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Modeling Nyrstar Mining and Smelting



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I. Overview

II. Mining

III. Smelting

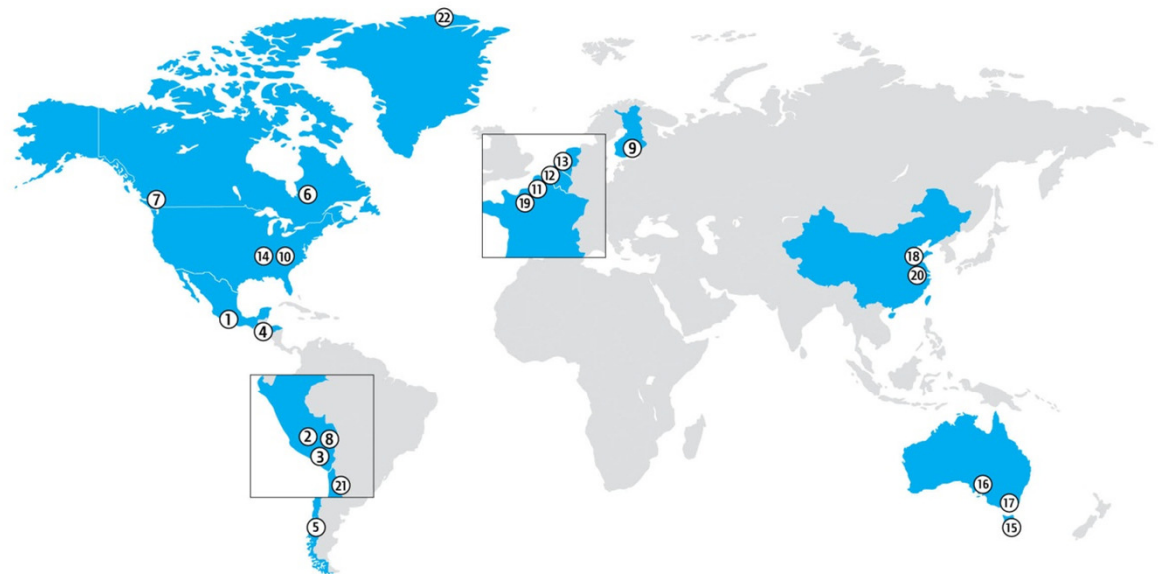
IV. Other and Eliminations

V. Group

Nyrstar at a Glance

Nyrstar is an integrated mining and metals business, with market leading positions in zinc and lead, and growing positions in other base and precious metals (including copper, silver and gold)

- World's largest zinc smelting company
 - 1.1 million tpa zinc metal
- Top five zinc mining company
 - 475,000 tpa zinc in concentrate¹
- Major lead producer
 - 250,000 tpa lead metal
 - 28,000 tpa lead in concentrate²
- Other products
 - 23.8 million troy ounces silver^{3,4}
 - 119,000 troy ounces gold³
 - 15,000 tpa copper in concentrate²



- | | | | |
|------------------------|---|---------------------------------|--|
| ① Campo Morado, Mexico | ⑦ Myra Falls, Canada | ⑬ Budel, The Netherlands | ⑱ Fohi (Interest 50%), China |
| ② Contonga, Peru | ⑧ Pucarrajo, Peru | ⑭ Clarksville, USA | ⑲ Galva 45 (Interest 66%), France |
| ③ Coricancha, Peru | ⑨ Talvivaara (Streaming Agreement), Finland | ⑮ Hobart, Australia | ⑳ Genesis (Interest 50%), China |
| ④ El Mochito, Honduras | ⑩ Tennessee Mines, USA | ⑯ Port Pirie, Australia | ㉑ Herencia (Interest 10.24%), Chile |
| ⑤ El Toqui, Chile | ⑪ Auby, France | ⑰ ARA (Interest 50%), Australia | ㉒ Ironbark Zinc Ltd. (Interest 26.5%), Greenland |
| ⑥ Langlois, Canada | ⑫ Balen/Overpelt, Belgium | | |

MINES/STREAMING AGREEMENTS
 SMELTERS
 OTHER OPERATIONS
 DEVELOPMENT

¹ Based on full production of mining assets compared against Brook Hunt's 2010 zinc mining company rankings

² Based on full production of mining assets

³ Combined mining and smelter capacity at full production

⁴ Silver production includes approximately 3 million troy ounces from Campo Morado, of which 75% is subject to a streaming agreement with Silver Wheaton Corp

Important information

- This presentation provides an overview of our mining and zinc and lead smelting business
- Data used in these calculations is based on industry benchmarks and historic data all of which is publicly available
- Worked examples do not necessarily reflect the terms of any individual contract that Nyrstar has previously entered into, currently trades on or is likely to enter into in the future

Integrated mining and smelting business model: sources of profit

MINING SOURCES OF PROFIT

A. Treatment Charge

Mines subtract Treatment / Refining Charges when selling concentrates

B. Free / Payable Metal

Mines earn the market price for the payable component of primary metal in concentrate

C. By Products

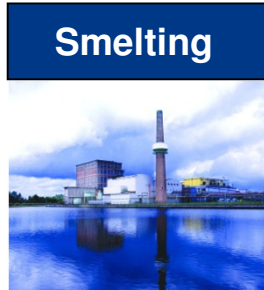
Secondary metals and other by-products can provide valuable earnings contributions, especially in polymetallic mines (e.g.. silver)



20 million tonnes of ore (grade ranges 3%-10% Zn, avg grade 5% Zn)



2 million tonnes of concentrate (avg grade 56% Zn)



1 million tonnes of metal



SMELTING SOURCES OF PROFIT

1. Treatment Charge

Smelters pay miners for 85% of the zinc in concentrates, minus a treatment charge (TC) per tonne of concentrate

2. Free Metal

Smelters pay for 85% of metal but recover ~96.5%, resulting in the capture of approximately 11% "free metal"

3. Premiums

Customers pay a premium on top of the LME metal price based on the type of alloy and regional supply/demand balance

