

### **Russian Zinc Industry: survival and success**

Berislav Galovich, Commercial Director, Chelyabinsk Zinc Plant, Russia

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- § Russian zinc industry: past, present, future
- § Russian mining industry
- § The markets for Russian zinc at home and abroad
- § Structural changes and investment needs







### **Russian Zinc Industry: past, present, future**

### **Historical Overview**

- § USSR zinc industry was based on military needs.
- Production during 1980s reached 750 000 tpy.
- S During the same period consumption was over 900 000 tpy.
- § USSR was net importer of metal.
- § USSR imported more then 40% of concentrate requirements.

Approx zinc metal production in USS	R (1980s)
	Mt Zn
Chelyabinsk zinc plant (Russia)	130 000
Electrozinc (Russia)	100 000
Belov zinc plant (Russia)	20 000
Ust-Kamenogorsk refinery (Kazakhstan)	270 000
Leninogorsk (Ridder) refinery (Kazakhstan)	110 000
Almalyk metallurgical plant (Uzbekistan)	100 000
Urkrzinc (Ukraine)	20 000
Total	750 000
Source: CZP	



# Zinc Refining Industry in CIS Today

Zinc metal production in CIS (2005/2006)					
			Mt Zn		
Producer	Projected		Production, tpy		
capacity <sup>-</sup>	2005	2006			
Chelyabinsk Zinc Plant (Russia)	200 000	116 000	148 000		
UMMC (Russia)	100 000	90 000	88 000		
Kazzinc (Kazakhstan)	300 000	287 000	289 000		
Balkhash zinc plant (Kazakhstan)	100 000	51 000	59 000		
Almalyk MMC (Uzbekistan)	120 000	42 000	46 000		
Total	810 000	586 000	630 000		

Source: CZP, metalsplace.com

- Most zinc producers survived after collapse of USSR.
- One new plant built Balkhash.
- Overall CIS production is close to the level of the Soviet era.
- All plants, except Almalyk, became private and passed through some structural changes.



# **Russian Zinc Concentrate and Metal Producers**

Zinc metal and zinc in concentrate production 2005/2006

				Mt Zr
		metal	zinc in concentrate	
Producer	2005	2006	2005	2006
Chelyabinsk Zinc Plant (CZP)	116 000	148 000	_	(32 000*)
Ural Mining and Metallurgical Co. (UMMC)	90 000	88 000	123 000	134 000
Russian Copper Company (RCC)	_	_	24 000	21 000
Dalpolimetall	_	_	20 000	16 000
<b>Total</b> * produced in Kazakhstan by CZP own mine <i>Source:</i> CZP, metalsplace.com	206 000	236 000	167 000	171 000 (plus 32 000)

- S CZP leading Russian zinc producer; listed on London Stock Exchanges and Moscow RTS; LME registered as "CZP SHG" brand; developing integrated raw material base on sulphides and oxides.
- § UMMC core activity copper production; second Russian zinc metal producer and largest zinc miner.
- SRCC core activity copper production; third copper producer by size in Russia; expanding mine output.
- S Dalpolimetall producer of zinc and lead concentrate in Russian Far East; investing in plant upgrades. High transport costs limit concentrate sales to Russian smelters.



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# Summary of present day Russian zinc industry achievements and expected changes in near future

### § 2006 :

- produced 236 000 tonnes of zinc metal.
- produced 171 000 tonnes of zinc in concentrate.
- § consumed 174 000 tonnes of metal.
- exported 75 000 tonnes of zinc.
- § imported more than 27 000 tonnes of zinc metal.
- imported 28 000 tonnes of zinc in concentrate.

### § In 3-7 Years: <sup>§</sup>

- planning to double zinc metal production.
- § double or triple zinc concentrate production.
- § increase domestic consumption up to 300 000 tonnes.







