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John Tumazos Very Independent Research, LLC registration as an investment advisor became effective in New Jersey on August 27, 2007. We are operational.

ALUMINUM INDUSTRY CAPACITY UPDATE AS UC RUSAL PLANS 3.1 MMT NEW CAPACITY TO TOTAL 7 MMT BY 2011 WITH NEW 1.05 MMT SMELTER IN SARATOV, RUSSIA ANNOUNCED OCTOBER 9TH

- UC Rusal's 1.05 mmt Saratov project, Dubal's 1.4 mmt two-phase Abu Dhabi project announced February 2006 and Saudi Arabia's similar Jazan Economic City joint venture each claim to become the world's largest smelter. It is possible that one of the existing four largest operating smelters adds an expansion or that one of the several other 0.5+ mmt Mideastern expansions such as Qatar add phases to compete for the title as well.
- UC Rusal has firm plans to grow from 3.9 mmt of current to about 7 mmt of output around 2011. We believe it has more projects under study that we have not included in the "firm tally," which probably will rise. Much like Nucor, Steel Dynamics or Chaparral Steel in the American nonunion steel sector, Rusal has an admirable track record of delivering more than it announces.
- Rio Tinto considers a project in Malaysia, which is in the feasibility study and negotiation stages. Rio Tinto's August 7th press release indicated its 60%-owned smelter to be supplied with hydro power could be expanded to 1.5 mmt, which could be yet another entry into the "biggest in world" derby. Dubal and others in the past have investigated Malaysian smelting.
- Various Chinese, Russian, Mideastern, Icelandic or other projects share three common themes: conviction in global aluminum demand growth, conviction in the strengths of its own project and a belief that certain smelters in the US, EU or China will shut. In effect, some large planned smelters may seek to replace or displace competitors or fulfill portions of new demand growth.
- The capacity additions appear to be much more than the International Aluminum Institute's data upon which we rely.
- The various projects collectively require at least a 6% annual increase global demand of about 3 mmt annually without any global downturn over the next five years, or else mature plant shutdowns or new project postponements if any slowdown sets in.

RUSAL INVESTMENT STRATEGY OVERVIEW

We estimate that the well-defined expansion plans of Rusal total about 3.1 million metric tonnes (mmt), or enough to increase the current output from 3.9 to 7.0 mmt. Three very

large greenfield projects and six relatively smaller projects comprise the various efforts. Further, there are several projects under evaluation, such as a permit for an aluminum smelter in the northern Komi region to accompany bauxite mining and alumina refining, for which the contemplated project has not been announced.

Table 1: RUSAL FIRM EXPANSION PROJECTS

	000 metric tonnes
Bratsk productivity	100
Krasnoyarsk productivity	86
Sayanogorsk productivity	57
Irkutsk productivity/ major modernization	205
Kubal	40
Alscon, Nigeria 150,000 t ignored (tough past)	-
Sayanogorsk site Khakas new smelter	230
Komi smelter pending environmental review	-
Boguchanoskoye 2009 greenfield	600
Irkutsk greenfield construction begun 2006	750
Saratov October 9th announcement with 2 nuclear kwh	1,050
Other Russian projects under study	-
Other projects outside Russia under study	-
Subtotal firm Russian smelter expansion projects	3,118
Current Output	3,900
Probable minimum output after 2011	7,018

Source: www.rusal.com; JT Very Independent Research, LLC

Rusal writes on the “investment tab” of its web site www.rusal.com,

Currently, the United Company’s priority projects are the construction of smelters in Krasnoyarsk and Irkutsk regions, the construction of Boguchanskaya Hydropower Plant, bauxite and alumina complex in the Komi Republic, as well the upgrade of existing smelters.

LARGE CAPTIVE POWER STATIONS

Two of Rusal’s largest projects, the Baguchanoskoye 600,000 tonne smelter with accompanying hydropower plant and the Saratov 1.05 mmt smelter with two nuclear reactors, involve captive investments in power stations with zero carbon emissions. This is most impressive. Large investments in bauxite and alumina also are being made in a manner that seeks to promote balance.

We presume a completely different uranium fuel market exists within Russia than we might read on www.kitcometals.com. In September 2005 we observed the price of steel scrap in Kazakhstan at 20%-30% of U.S. or East Asian or European levels.