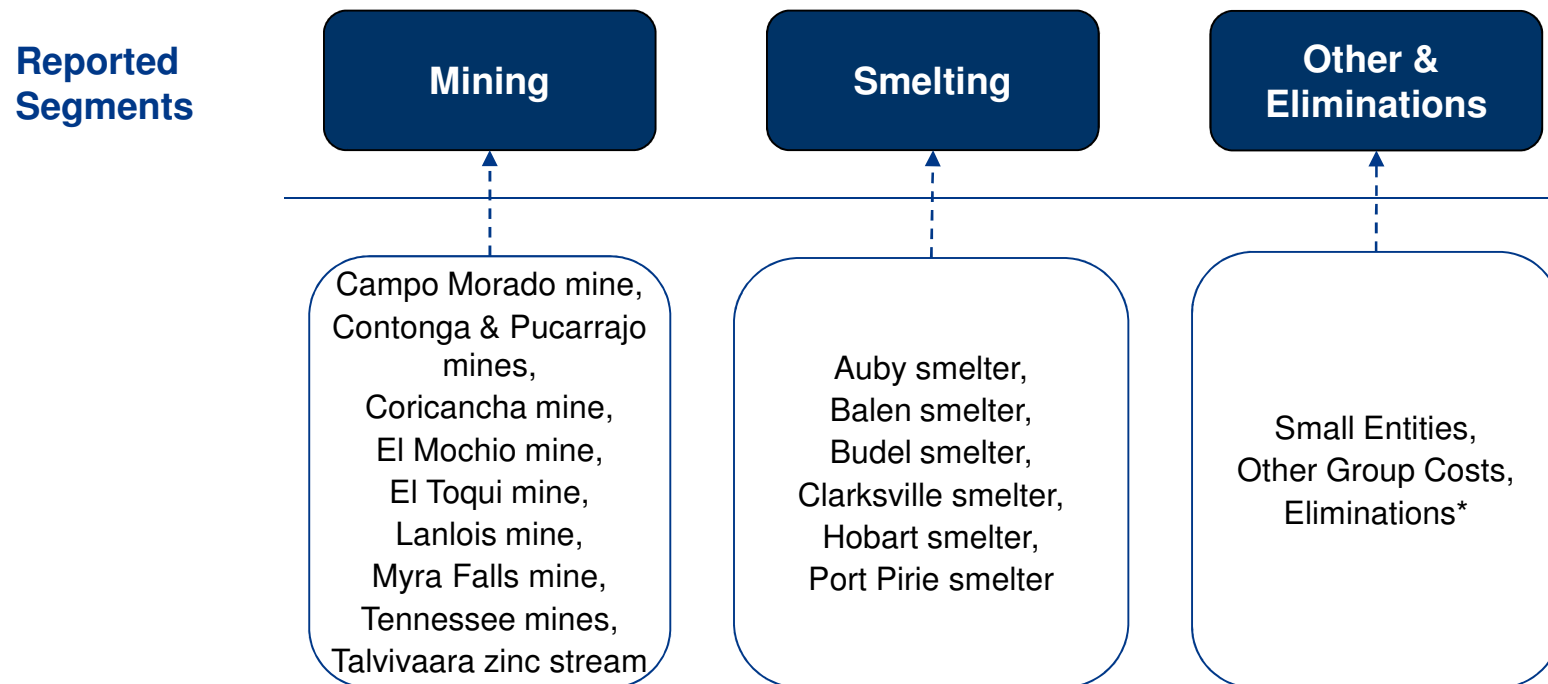
4. By Products

Other by-products provide valuable earnings contributions (predominately acid, but also other metals for a lead smelter)

Through Treatment Charges and Free Metal, smelters capture approximately 30-40% of metal price

Segmental Reporting

- Nyrstar's operating segments (Smelting, Mining and Other & Eliminations) reflect the approach of the Company towards evaluating the financial performance and allocating resources to the Group's operations



- Production by asset, smelter cost per tonne and mine C1 cash cost will continue to be reported in management discussion and analysis

I. Overview

II. Mining

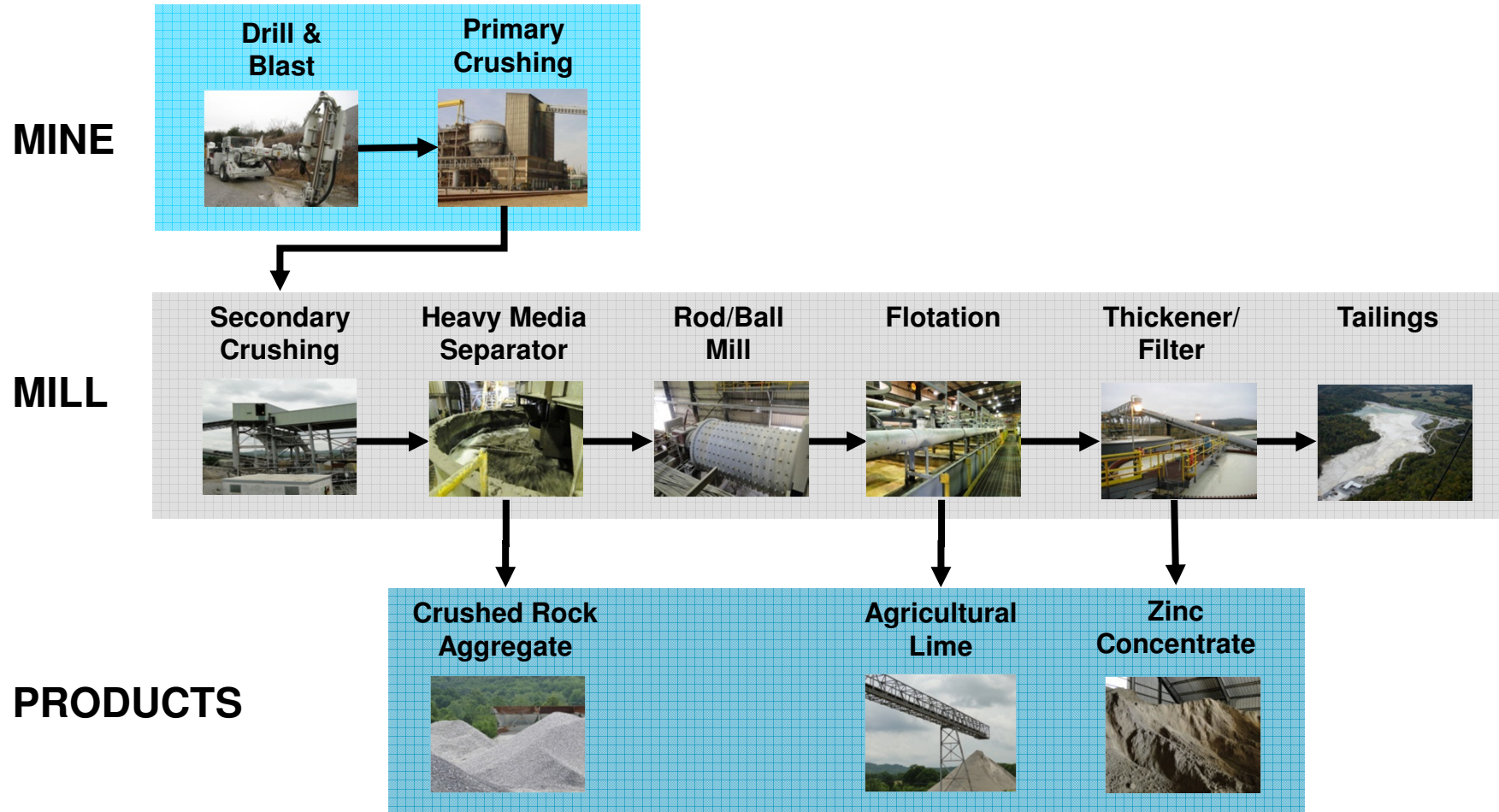
III. Smelting

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Zinc Mining and Milling Process