### **Russian Mining Industry**

# **Mining Overview**

§ **17% of world resources of zinc** (approx 45 million Mt Zn)

### **S** Two out of three of the world's biggest deposits:

Ozyornoe, Kholodninskoe (Altaisky kray) Potential capacity of 500 000 mt of zinc in concentrate

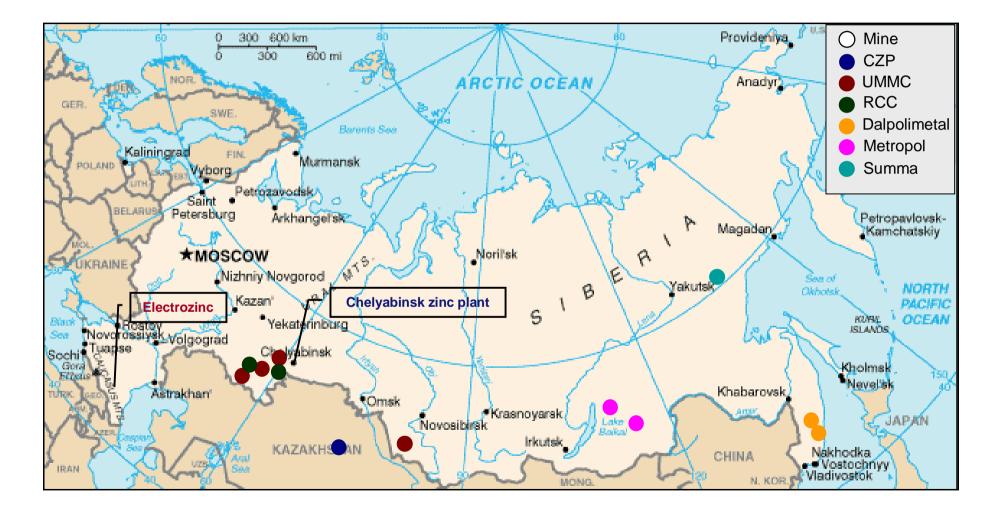
**S** Confirmed resources located in 4 major deposits:

The two most attractive ones needed high initial capital investment because of their location in the remote area of Siberia

S Production of concentrate started to increase since second half of 2006 and is expected to more than double in the next 5-7 years.



### **Russian Zinc Industry Assets**



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### Mines in operation and future mine projects

#### Zinc in concentrates production and mines under construction

#### Mt Zn

Company	Mine	Location	2006	Expected start up	Expected production at full capacity
CZP	Akzhalsky	Rep. of Kazakhstan	32 000	_	_
	Amurskoe	Chelyabinsk region	_	2010	50 000
UMMC	Altaisky	Altaisky kray	4 000	_	_
	Gaisky	Orenburg region	9 000	_	_
	Severny	Sverdlovsk region	_	2008	30 000
	Uchalinsky	Bashkortostan	119 000	_	_
	Sibaisky	Bashkortostan	2 000	_	_
RCC	Alexandrinsky	Chelyabinsk region	7 000		
	Orsky	Orenburg region	14 000		
	Priorsky	Rep. of Kazakhstan	_	2008	(20 000)
	Chebachie	Chelyabinsk region	_	2010	150 000
Dalpolimetal	-	Primorsky kray	16 000		
Metropol	Ozyornoe deposit	Altaisky kray	_	2012	250 000
	Kholodninskoe	Altaisky kray	_	_	250 000
Summa	Sardana	Yakutiya	_	2015	150 000
Total			203 000		

Source: CZP, Russian deposits cadastre



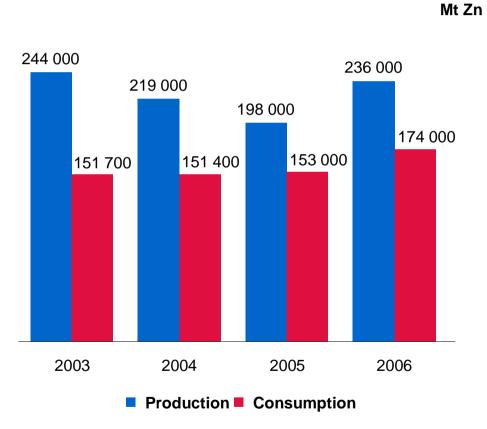




### The Markets for Russian Zinc – home and abroad

# **Russian Zinc Metal Market Overview**

- S Russian zinc production recovered since the decline in early 1990s.
- S Demand increased mainly due to expansion of continuous galvanizing capacity.
- Other zinc useage underdeveloped.
- Start up of the new continuous galvanizing lines will increase consumption additionally for 40 000 tpy of zinc metal in 2008 - 2009.