Rusal appears to seek integrated systems in which it generates power, mines bauxite, refines alumina, refines metal and delivers metal to customers who add value. The magnitude of its large capital investments in power stations is very impressive, and many western companies might never get environmental or other regulatory approvals to build

such massive power stations on their own. It seeks to avoid investing capital in value-added downstream manufacturing such as sheets, extrusions, etc. Rusal has an excellent opportunity to establish comparative advantage.

FOUR EXISTING AND FOUR NEW CANDIDATES TO BE “THE LARGEST SMELTER IN THE WORLD”

Four existing aluminum smelters produced almost one mmt in 2006. Rusal’s Bratsk led the world at 983,000 mt, Rusal’s Krasnoyarsk was 950,000, Aluminum Bahrain (ALBA) was 872,000 and Dubai Aluminum (DUBAL) neared 871,000 mt of capacity as the year concluded.

Each of these four fine installations have plans underway or under evaluation to expand further to the 1.0-1.2 mmt range. They vie for the title of “largest smelter in the world.”

Four new projects compete for this title as well. These include Rusal’s October 9th Saratov 1.05 mmt announcement, DUBAL’s February 2006 1.4 mmt Abu Dhabi project to have two 0.7 mmt phases operational in three year intervals, The Jazan Economic City project in Saudi Arabia reported in various publications as 1.0 to 1.4 mmt that appears to copy the DUBAL Abu Dhabi project with integration to raw materials and the Rio Tinto Malaysian feasibility study announced August 7th that could range up to 1.5 mmt.

It is plausible that more contenders will emerge seeking to compete with these eight locations for the “largest smelter crown.” Qatar or other existing projects envisioned in the 0.5 to 0.7 mmt range could be doubled if second phases were added to them.

A silver lining to the recent dip to \$1.06 per pound aluminum would be if some of the capacity expansions slowed down. However, each of these project sponsors are “very strong companies” with firm confidence in the comparative advantage of their specific projects. Each have comparative advantages in power sources, labor costs and economies of scale. It might take a sustained downturn for any to reverse course.

SARATOV ANNOUNCEMENT DETAILS (UC Rusal press release Oct. 9th)

In this project Rusal appears to copy the Mideastern or Alcan hydro model in which the aluminum company also owns the utility and generates its power. It combines with an existing nuclear plant to add a fifth and sixth reactor block to add 2,000 MW. Presumably Rusal has been able to satisfy itself that it will obtain suitable long-term supplies of uranium at acceptable contract prices. Presumably uranium or electricity prices in Russia are more stable and lower than the western Nuexco spot prices that rose from near \$10 three or four years ago to \$136 earlier this year and recently are \$75 per pound.

Rusal wrote,

Saratov, 9 October 2007 - UC RUSAL, the world’s largest producer of aluminium and alumina, is pleased to announce the signing of a cooperation agreement with the government of Russia’s

Saratov region for the construction of a major energy and metals complex. The complex will include a significant expansion of the Balakovskiy nuclear power plant, with UC RUSAL building the 5th and 6th reactor blocks, generating 2,000 MW and the construction of the world's largest aluminium smelter, with an annual production capacity of 1,05 million tonnes.

The construction of the aluminium smelter and nuclear power station will be financed and implemented by UC RUSAL. The overall budget will be defined on completion of a feasibility study, expected by the end of 2008.

This significant investment is part of UC RUSAL's strategy to achieve energy self-sufficiency and secure the company's position as the leading global diversified energy and metals corporation.

It will enable our company to strengthen its power base through the construction of one of the most environmentally friendly energy sources, as well as growing aluminium production by over 25%.

The agreement will become effective once the construction of the second stage of Balakovskiy power plant is approved by the Federal Nuclear Agency (ROSATOM). UC RUSAL and the government of the Saratov region intend to hold joint negotiations with ROSATOM to sign the necessary agreements between UC RUSAL and ROSATOM.

GREENFIELD NEW IRKUTSK PROJECT 750,000 METRIC TONNES

From Rusal web site, <http://www.rusal.com/index.php?lang=eng&topic=1&subtopic=225&subtopic2=291>

In 2006, RUSAL began early work to construct a 750,000 tonnes-per-annum greenfield aluminium smelter in Taishet, a small town near Irkutsk. The construction is expected to be completed in 2011.

This smelter will be equipped with the latest RA-400 cells designed by RUSAL's Engineering and Technology Centre (ETC).

The construction site for this project is located in the western part of the Irkutsk Region between Taishet and Talaya (small provincial towns) and is distant from any residential area. It is now envisaged that the United Company will build a railway to connect the smelter and Taishet.