Simplified illustration of process at Nyrstar Tennessee Mines



Elements of mining gross profit

- *Certain terminology used below reflects the fact that Nyrstar has historically been a smelting company and as such has applied certain terminology traditionally used in the smelting industry to its Mining segment*
- The table below maps revenue and COGS to the “elements” of gross profit

| Revenue and Costs | Gross Profit |
|------------------------|----------------------|
| Metal Revenue | Payable Metal 1 |
| By Products | By Products 2 |
| <i>Gross Revenue</i> | |
| (Treatment Charge) | (Treatment Charge) 3 |
| (Realisation Expenses) | |
| (Other) | (Other) 4 |
| <i>Net Revenue</i> | |
| <i>(Net COGS)</i> | |
| Gross Profit | Gross Profit |

The four main elements of gross profit are:

1. The value of “**payable**” primary **metal** (i.e. the payable amount of the primary metal produced by the miner at the market defined price)
2. Sale of **By-products** can provide valuable earnings contributions (net of treatment or refining charges)
3. Primary concentrate **Treatment Charge** (TC) comprising the base TC and any price participation through escalators and de-escalators, which the mine pays to a smelter through concessions, thereby reducing the mine’s revenue
4. Mining **Other** Gross Profit, typically a deduction, including realization expenses, penalties paid by the miner to the smelter, location advantage concessions or allowances

Mining operating costs

- For analysing and reporting mines Nyrstar adopts the Brook Hunt C1 cash cost methodology
 - the costs of mining, milling and concentrating, on-site administration and general expenses, property taxes, metal concentrate treatment charges, and freight and marketing costs less the net value of by-product credits
 - Does not include indirect costs (such as corporate overheads) and royalties
- Mining C1 cash costs are reported on an asset by asset basis and denominated in U.S. dollars. They are based on a production, rather than sales, basis
- For Nyrstar's zinc mines, C1 cash costs are reported on a payable zinc basis
- For Coricancha it is reported on a payable gold basis
- For the Talvivaara Zinc Streaming Agreement, an "equivalent" C1 cash cost is calculated on the basis of the benchmark treatment charge and the extraction and processing fee on a payable zinc basis

Estimating mining underlying EBITDA

Zinc Mines

- $EBITDA \approx (\text{Payable zinc volume} \times (\text{Metal Price} - \text{C1 Cash Costs}))$
- Generally 85% of zinc contained in concentrate is payable

Coricancha Mine

- $EBITDA \approx (\text{Payable gold volume} \times (\text{Metal Price} - \text{Cash Costs}))$
- Approximately 97% of gold contained in doré or gold concentrate is payable. One can assume that approximately 70% of gold contained in other gold bearing concentrates is payable.
- Note that by-product prices (silver, zinc, lead, copper) significantly impact cash costs
- For by-products the following assumptions can be used (this can vary depending on which concentrate the metal is contained):
 - 95% of lead contained in concentrate is payable
 - 80% of copper contained in concentrate is payable
 - 90% of silver contained in concentrate is payable

Elimination of inter-segment sales

- When concentrate is sold within the Nyrstar group, from the Mining to the Smelting segment, the Mining segment immediately recognises the financial benefit
- However, this financial result is eliminated within the Other & Eliminations segment result until the material has been converted into finished product and sold externally (time to process internally is approximately 2 months for zinc)

High level C1 Cash Cost model

C1 Cash Cost Calculation

Metal Prices

| | | | |
|--------|---------|-------|---|
| Zinc | US\$/t | 2,000 | A |
| Copper | US\$/t | 8,000 | B |
| Silver | US\$/oz | 25.00 | C |

Mill Head Grades

| | | | |
|--------|-----|-------|---|
| Zinc | % | 10.0% | D |
| Copper | % | 2.0% | E |
| Silver | g/t | 100 | F |

Recoveries

| | | | |
|--------|---|-----|---|
| Zinc | % | 90% | G |
| Copper | % | 70% | H |
| Silver | % | 50% | I |

Production

| | | | | |
|-----------------------|-------------|---------|---|-------------|
| Ore Throughput | tpd | 2,500 | J | |
| Operational days p.a. | # | 340 | K | |
| Ore Throughput | tpa | 850,000 | L | = J x K |
| Zinc | kt | 77 | M | = L x D x G |
| Copper | kt | 12 | N | = L x E x H |
| Silver | k troy oz * | 1,371 | O | = L x F x I |

Operating Cost

| | | | |
|------------------------------|-------------|-----|---|
| Operating Cost/t concentrate | US\$/dmt | 500 | P |
| Freight Cost/t concentrate | US\$/dmt ** | 100 | Q |

KEY

| |
|--------------------------------|
| Input field |
| Calculated field |
| t = tonnes |
| tpd/a = tonnes per day / annum |
| g / t = grammes per tonne |
| ktpa = '000 tonnes per annum |
| t oz = troy ounce |
| dmt = dry metric tonne |

Average Payable Metal (after min deductions)

| | | | |
|--------|---|-----|---|
| Zinc | % | 85% | R |
| Copper | % | 80% | S |
| Silver | % | 95% | U |

TCs

| | | | |
|--------|------------|------|---|
| Zinc | % of price | 10% | V |
| Copper | % of price | 2.0% | W |

Concentrate grade

| | | | |
|--------|---|-----|---|
| Zinc | % | 55% | X |
| Copper | % | 25% | Y |

Concentrate tonnes

| | | | | |
|--------|------|-----|----|---------|
| Zinc | ktpa | 139 | Z | = M / X |
| Copper | ktpa | 48 | AA | = N / Y |

C1 Cash Costs (/t payable Zn)

| | | | | |
|--------------------|---------------|------------|-----------|--|
| Operating Cost | US\$/t | 1,436 | AB | = (P x (Z + AA)) / (M x R) |
| TC | US\$/t | 428 | AC | = (A x V x Z) / (M x R) |
| Freight and Other | US\$/t | 287 | AD | = (Q x (Z + AA)) / (M x R) |
| By-Product Credits | US\$/t | (1,555) | AE | = ((B x N x S) - (B x W x AA) + (C x O x U)) / (M x R) |
| Total | US\$/t | 596 | AF | = AB + AC + AD + AE |

EBITDA

US\$m **91** = (A - AF) x (M x R)

Notes

* 31.1 grammes to 1 troy ounce

** freight rates are usually denominated per wet metric tonne (wmt). However, for simplicity, in this example freight is calculated on a dry metric tonne (dmt) basis.

