is also competition from major aluminium producers in China and Russia for bauxite, the raw material from which alumina is extracted before being refined into aluminium. Gulf producers will need to secure long-term and low-cost supplies of bauxite to ensure capacity expansions can go ahead, and to maintain their cost advantage. Saudi Arabia does not yet have an aluminium smelter but has two in the planning stage and is the only country in the region with deposits of bauxite. Other states have had to seek supplies overseas. In May 2007, Dubai formed a joint venture to develop and operate the Sangaredi mine in Guinea, to secure its supplies of bauxite. While sourcing feedstock and raw materials poses problems for the producers, so does the price of aluminium on the world markets. Over the past year, prices have collapsed, and if they do not recover, the case for investing in a new smelter or production line will be weakened.

While North Africa currently has limited aluminium production capacity, the report estimates that by 2010, assuming all planned projects in the Middle East and North Africa (Mena) region are completed on time, Mena production capacity will reach 4.3 million tons a year (t/y). This figure will rise to 10.8 million t/y by 2013-14, assuming all the expansion projects at existing smelters and new facilities beyond 2010 go ahead, giving the Mena region about 19 percent of global production capacity. Recent entrants to the Middle East market have had to pay more, generally about US$0.75-1.25 a million BTUs. Qatar Aluminium (Qatalum), for example, is believed to be paying US$1 a million BTUs for gas feedstock for its facility at Mesaieed Industrial City. However, this compares well with global market prices of US$3.90 a million BTUs for a futures contract traded on the New York Mercantile Exchange in 2009. Overseas demand is crucial for Middle East producers, because they export such a large proportion of their aluminium. While no Middle East producer has yet announced production cuts as a result of the slump in demand, the region's smelters cannot operate indefinitely with prices at current levels.

The further challenge is that an industry sector, such as the Gulf states aluminium industry, can only be sustainable if the product that they manufacture, in this case primary, wrought and cast aluminium, is itself sustainable.

Economies shake out

With the collapse of the Dubai World last year, the economies of the Gulf and the Middle East have shaken up which has threatened aluminium demand as never anticipated earlier. Within the Middle East and North Africa (Mena) region, producers will continue to account for a major portion of aluminium production as a result of their planned expansions. Of the region's 6.5 million tons of aluminium capacity planned beyond 2010, 4.4 million tons will be built in the GCC region. By 2020, the GCC alone will produce about 10 million t/y of aluminium. In the Middle East as a whole, primary aluminium production is projected to grow at a compound annual growth rate of 14 per cent, up to 2013.



Regional demand

North Africa also has major aluminium ambitions. In January 2008, the UK's Klesch and Company finalised an estimated US$8bn joint venture agreement with the Libyan African Investment Portfolio for the construction of a 725,000-t/y smelter at an unknown location, to be completed by 2011. In Algeria, Emal announced plans in 2007 to build a 700,000-t/y smelter at Beni Saf, in a joint venture with national oil company Sonatrach. A major hurdle to the further growth of the region's aluminium industry is the current lack of local consumers. Middle East manufacturers and industry consume only 16 percent of its domestically produced primary aluminium, with the remaining 84 percent exported. The extrusion industry - manufacturing aluminium products from its primary form - accounts for almost 70 percent of the aluminium demand within the Middle East. Some 90 percent of this extruded material is allocated to the construction market.

Currently, number of rolling and casting producers is limited due to the region's low consumer demand. If the Middle East is to have a sophisticated downstream market that can absorb a greater proportion of locally produced aluminium, more rolling and casting factories will need to be built. In the short-term, however, many aluminium producers' expansion plans will remain under tremendous pressure due to the collapse in the economy and squeezes in working capital funding.

Conclusion

This sustainable development programme, launched in 2003, sets member companies a series of objectives and targets, one of which is a 50 percent reduction in lost time accident rate and recordable accident rate by 2010 compared to 2000. The Gulf smelters at the moment are showing a ten-fold improvement in 2007 compared to 2002, with a lost time accident rate below 0.25 per million man hours worked. The data now established will help the primary aluminium plants now on the drawing board in the Gulf to benchmark their own performances against this base. Companies have expanded to be among the world's largest, modern primary smelters without compromising on quality, the average metal purity being 99.90 percent or better. The Dubai Strategic Plan for 2015, recently developed by His Highness Sheik Mohammed Bin Rashid Al Maktoum, demands that companies within the country should update and align to environmental regulations with the best practice that is achieved globally. Similarly in Bahrain, the Performance Indicators for the Alba primary smelter set itself comparable environmental targets, requiring, for example, that the plant should reduce the amount of waste generated each year by 10 percent over a five-year period.

Similarly, water is a very valuable raw material and water consumption over the five-year period 2002-2007 per ton of aluminium was reduced by over 20 percent. A very valuable by-product of a primary aluminium smelter, particularly in the Gulf region, can be desalination of water, the Dubal plant producing 30 million gallons per day.

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