During 2007, the company also expects to start the construction of the main smelter's facilities, sign contracts for process equipment supplies and commence the building of houses for construction workers.

The project will cost over USD 2 bln, and after the full start-up of the smelter.

Further, from Rusal web site,
<http://www.rusal.com/index.php&lang=eng&topic=1&subtopic=225&subtopic2=297>

MODERNISATION OF IRKUTSK ALUMINIUM SMELTER (to add 205,000 metric tonnes)



United Company RUSAL is carrying out large-scale modernisation of the Irkutsk aluminium smelter, which was commissioned in 1962. The production facility uses the 135-160kA Soderberg technology with vertical self-baking studs.

In 2005, the Irkutsk smelter launched a project to construct potline 5, which will be equipped with new-generation reduction cells and prebaked anodes. The 300 kA cells have been designed by SibVAMI. After the commissioning of the new potline, the total capacity of the smelter will increase by 1.5 times and will stand at 450,000 tpa.

The first part will start production in 2007 and the full capacity of potline 5 will be achieved in 2008. One more potline is planned after the construction of potline 5.

When the construction of potline 6 is completed in 2009, the smelter's production capacity will reach 500,000 tpa.

In 2006, the Irkutsk aluminium smelter produced 295,000 tonnes of aluminium.

Further from the Rusal web site under investment projects,

BOGUCHANSKOYE ENERGY AND METALS COMPLEX (to add 600,000 metric tonne greenfield smelter)



In May 2006, RUSAL and HydroOGK, a subsidiary of RAO UES of Russia, signed a cooperation agreement to jointly build the Boguchanskoye Energy and Metals Complex.

With a budget of USD 3.6 bln, the project has been initiated to complete construction of the 3,000 MW Boguchanskaya Hydropower Plant on the Angara River, and to build a greenfield 600,000 tonnes-per-annum aluminium smelter. Stage 1 of the hydropower plant and the smelter will be commissioned in 2009.

KOMI 4+ MMT BAUXITE, 1.4 MMT ALUMINA AND “NOT QUANTIFIED” SMELTER

From the Rusal web site investment projects tab,



“Komi Aluminium Bauxite and Alumina Complex is the most ambitious construction project in the global industry. This project will include a bauxite mine and a 1.4 mln tonnes-per-annum alumina refinery near the town of Sosnogorsk of the Komi Republic, Russia...

It is also planned to increase bauxite extraction at the Middle Timan from the current 2 mln to over 6 mln tonnes of bauxite per year by 2008.

The start-up of the complex will allow:

- The increase of Russian domestic alumina output by 50% to 4.5 mln tonnes per year
- An increase in the supply of domestically produced raw materials for the Russian aluminium industry from 40% to 70-80%

...The smelter construction launch is planned for the second quarter of 2007 after the receipt of the results of the environmental assessment by the Glavgosekspertiza, a state authority.”

OUR UPDATED DEMAND-SUPPLY AND CAPACITY SPREADSHEETS

Using roughly 4.4% annual global demand growth rates for 2008-2010 after a 9.7% gain in 2007, a rosy “no recession scenario, we estimate IAI operating rates excluding China at 94.5% in 2007, 94.4% in 2008, 93.1% in 2009 and 92.7% in 2010.

Table 2
WORLD TOTAL ALUMINUM SUPPLY/DEMAND BALANCE
(Thous. Metric Tonnes)