Reserves and resources

- Nyrstar has notionally adopted the following standards for all public reporting of Mineral Resources, Ore Reserves and Exploration Results:
 - Australasian Code for Reporting Exploration Results, Mineral Resources and Ore Reserves (**the JORC Code**), and
 - Canadian Institute of Mining, Metallurgy and Petroleum (**CIM or National Instrument 43-101, “NI 43-101”**) Definition Standards on Mineral Resources and Mineral Reserves and the CIM Estimation of Mineral Resources and Mineral Reserves Best Practice Guidelines.
- Updated Mineral Resources and Ore Reserves statements for all mine operations will be published in H1 2012 (based on either JORC or NI 43-101)

Mining underlying EBITDA – high level model (2010 results)

| INPUTS | | | |
|--------------------------------------|---|--|--------|
| Zinc Contained Production (tonnes) | | | |
| Contonga & Pucarrajo | A | | 2,000 |
| Tennessee Mines | B | | 63,000 |
| Talvivaara Zinc Stream | C | | 18,000 |
| Gold Contained Production (t oz) | | | |
| Coricancha | D | | 5,000 |
| Payable Zinc | E | | 85% |
| Payable Gold | F | | 97% |
| C1 Cash Cost (USD/t payable zinc) | | | |
| Contonga & Pucarrajo | G | | 2,915 |
| Tennessee Mines | H | | 1,901 |
| Talvivaara Zinc Stream | J | | 1,005 |
| C1 Cash Cost (USD/t oz payable gold) | | | |
| Coricancha | K | | 940 |
| LME Zinc Price (USD/t) | L | | 2,159 |
| LBMA Gold Price (USD/t oz) | M | | 1,226 |
| EUR:USD Rate | N | | 1.33 |

| CALCULATION | | | €m |
|--------------------------|--|--|-----------|
| Contonga & Pucarrajo | 1 | | (1) |
| Tennessee Mines | 2 | | 10 |
| Talvivaara Zinc Stream | 3 | | 13 |
| Coricancha | 4 | | 1 |
| Other Costs | 5 | | 0 |
| Underlying EBITDA | | | 24 |
| 1 | $((L - G) * (A * E)) / N$ | | |
| 2 | $((L - H) * (B * E)) / N$ | | |
| 3 | $((L - J) * (C * E)) / N$ | | |
| 4 | $((M - K) * (D * F)) / N$ | | |
| 5 | Can include royalty payments (related to revenues or profit) | | |

I. Overview

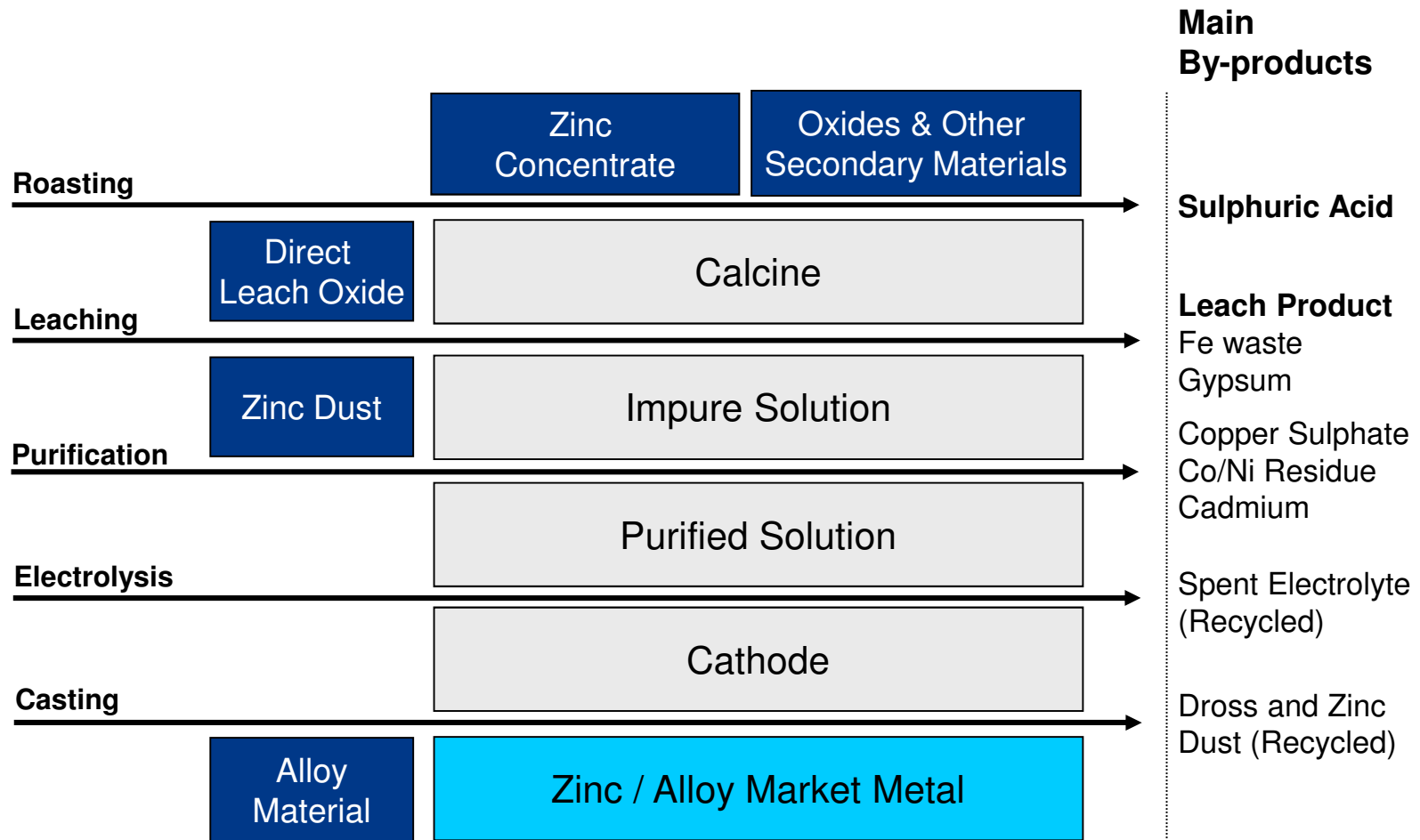
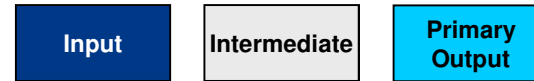
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III. Smelting