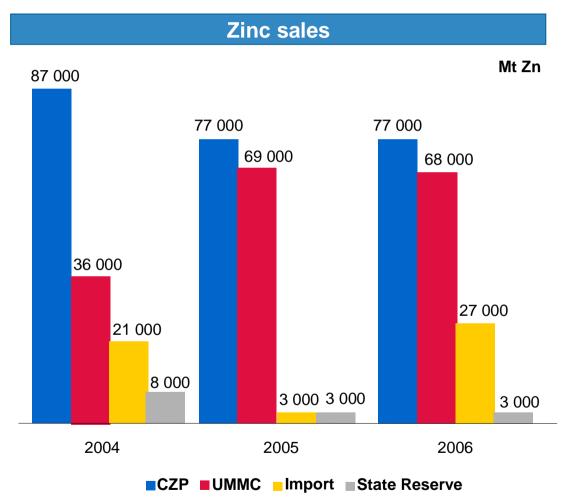
Zinc production and consumption

Source: CZP



# Zinc metal sales to the Russian market

- S Overall consumption has been rising.
- Since 2006 competition from foreign producers started to increase.
- S Domestic producers are maintaining their portion of sales in the Russian market by quantity



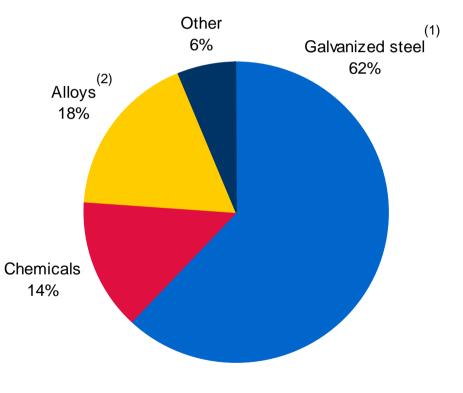
Source: CZP



## Zinc metal sales to the Russian market

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#### Russian zinc market consumption 2006



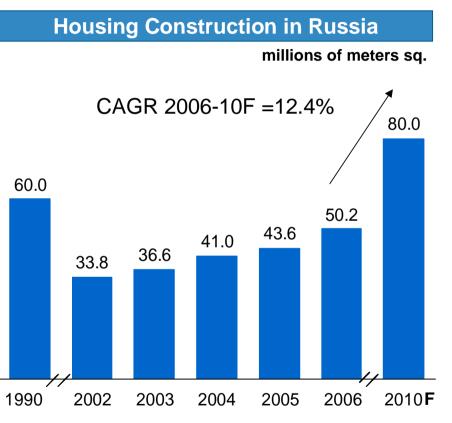
- Consumption is dominated by continuous galvanizing and this is likely to increase during the next 2-3 years.
- Markets for hot dip galvanizing, diecasting and chemical use of zinc have potential for expansion and need to be developed by the domestic zinc industry.