	IAI		Average Operating Rate (%)	Scrap Recovery	China Output		Apparent Consumption	Annual Demand Growth	Days Supply Inventory	Avg. LME Ingot	
	Year-end Primary Capacity	IAI Primary Production			After 1995 (Imports from CIS)	Producers' Inventory					
					Total	Change					
1973	11,349	10,050	88.6%	2,698	134	3,005	-411	13,293	13.4%	80	\$0.31
1974	11,848	10,932	92.3%	2,759	174	3,691	687	13,178	-0.9%	99	\$0.43
1975	12,057	9,716	80.6%	2,430	-134	4,792	1,100	10,912	-17.2%	160	\$0.33
1976	12,410	10,034	80.9%	2,903	87	4,082	-709	13,733	25.9%	109	\$0.40
1977	12,810	11,122	86.8%	3,151	145	4,376	294	14,124	2.8%	113	\$0.46
1978	13,060	11,440	87.6%	3,326	123	3,950	-426	15,315	8.4%	94	\$0.48
1979	13,372	11,794	88.2%	3,571	128	3,419	-531	16,024	4.6%	78	\$0.73
1980	13,708	12,610	92.0%	3,638	113	4,134	650	15,711	-2.0%	97	\$0.81
1981	13,980	12,293	87.9%	3,778	164	5,370	1,149	15,086	-4.0%	129	\$0.57
1982	13,971	10,523	75.3%	3,749	103	5,013	-450	14,825	-1.7%	128	\$0.45
1983	14,268	10,805	75.7%	3,973	-68	3,853	-1,135	15,845	6.9%	97	\$0.66
1984	14,179	12,464	87.9%	3,961	36	4,570	759	15,702	-0.9%	77	\$0.57
1985	13,644	11,990	87.9%	4,013	-64	4,222	-425	16,364	4.2%	99	\$0.47
1986	13,390	11,990	89.5%	4,199	155	3,717	-368	16,712	2.1%	85	\$0.52
1987	13,595	12,608	92.7%	4,495	279	3,138	-548	17,930	7.3%	68	\$0.71
1988	13,819	13,501	97.7%	5,156	419	3,223	35	19,041	6.2%	62	\$1.16
1989	14,277	14,062	98.5%	4,943	299	3,265	42	19,262	1.2%	62	\$0.89
1990	14,731	14,186	96.3%	5,062	403	3,470	205	19,446	1.0%	65	\$0.75
1991	14,929	14,778	99.0%	5,392	1,150	4,337	867	20,453	5.2%	77	\$0.59
1992	15,767	14,763	93.6%	5,470	1,180	4,794	457	20,957	2.5%	83	\$0.57
1993	16,005	14,984	93.6%	6,051	1,750	6,072	1,279	21,507	2.6%	103	\$0.52
1994	16,015	14,368	89.7%	6,439	1,900	5,285	-787	23,494	9.2%	82	\$0.67
1995	19,496	17,342	89.0%	6,868	1,676	4,214	-1,071	26,957	7.6%	57	\$0.82
1996	20,254	18,639	92.0%	6,914	1,771	4,164	-50	27,374	1.5%	56	\$0.68
1997	20,862	19,479	93.4%	7,594	2,035	3,831	-333	29,441	7.6%	47	\$0.72
1998	21,390	19,949	93.3%	7,572	2,336	3,893	62	29,795	1.2%	48	\$0.62
1999	21,822	20,646	94.6%	8,132	2,599	4,070	177	31,400	5.4%	47	\$0.62
2000	22,299	21,191	95.0%	8,197	2,794	3,627	-443	32,625	3.9%	41	\$0.70
2001	22,993	20,551	89.4%	7,624	3,371	4,011	384	31,162	-4.5%	47	\$0.66
2002	23,429	21,199	90.5%	7,649	4,321	4,361	350	32,819	5.3%	49	\$0.61
2003	23,819	21,937	92.1%	7,656	5,547	4,713	352	34,787	6.0%	49	\$0.65
2004	24,644	22,591	91.7%	7,560	6,689	4,122	-591	37,432	7.6%	40	\$0.78
1Q05		5,628	89.2%	1,924	1,741	4,080	-42	9,335	1.8%	40	\$0.87
2Q05		5,844	91.6%	1,940	1,912	3,954	-125	9,821	4.2%	37	\$0.82
3Q05		5,972	92.6%	1,885	2,043	4,268	314	9,586	1.9%	41	\$0.84
4Q05		6,019	93.4%	1,943	2,047	4,115	-153	10,162	8.4%	37	\$0.93
2005	25,578	23,463	91.7%	7,692	7,806	4,115	-7	38,968	4.1%	39	\$0.86
1Q06		5,860	92.1%	1,955	2,060	4,172	57	9,818	5.2%	39	\$1.09
2Q06		5,941	93.3%	1,950	2,250	4,097	-76	10,216	4.0%	37	\$1.21
3Q06		5,990	94.1%	1,986	2,420	3,834	-263	10,659	11.2%	33	\$1.13
4Q06		6,075	95.4%	1,951	2,619	3,917	84	10,561	3.9%	34	\$1.24
2006	25,816	23,866	92.4%	7,841	9,349	3,917	-198	41,254	5.9%	35	\$1.17
1Q07		6,027	92.8%	1,985	2,859	4,031	114	10,757	9.6%	34	\$1.27
2Q07		6,200	95.4%	2,025	3,031	3,904	-127	11,383	11.4%	31	\$1.25
3Q07		6,275	96.6%	2,010	3,200	4,000	96	11,389	6.8%	32	\$1.16
4Q07		6,400	98.5%	2,000	3,400	4,075	75	11,725	11.0%	32	\$1.10
2007E	26,350	24,902	94.5%	8,020	12,490	4,075	158	45,254	9.7%	33	\$1.19
2008E	27,235	25,700	94.4%	8,220	13,490	4,400	325	47,085	4.0%	34	\$1.12
2009E	28,464	26,500	93.1%	8,420	14,490	4,600	200	49,210	4.5%	34	\$0.95
2010E	29,675	27,500	92.7%	8,620	15,490	4,750	150	51,460	4.6%	34	\$0.93
2011E	31,833	28,750	90.3%	8,820	16,490	5,000	250	53,810	4.6%	34	\$0.95
2012E	33,717	30,000	89.0%	9,020	17,490	5,250	250	56,260	4.6%	34	\$0.95
2013E	35,702	31,500	88.2%	9,220	18,490	5,600	350	58,860	4.6%	35	\$0.95