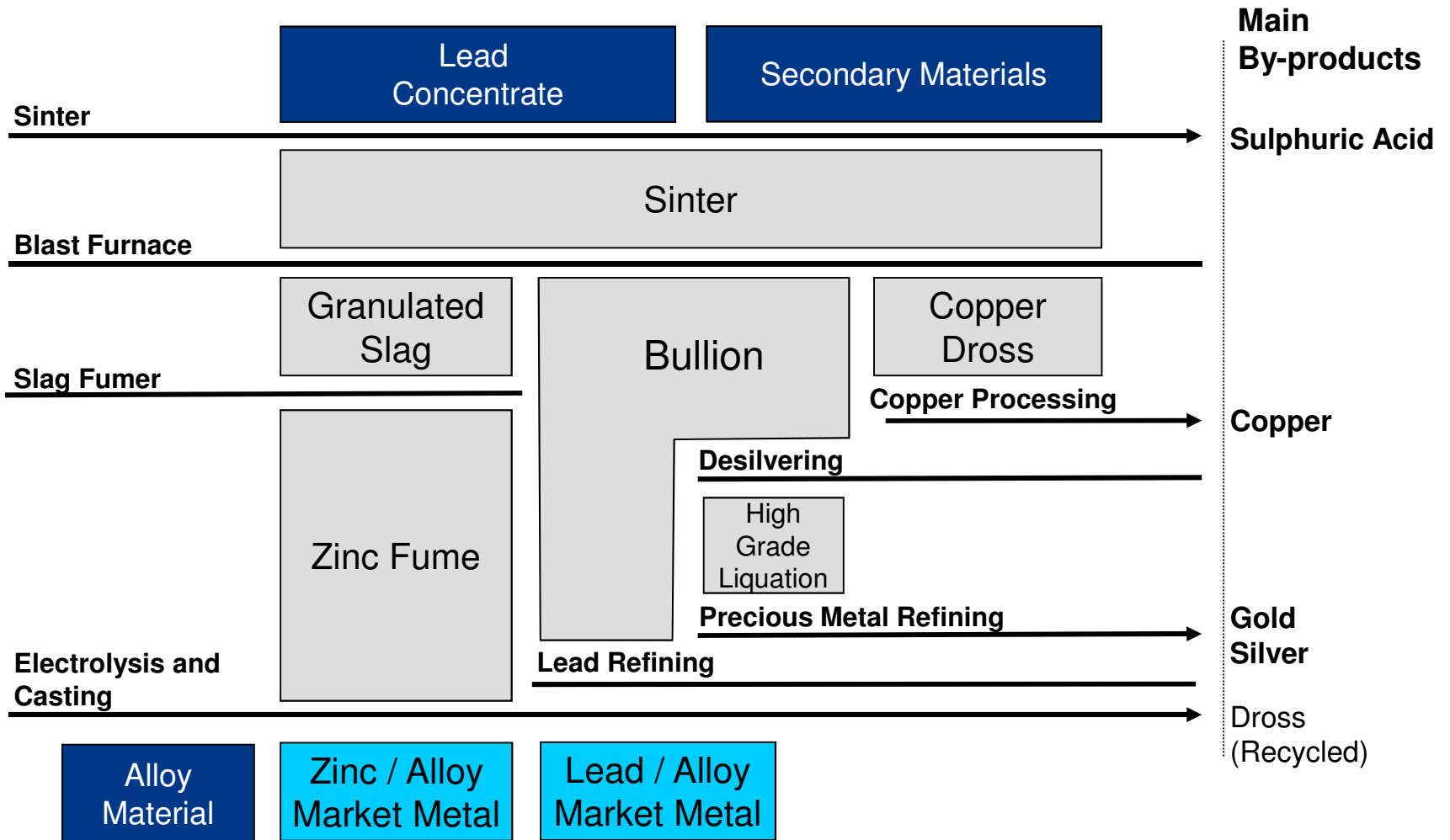
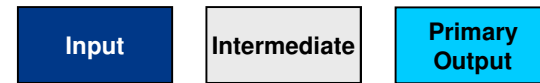
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Zinc smelting process



Multi-metal smelting process



Zinc and lead concentrate - typical pricing terms

Zinc Concentrate

Zn Metal Paid 85%

- Zinc Smelters typically pay for 85% of the zinc contained in zinc concentrates (typically 56% Zn) valued at LME price averaged over the Quotation Period (QP)
- In addition will pay for Ag content in concentrate if it exceeds certain threshold

Deductions

- Treatment Charges
- Penalties[#] and/or Allowances

Penalties depend on quality of concentrate e.g. where the material contains impurities above the set thresholds the smelter is compensated

Lead Concentrate

Pb Metal Paid 95%

- Lead Smelters typically pay for 95% of the lead contained in the lead concentrate (typically 60% Pb) valued at LME price averaged over QP
- In addition Lead Smelter will pay for Ag, Au, Cu and Zn content in concentrate if it exceeds certain thresholds

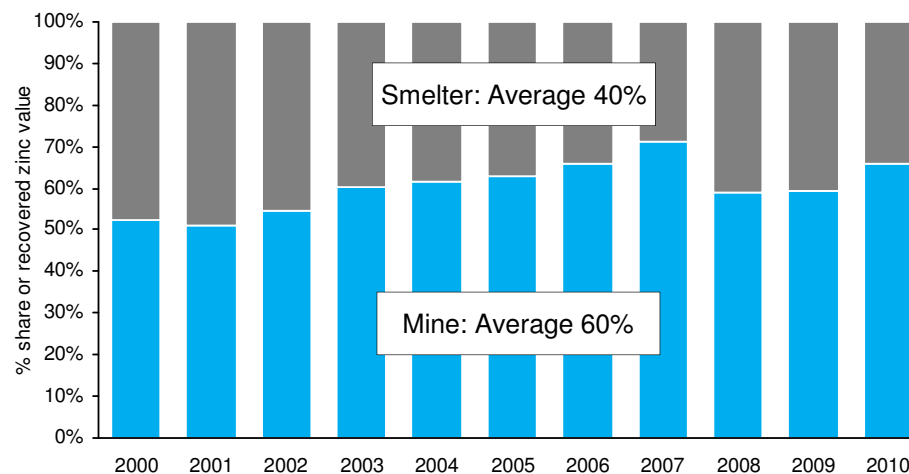
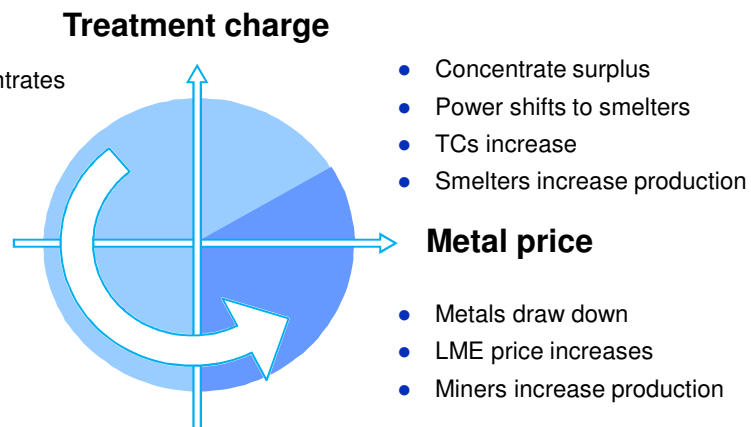
Deductions