(1) Includes 10% of galvanized steel produced using dipping method
(2) Includes Brass



## **Russian zinc market perspectives**

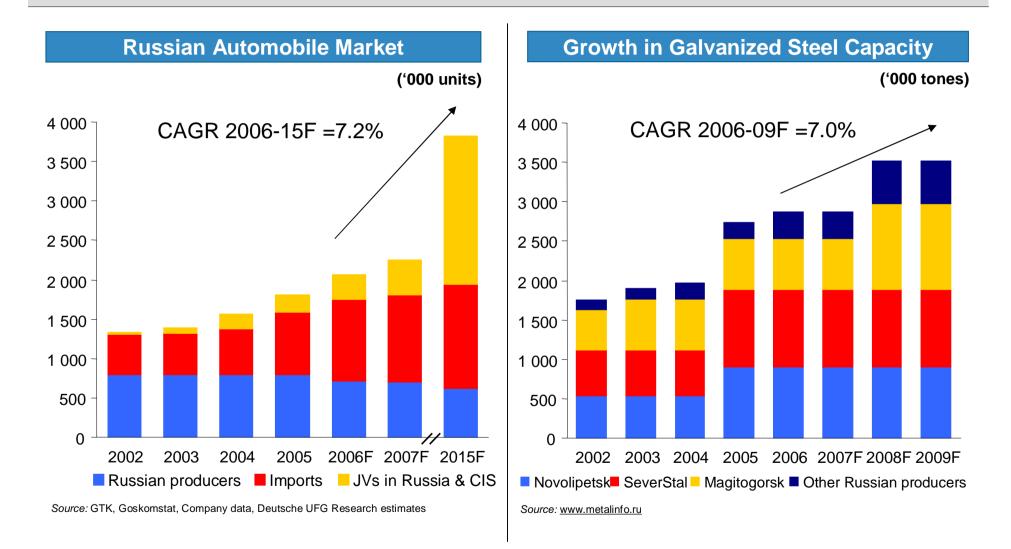
Zinc Consumption Comparison in kg per year per capita		
Europe	_	6.0
North America	_	4.0
China	_	1.5
Russia	_	1.0



Source: The Federal Agency for Construction and Housing, www.gosstroy.gov.ru



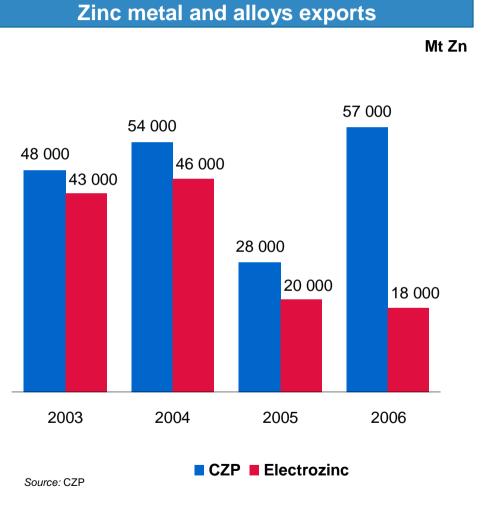
### **Russian zinc market Perspectives**





## **Russian Zinc Exports**

- S Long term contracts with known consumers replacing export on the spot market.
- Since 2005 domestic producers abandoned tolling contracts.









### **Structural changes and investment needs**

# **Structural changes and investment Requirements**

- **Structural changes occurred as tangential process to much bigger events:** 
  - privatisation of industry.
  - integration with the copper producers.
  - vertical integration of mines and smelters.
  - horizontal integration not happening.

#### **§** Future Investment requirements:

- greater availability of Russian investment capital.
- higher credit rating of zinc producers.
- foreign investors/partners to share the high initial capital cost of mine and smelter projects.
- partnership to improve project management, operations management and introduce technical innovations.



# Conclusion

- S The Russian Zinc industry is developing fast and will develop at a faster pace then the rest of the world, apart from China.
- In 5 years time the consumption should reach 300 000 to 400 000 tonnes due to a sharp increase of living standards in Russia, rapidly growing home construction, an expanding car industry and growth in transportation infrastructure.
- S This level of increased consumption should stimulate both the zinc refining and mining sectors, particularly in the Urals and other industrial regions of Russia.
- S Recent government measures to encourage industry to diversify will support the growth of small and medium size entrepreneurial enterprises, who are important users of zinc.
- S Long term government policy for industrial development, which was proposed in April 2007, should add further support to value-added metallurgical and manufacturing operations.
- S The Russian zinc industry should prosper!



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# Thank you for your attention