Sources: JI Very Independent Research, LLC Est.; Int'l Alum. Institute; World Bureau of Metal Statistics; Alum. Asso.; China & CIS from

Table 3

Table 3

MOST OF WORLD SMELTER CAPACITY BY REGION*(000 metric tonnes)*

Period Ending	Reported As of	Africa	North America	Latin America	China (excluded)	Asia	Western Europe	Eastern Europe	Russia	Oceania	Total (excl- China)
6/30/2000	12/31/2000	1,260	6,582	2,187	2,800	2,335	3,785	438	3,187	2,080	21,854
12/31/2000	6/30/2001	1,512	6,684	2,192	2,900	2,271	3,854	438	3,266	2,082	22,299
6/30/2001	12/31/2001	1,541	7,040	2,207	2,900	2,283	3,884	438	3,267	2,095	22,755
12/31/2001	12/31/2001	1,541	7,158	2,204	3,300	2,316	3,933	438	3,303	2,100	22,993
6/30/2002	12/31/2001	1,562	7,186	2,236	3,600	2,326	3,905	438	3,380	2,096	23,129
12/31/2002	12/31/2003	1,567	7,197	2,272	4,400	2,474	3,997	438	3,381	2,103	23,429
6/30/03	12/31/2003	1,545	6,973	2,350	4,900	2,489	4,215	438	3,430	2,174	23,614
12/31/2003	6/30/2004	1,595	6,986	2,325	5,500	2,623	4,185	438	3,474	2,193	23,819
6/30/2004	12/31/2004	1,947	6,723	2,357	6,200	2,630	4,293	438	3,613	2,245	24,246
12/31/2004	12/31/2004	2,039	6,727	2,373	7,000	2,798	4,352	438	3,661	2,256	24,644
6/30/2005	2/20/2006	2,066	7,007	2,400	8,000	3,239	4,363	438	3,707	2,266	25,486
12/31/2005	8/21/2006	2,091	6,795	2,412	9,500	3,492	4,356	438	3,725	2,269	25,578
6/30/2006	2/20/2007	2,100	6,814	2,497	10,500	3,492	4,249	450	3,733	2,276	25,611
12/31/2006	9/4/2007	2,116	6,629	2,541	11,500	3,603	4,429	450	3,770	2,278	25,816
6/30/2007	9/4/2007	2,119	6,559	2,586	12,500	3,636	4,367	450	4,004	2,316	26,037
12/31/2007	9/4/2007	2,140	6,559	2,731	13,500	3,674	4,509	452	3,967	2,318	26,350
6/30/2008	9/4/2007	2,138	6,571	2,753	14,000	3,770	4,718	452	4,161	2,341	26,904
12/31/2008	9/4/2007	2,146	6,571	2,760	14,500	4,060	4,744	452	4,161	2,341	27,235
6/30/2009	9/4/2007	2,170	6,573	2,761	15,000	4,485	4,771	454	4,216	2,356	27,786
12/31/2009	9/4/2007	2,177	6,573	2,764	15,500	4,610	4,771	455	4,215	2,356	27,921
6/30/2010	9/4/2007	2,190	6,612	2,780	16,000	4,735	4,679	455	4,642	2,371	28,464
12/31/2010	JTVIR Est.	2,194	6,612	2,794	17,500	5,500	4,679	457	5,058	2,380	29,675
12/31/2011	JTVIR Est.	2,244	6750	2,850	19,000	6250	4,879	460	6,000	2400	31,833
12/31/2012	JTVIR Est.	2,294	6800	2,907	20,250	6750	4,979	462	7,100	2425	33,717
12/31/2013	JTVIR Est.	2,344	6800	2,965	21,500	8000	5,079	464	7,600	2450	35,702
Change 2000 v. 1995		642	596	108	2,900	531	499	28	436	390	2,803
Change 2000 v. 1995		73.8%	9.2%	5.1%	48.6%	30.3%	14.7%	6.8%	15.4%	22.9%	14.4%
Change 2005 v. 2000		579	-245	205	6,600	1,209	472	0	458	174	3,279
Change 2005 v. 2000		38.3%	-3.5%	9.3%	227.6%	53.0%	12.2%	0.0%	14.0%	8.3%	14.7%
Change 2010 v. 2005		103	-183	382	8,000	2,008	323	19	1,333	111	4,097
Change 2010 v. 2005		4.9%	-2.7%	15.8%	84.2%	57.5%	7.4%	4.4%	35.8%	4.9%	16.0%