- Treatment Charges
- Penalties and/or Allowances

Profit share concept

- The metal value contained in zinc concentrates is shared between miners and smelters through payable metal and Treatment Charges (TCs), as zinc smelters only pay for 85% of contained metal, minus a treatment charge
- Industry players often refer to the concept of profit sharing, which refers to the proportion of the LME metal price attributed to smelters and miners
- Smelters' share of LME price between 1986–2010*
 - Average 40%
 - Maximum 54% (1986)
 - Minimum 28% (2007)

* Source : Brook Hunt



Zinc smelters capture approximately 40% of price through Treatment Charges and Free Metal

Elements of smelting gross profit

- The table below maps revenue and COGS to the “elements” of gross profit

| Revenue and Costs | | Gross Profit |
|------------------------|---|---------------------|
| Metal Revenue | → | Free Metal 2 |
| Premium | → | Premium 3 |
| By Products | → | By Products 4 |
| (Realisation Expenses) | | |
| <i>Net Revenue</i> | | |
| (Payable Metal) | → | |
| Treatment Charge | → | Treatment Charge 1 |
| (Other) | → | (Other) 5 |
| <i>(Net COGS)</i> | | |
| Gross Profit | | Gross Profit |

The five main elements of gross profit are:

- Zinc and lead **Treatment Charges** (TCs) comprising the base TC and any price participation through escalators and de-escalators, paid to the smelters by miners in the form of concessions
- The value of **free** zinc and lead **metal** (i.e., refined zinc and lead produced by the smelter over and above the metal content the smelter has paid for in concentrates purchased from the miner)
- Metal **premiums** (i.e., sales of refined metal made by the smelter at prices above the LME zinc and lead reference prices)
- Sale of **by-products** can provide valuable earnings contributions
- Smelting **Other** Gross Profit (or loss), which consists of realization expenses, location allowances, penalties and the costs and revenues associated with producing alloys

1. Treatment charges

- For zinc and lead concentrates, treatment charges are payable per tonne of concentrate (not per tonne of market metal)
- Zinc treatment charges also include price participation, and an annual benchmark is typically negotiated between major producers with the following components:
 - Base TC TC prior to application of escalator/de-escalator
 - Basis Price LME Zinc price at which Base TC is set (typically LME price at negotiation)
 - Escalator % increase to Base TC for each US\$ LME price increase above Basis price
 - De-escalator % decrease to Base TC for each US\$ LME price decrease below Basis price
- In some years there may be a more complex structure with non participation windows, or multiple escalators/de-escalators
- Most concentrate contracts are for an annual delivered quantity (ADQ), but not all concentrate may be received in that contract period. Therefore TC terms can carry over into the following year under prior period TC terms and opening inventory will also carries these terms
- A spot treatment charge market exists; however, this is relatively illiquid (constituting approximately 10% of all concentrates)
 - Nyrstar generally purchases all of its concentrates on benchmark terms
- Lead Treatment charges can be either flat or have escalators / de-escalators like zinc
- Note: Lead smelters do not receive a Zinc Treatment Charge for zinc contained in lead concentrates

Benchmark Zinc and Lead TC terms can be found in Metal Bulletin, Brook Hunt, CRU and other industry articles

1. Treatment charges – example

2011 Zinc TC Benchmark terms

- Base TC USD\$229/dmt (dry metric tonnes)
- Basis Price LME Zinc USD\$2,500/t
- Escalator +6% / De-escalator -4%

| | | | | | | |
|---------------------------|-----------|---------------|---------------|---------------|---------------|---------------|
| LME Price (\$/t) | A | 2,000 | 2,250 | 2,500 | 2,750 | 3,000 |
| Base TC (\$/t) | B | 229.00 | 229.00 | 229.00 | 229.00 | 229.00 |
| Basis Price (\$/t) | C | 2,500 | 2,500 | 2,500 | 2,500 | 2,500 |
| Escalator | E | 6% | 6% | 6% | 6% | 6% |
| Descalator | F | 4% | 4% | 4% | 4% | 4% |
| Realised TC (\$/t) | G* | 209.00 | 219.00 | 229.00 | 244.00 | 259.00 |

$$\begin{aligned}
 \mathbf{G^*} & \text{ If LME Price} < \text{Basis price} && \mathbf{B + (A - C) \times F} \\
 & \text{ If LME Price} > \text{Basis price} && \mathbf{B + (A - C) \times E}
 \end{aligned}$$

- 2011 Lead benchmark terms are approximately USD\$240/t flat (i.e. no escalator or de-escalator)
- Realised Lead TC (\$/t) is calculated in same way as zinc example above

2. Free metal contribution

ZINC SMELTERS

- The volume of zinc free metal produced is determined by concentrate Zn grade, amount of zinc paid for and amount of zinc recovered
- Working from input to output (assuming 56% Zn grade, 85% Zn metal paid and 96.5% recovery rate):
 - 1,000 dmt amount of zinc concentrate we buy
 - 1,000 t x 56% = 560 t amount of contained zinc metal
 - 560 t x 85% = 476 t amount we pay for
 - 560 t x 96.5% = 540 t amount we recover i.e. production volume
 - 540 t – 476 t = 64 t therefore amount of free metal
- The contribution to gross profit from zinc free metal is determined by the recovery rate, the LME zinc price and exchange rates

$$\text{Free Metal (€)} = \text{Production} \times \left[\frac{(\text{Recovery} - \text{Payable})}{\text{Recovery}} \times \frac{\text{LME}}{\text{Exchange Rate}} \right] \text{ EUR:USD Rate}$$

- The free metal contribution has to be grossed up by the recovery rate as zinc lost in the production process has a free metal component
- Using the example above production 540t x (96.5% recovery - 85% payable) / recovery 96.5% = 64 t free metal

2. Free metal contribution

- Nyrstar's average zinc recovery in 2010 was approximately 96.5% (zinc smelters only)
- Example (for **zinc smelters only**, based on FY 2010 figures):
 - 1,100,000 t zinc production
 - Recovery rate – 96.5%
 - Avg Zinc LME price – \$2,169 / t
 - Avg Exchange Rate – EUR:USD 1.33

$$\text{Free Metal (€)} = 1,044,000 \times \frac{(96.5\% - 85\%)}{96.5\%} \times \frac{\$2,169}{1.33} \approx \text{€}203\text{m}$$