Sources: Int'l Primary Aluminum Institute to 2006; John Tumazos Very Independent Research, LLC Estimates to 2013.

DETAILS OF AUGUST 21 INTERNATIONAL ALUMINUM INSTITUTE GLOBAL SMELTING CAPACITY UPDATE

The International Aluminum Institute capacity survey excludes China, and only includes very firm and obvious capacity additions.

The IAI appeared to anticipate 1 mmt of the Rusal development plans to 2010, and we had given Rusal credit for another 1.5 mmt from mid-2010 to the end 2013. It appears it does not give credit to full Mideastern expansions as well.

The IAI lowered projections for year end 2007 from 26.91 to 26.35 mmt or a difference of .56 mmt or 2%. They also lowered year end 2008 from 27.71 to 27.24 mmt, a drop of 0.47 mmt or 1.7%. However, the IAI raised estimates 20,000 tonnes or under 1% from 27.901 to 27.92 mmt for 2009.

The majority of the differences for 2007 were in North America and Russia. North America's estimate was lowered from 6.83 to 6.56 mmt a difference of 234,000 tonnes or 4% and Russia's was lowered from 4.21 to 3.97 mmt a difference of 243,000 tonnes or 5.7%. This appeared to reflect delays in the delivery of electricity to Alcoa's new Iceland smelter, withdrawals and slower new Russian startups. While China was not reported or estimated, its output or capacity appears about 0.5 mmt more than expected. Africa was 7,000 tonnes more, Latin America 7,000 tonnes more, Asia 19,000 tonnes less, West Europe 38,000 tonnes less, and Oceania 2,000 tonnes less. While China

In 2008 North America and Russia were still the main areas with lower capacity estimates. North America's estimate was lowered 272,000 tonnes from 6.84 to 6.57 mmt and Russia's estimate was lowered 201,000 tonnes from 4.36 to 4.16. The rest of the world accounted for an 8,000 tonne INCREASE as the North American and Russian downward revisions were larger than the 465,000 tonne world total. Africa fell 10,000 tonnes, Latin America rose 10,000 tonnes, Asia rose 30,000 tonnes, West Europe fell 22,000 tonnes and Oceania fell 6,000 tonnes.

The 2009 estimates were increased mainly in Asia where estimates rose 405,000 tonnes 4.2 to 4.61 mmt an increase of almost 10%. We regard the Asian capacity increase estimate as "peanuts" as the 6.1 mmt proposals in the Mideast are much larger, and projects exist in India and other places. This increase in Asia was almost completely offset by the lowered estimates of Russia down 108,000 tonnes and North America down 269,000 tonnes which continued to be around 4% and 5.5% below previous estimates respectively. Africa was down 3,000 tonnes, Latin America unchanged, West Europe up 109,000 tonnes possibly due to Iceland proposals and Oceania was up 5,000 tonnes.

The initial June 2010 estimate was small at 28.464 mmt up from 27.921 mmt at December 2009 in relation to the capacity proposals around the world. The June 2010 data has a regional decline of 102,000 tonnes estimated for Western Europe. It estimates minor gains of 13,000 tonnes in Africa from December 2009, 16,000 in Latin America, 15,000 in Oceania, and larger increases of 39,000 tonnes in North America, 125,000 tonnes in Asia, 427,000 tonnes in Russia and of course no estimate for China.

STRENGTHS OF THE LARGER SAUDI PROPOSAL

A Chinese-Saudi consortium proposed this past spring to build a second 1.4 mmt carbon copy of the 1.4 mmt Dubal smelter in Dubai announced in February 2006. The Chinese-Saudi project will have its own alumina refinery in Saudi Arabia using imported bauxite from Brazil or Greece. A reasonable guess of timing for the 1.4 mmt Saudi megasmelter would be 1 or 2 years behind the 2010 and 2013 phases 1 and 2 of the Dubal 1.4 mmt megasmelter (<http://www.dubal.ae/mediacentre/Article.aspx?id=306>).

An advantage of the proposed Saudi project is that it includes a 1.6 mmt alumina module that is about 10% larger than the smelter requires as a "self-sufficiency" with an extra 10% raw materials "safety factor." Bauxite reportedly will be sourced from Brazil and Greece. We regard Brazil as a better bauxite supply resource as its deposits are much larger, wages lower and has no cultural/archaeological issues such as Greek bauxite mines within view of Delphi. However, the Greek deposits have lower freight costs as they are maybe 15 miles down hill from the sea much closer to Arabia.

The Dubal megasmelter does not have a formal alumina supply agreement or alumina plant construction yet. Dubal is an investor in certain projects in Guinea. It appears to take a “non-urgent” raw materials sourcing view that maybe a developing oversupply could permit better terms than it would have negotiated in 2005 or the February 2006 when it first announced its megaproject. Last year alumina spot prices fell from \$650 early in 2006 to \$200 lows and then rebounded to \$400 early this year after strikes in Guinea, which illustrates wide market swings.

Western engineering companies like Bechtel, Aker Kvaerner or SNC –Lavalin have large backlogs and no spare capacity. Moreover, Alcan wants to earn a meaningful profit from selling Pechiney’s pot cell technologies. The Saudi project, like Egyptalum’s smaller 270,000 tonne project, bypasses expensive western companies to tap into the Chinese engineering and pot cell expertise. Moreover, the project supports the Chinese government’s goals of generating domestic employment, exports, acquiring natural resource raw materials like energy and building a diplomatic bond in the Arab world.

China has 10 mmt of aluminum smelter construction experience since 2000, while Mideastern smelters have about one-third of the 4 mmt of the new construction experience of the remainder of the world. Accordingly, it is noteworthy that the Arabian venture taps Chinese engineers rather than relying upon the substantial engineering knowhow of the Bin Ladin Group, Dubal or Aluminum Bahrain.

It is also noteworthy that Alcoa, Alcan and Century Aluminum combined erected about 1 mmt of smelting in that era mostly in Oman and Iceland.

CAPITAL COSTS

Dubal posts on its web site that its first 0.7 mmt phase should cost \$5 billion and the second-phase \$3 billion. The Sino-Saudi proposal describes \$5.2 billion for a similar-sized first phase that also includes an alumina refinery of an extra \$1 billion of value, which suggests to us that maybe the Chinese, Malaysian and Bin Ladin Group construction companies underpriced their services or else the final actual costs could be a little more.

MIDEASTERN REGIONAL PERSPECTIVE

Over the past decade Dubal and Alba (Aluminum Bahrain) have competed neck-in-neck in size. The current announcements place Dubal, Alba and Rusal’s Bratsk and Krasnoyarsk smelters each between 0.9 and 1.0 mmt of annual output.

In addition, Dubal plans its separate 1.4 mmt megasmelter in two phases targeted for 2010 and 2013. Dubal also plans a 0.7 mmt joint venture in Algiers to propel it to 3 mmt worldwide or in the global top four of Rusal, Alcoa and Alcan although 100% of Dubal’s capacity will be very new with energy advantages.

Other Mideastern smelters include the Rio Tinto joint venture in Abu Dhabi, a 625,000 separate Saudi venture perhaps with Norsk Hydro, Norsk Hydro in in Qatar for 585,000 tonnes, Alcan’s 350,000 tonne venture in Oman that probably will have a second identical module and Egyptalum’s 270,000 tonne expansion.