MULTI-METAL SMELTER

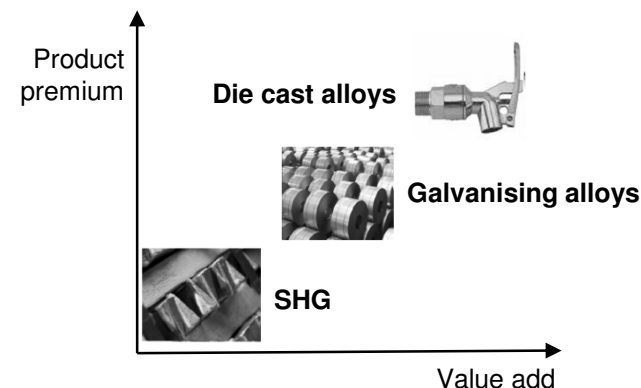
- Port Pirie recovers approximately 90% and only pays for approximately 10% of zinc in concentrates. Therefore the zinc free metal contribution needs to be calculated separately
- Lead Free Metal is calculated using the same approach but is not as significant as for zinc due to higher payable component. Payable lead 95%, lead recovery at Port Pirie 99%

3. Premiums

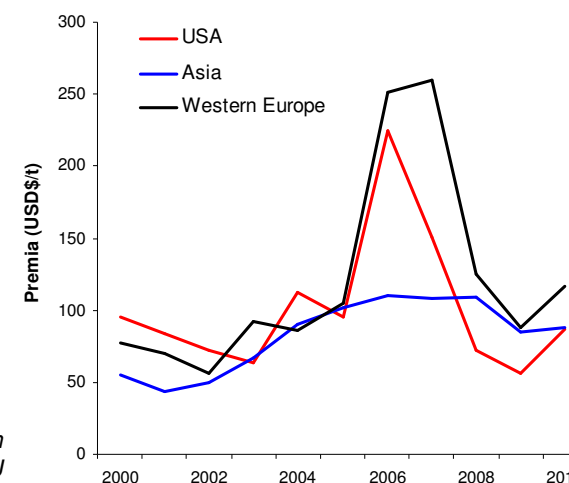
- Premiums relate to the type of metal or alloy produced as well as the regional supply-demand balance
- Nyrstar produces zinc commodity grade products such as Special High Grade (SHG) and galvanising alloys e.g. Continuous Galvanising Grade (CGG)
- Nyrstar also produces significant volumes of zinc specialty alloys (such as ZAMAK die-casting alloys in Europe and EZDA in Asia) which have historically had higher premiums
- Nyrstar negotiates premiums annually for commodity grade products (under the off-take agreement for commodity grade products with Glencore that runs until 2018). A combination of annually negotiated contracts and shorter terms determine premiums for specialty alloys.
- Spot premiums can be found in Brook Hunt and Zinc Monitor and are indicative of the trend in premiums

Spot zinc premium
Source: CRU

Zinc products



Zinc Location Premium



4. By-products - acid

- Sulphuric acid is the main by-product for zinc smelters
- It is produced during the roasting stage for zinc smelters, and during the sinter stage for lead smelters
- Sulphuric acid is predominantly used by the chemicals, mining and fertiliser industries
- Indicative movements in acid prices by region can be found in industry reports (such as the PentaSul report) and sulphur price indexes
- Production volumes can be estimated based on historic data:
 - For zinc smelters, for every 1 unit of Zinc Market Metal produced, 1.3 units of acid is produced
 - For lead smelters, for every 1 unit of Lead Market Metal produced, 0.3 units of acid is produced
- There are several factors which impact acid earnings:
 - Regional variation in acid quality, usage and markets
 - Mix of domestic sales and exports
 - Regional differences in contract terms: in some regions and with some customers annual contract terms are negotiated, for others shorter terms are used

4. By-products - other

– Leach Product

- This is the saleable product of the leaching process typically containing silver and lead
- The value of leach product varies depending on contract conditions and leach product quality

– Other

- This includes products such as Indium, Cadmium, Copper Sulphate and other zinc products
- Production and earnings vary year on year due to changes in concentrate mix and pricing conditions

– Lead Smelters

- By-products at Port Pirie are anything other than zinc and lead market metal
- The Port Pirie multi-metal smelter has the flexibility to efficiently process a wide range of raw materials to produce refined copper, silver and gold (in addition to lead and zinc)
- Various factors determine the earnings contribution of the major by-products; Silver, Copper and Gold, including
 - Market prices, recovery rates
 - The Ag, Cu and/or Au content contained in the concentrate (assays)
 - Payable components for Ag, Cu and Au which depends on concentrate assay
 - Silver Refining Charge (RC) for lead concentrates with high levels of payable silver
 - Silver Premiums

5. Other smelting gross profit

The key components of Other Smelting Gross Profit include:

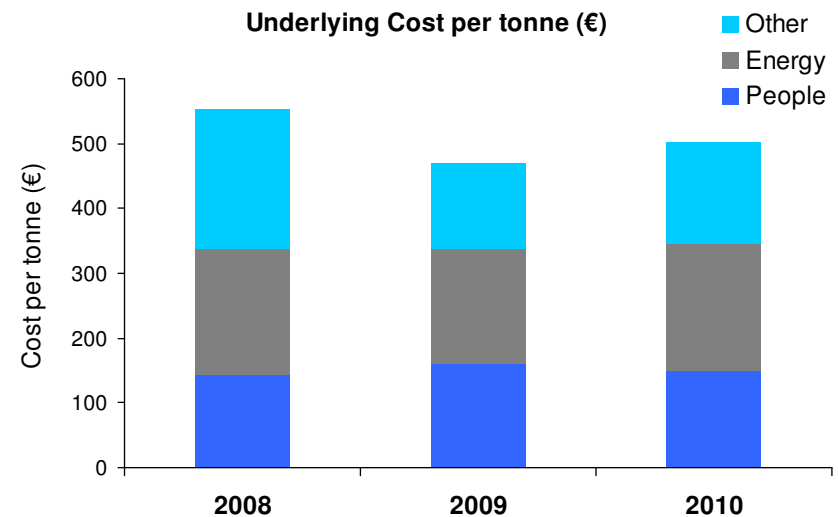
- **Realisation expenses**
 - Includes all external selling freight costs incurred in delivering refined zinc, lead and by-products
 - Nyrstar relies on a variety of transport methods for delivery of its products, including ship, road and rail
 - In general, Nyrstar's transport costs are higher in Europe than in the United States, Asia or Australia
 - Generally the smelter pays for transportation of its finished product to the customer
- **Inbound Freight**
 - Includes all freight and handling costs for inbound concentrates
- **Location allowances**
 - Smelters that are located close to mines are well-placed to negotiate advantageous commercial terms
- **Penalties**
 - Concentrates contain impurities, such as iron, that cause difficulties in the refining process. In these circumstances there may be a deduction from the price of the concentrate
- **Costs and revenues of alloying materials**
 - Costs and revenues of alloying materials (aluminium, nickel, copper, tin, etc.) which are required to produce the value-added alloys
- **Hedging Gains and Losses**
 - Gains and losses from Nyrstar's metal at risk hedging programme