These more firm projects total 6.1 mmt in eight separate Arab countries including Dubal in Algiers, Dubal in Dubai, Rio Tinto in Abu Dhabi, Alba in Bahrain, Alcan in Oman, Alcan and the Chinese project in Saudi Arabia, Norsk Hydro in Qatar and Egypt and excluding less well-

defined project ideas in the past in Iran, Iraq and Malaysia. MMC Corp.'s participation in the Saudi Arabian consortium suggests that the larger than 0.5 mmt Malaysian project proposals offered over the past decade may gain a better experienced investor/sponsor since MMC Corp. will develop expertise in this Saudi venture.

GLOBAL SNAPSHOT

Further, Alcan has project proposals in British Columbia and Quebec to spend \$3.6 billion for 0.8 mmt, of which 0.55 mmt will be incremental and 0.245 mmt replacement. Alcoa, Alcan and Century Aluminum collectively have built 0.78 mmt in Iceland and seek to build almost 1.0 mmt more. BHP Billiton in the Democratic Republic of Congo (Kinshasa) and Century Aluminum in the Republic of Congo (Brazzaville) each study large new projects using gas-fired power. Rusal has many expansion projects in Russia where it could double over a decade. Alcoa's project in Trinidad appears to have died due to environmental opposition. Small expansion projects should advance in India, where large projects have been announced but the "completion rate" is lower than in the Mideast, Iceland or Russia. Small projects could move ahead in Venezuela or Brazil.

Thus, a reasonably large capacity expansion profile exists even if output growth in China finally winds down.

CHANGE IN THIS RESEARCH OPERATION

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Numerous prior investment banking relationships existed prior to three years history to the pre-1997 time frame under the employment of Donaldson, Lufkin and Jenrette or Oppenheimer & Co., Inc. Some of these we can recollect included 14 different gold mine valuations or sales for Barrick Gold, LAC Minerals (later acquired by Barrick), Addington Resources (gold assets in Montana acquired by Canyon Resources), Westworld Industries (Bolivian assets acquired by Battle Mountain Gold later acquired by Newmont Mining), Coeur d’Alene Mines, Crown Resources (acquired by Kinross Gold), Freeport-McMoRan Gold (acquired by Minorco later AngloGold later Queenstake Resources), FMC Gold (later renamed Meridian Gold) and others. Sole managed initial public offerings included Reliance Steel & Aluminum and Huntco. Lead-managed initial public offerings included American Steel & Wire (later acquired by Birmingham Steel) and lead-managed underwritings included Quanex. Co-managed underwritings included the IPO of Century Aluminum and offerings for AK Steel, Kaiser Aluminum, Agnico-Eagle Mines, Cameco and others. Asset sales or purchase advisories, fairness opinion or trusteeships were done for Thyssen Steel (sold to Ryerson Tull), Cyclops Corp. (sold to Armco later sold to AK Steel), Allegheny Corp., Bethlehem Steel, the U.S. Dept. of Justice pursuant to the June 1984 merger of LTV and Republic Steel to sell the Gadsden, AL integrated flat-rolled mill, Cobre Copper, and others. Typically more than five investment banking assignments were evaluated, partly executed or “due diligenced” for any completed transaction. Some examples we can recall for which a prospectus was either drafted or partly drafted indicating much work included stock underwritings not

completed for Wheeling-Pittsburgh Steel, Steel Dynamics, Atlas Corp., Webco, Sharon Steel, IPSCO, Co-Steel Inc., and others.

ANALYST UNIVERSE COVERAGE:

John C. Tumazos, CFA: Rio Tinto, Louisiana-Pacific, Nucor Corp., Newmont Mining, U.S. Steel, International Paper, BHP Billiton, MeadWestvaco Corp., Antofagasta PLC, Allegheny Technologies, Alcoa Inc., Inco Limited, Bowater, Inc., Temple-Inland, Barrick Gold, Abitibi-Consolidated, Weyerhaeuser Co., Alcan Inc., Smurfit-Stone Container, Plum Creek Timber, Worthington Industries, Goldcorp Inc., AngloGold Ashanti, Freeport McMoRan Copper & Gold, Novelis Inc., FNX Mining.

Dynatec is a company not continued in the research coverage of JTVIR, LLC that was previously included in the prior June 6, 2007 Prudential Equities Group universe owing to a pending takeover by Sherritt International. Alcan, which Rio Tinto soon will acquire, also will be discontinued from coverage.

Subsequently, since September 2007 JTVIR, LLC has initiated coverage of new companies not previously covered in the former universe. These new companies include General Moly, Inc., Duluth Metals, Polymet Mining and Century Aluminum.

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