Smelting operating costs

- Operating Costs consist of:
 - People (employee costs)
 - Energy (primarily electricity for zinc smelters, and coke/coal for lead smelters)
 - Other (including Stores and External Services)
- From 2010 Nyrstar reports an underlying operating cost per tonne to the market based on:

$$\text{Smelting Underlying Cost per tonne} = \frac{\text{Total Smelting Underlying Operating Costs}}{\text{Total Zinc Market Metal Production} + \text{Port Pirie Lead Market Metal Production}}$$


- In H1 2011 this figure was €501/tonne compared to €470/tonne in 2008 and €553/tonne in 2009
- In 2010 smelting cost per tonne increased (in Euro terms) as a result of the weaker Euro and temporary production issues at Hobart and Port Pirie



Smelting underlying EBITDA – high level model (2010 Results)

Nyrstar uses a model similar to this to validate the output of more detailed models

| INPUTS | | | |
|--|---|-----------|--|
| Zinc MM Production (zinc smelter) | A | 1,044,000 | |
| Zinc MM Production (Port Pirie) | B | 32,000 | |
| Lead Production (Port Pirie) | C | 179,000 | |
| Acid Production | D | 1,444,000 | |
| Zinc Recovery (zinc smelters) | E | 96.5% | |
| Zinc Recovery (Port Pirie) | F | 90% | |
| Lead Recovery (Port Pirie) | G | 99% | |
| Paid Zinc (zinc smelters) | H | 85% | |
| Paid Zinc (Port Pirie) | J | 10% | |
| Paid Lead (Port Pirie) | K | 95% | |
| Zinc Concentrate Grade | L | 56% | |
| Lead Concentrate Grade | M | 60% | |
| LME Zinc Price (USD/t) | N | 2,159 | |
| LME Lead Price (USD/t) | P | 2,148 | |
| Realised Acid Price (USD/t) | Q | 35 | |
| Realised TC (Zn) USD/t | R | 259 | |
| Realised TC (Pb) USD/t | S | 230 | |
| Avg Zinc Premium (USD/t) | T | 120 | |
| Avg Lead Premium (USD/t) | U | 70 | |
| EUR :USD | V | 1.33 | |
| Underlying Cost per tonne (€/t) | W | 501 | |
| R = LME Zinc Price * 12% (see page 22) | | | |



| CALCULATION | | | |
|----------------------------|----|-------------------------|----|
| | | €m | % |
| Zinc TC (€ m) | 1 | 376 | 47 |
| Lead TC (€ m) | 2 | 52 | |
| Free Zinc - ex Pirie (€ m) | 3 | 202 | |
| Free Zinc - Pirie (€ m) | 4 | 46 | 29 |
| Free Lead (€ m) | 5 | 12 | |
| Zinc Premium (€ m) | 6 | 97 | 12 |
| Lead Premium (€ m) | 7 | 9 | |
| By-products (€ m) | | | |
| Acid | 8 | 38 | 13 |
| Other | 9 | 76 | |
| Other (€m) | 10 | (81) | |
| Gross Profit | | <u>828</u> | |
| Underlying Costs | 11 | <u>(629)</u> | |
| Underlying EBITDA | | 199 | |
| 1 | | $((A/E/L) * R) / V$ | |
| 2 | | $((B/G/M) * S) / V$ | |
| 3 | | $A * ((E-H)/E) * N / V$ | |
| 4 | | $B * ((F-J)/F) * N / V$ | |
| 5 | | $C * ((G-K)/G) * P / V$ | |
| 6 | | $((A+B) * T) / V$ | |
| 7 | | $(C * U) / V$ | |
| 8 | | $(D * Q) / V$ | |
| 9 | | 2010 figure | |
| 10 | | 2010 figure | |
| 11 | | $(A + B + C) * W$ | |

I. **Overview**

II. **Mining**

III. **Smelting**

IV. **Other and Eliminations**

V. **Group**

Other and eliminations segment

The key components of the Other & Eliminations segment include:

- The operating result from subsidiaries* (fully consolidated)
 - Galva 45 (France) galvanizing facility (66% owned)
- The profit or loss from associates (equity accounted)
 - Australia Refined Alloys (ARA) (Australia)
 - Föhl (China)
 - Genesis Alloys (China)
- Corporate activities / costs (that are not allocated to the mining or smelting segments)
- Eliminations of intra-group transactions, including any unrealized profits resulting from intercompany transactions

- In 2010 this segment made a underlying EBITDA loss of €15 million, in 2009 there was a €2 million loss
 - The ramp-up of mining production increased the elimination of unrealised Mining segment earnings for material sold internally to own smelters

I. **Overview**

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Group underlying EBITDA: 2010 results

- Therefore by forecasting mining and smelting production levels, forecasting mine C1 cash costs, calculating smelting gross profit, applying a smelting operating cost per tonne figure and forecasting an Other & Eliminations result, Group Underlying EBITDA can be estimated

| Segment | | Underlying EBITDA (€ million) | |
|----------------------|-----------------|-------------------------------|------------|
| | | Modelled | Actual |
| Mining | <i>Slide 16</i> | 24 | 24 |
| Smelting | <i>Slide 33</i> | 199 | 198 |
| Other & Eliminations | <i>Slide 35</i> | | (15) |
| Group | | | 207 |

Reconciling group underlying EBITDA to profit after tax

- Various factors determine the value of the items between underlying EBITDA and profit after tax
- There has been significant variability over the last three years
- Further information on these line items is available in the:
 - Annual Financial Statements and notes to the financial statements (available in the annual report)
 - HY and FY releases

| <i>€ millions</i> | 2008 Actual | 2009 Actual | 2010 Actual |
|--|----------------|----------------|----------------|
| Underlying EBITDA | 153 | 93 | 207 |
| Hobart Embedded Derivative | (9) | (5) | (13) |
| Restructuring Expenses | (24) | (24) | (11) |
| Impairment Gain / (Loss) | (615) | 2 | (1) |
| Profit/Loss on disposal of investments | (18) | 6 | - |
| Total Underlying Adjustments | (666) | (21) | (25) |
| EBITDA | (513) | 71 | 183 |
| D,D&A | (80) | (50) | (82) |
| EBIT | (593) | 21 | 101 |
| Net Interest & Financing Costs | (14) | (10) | (36) |
| Gain / (loss) on FX fluctuations | (0) | 3 | 24 |
| Profit before Tax | (606) | 14 | 89 |
| Income Tax | 12 | (3) | (17) |
| Profit After Tax | (595) | 10 | 72 |

Working capital

- The information provided below is historic working capital data which may be helpful when considering working capital requirements
- Note movements in WC depend on period-end prices, not average prices for the period

| Inventory – average holding period | | | | |
|------------------------------------|---|---|--|-----------------|
| Months | Raw Materials | Work in Progress | Finished Goods | Total Inventory |
| Zn | 1 | 1 | 0.25 | 2 - 2.5 |
| Pb | 1 | 1.5 | 0.25 | 2.5 – 3 |
| Ag | 1 | 3 – 4 | 0.5 | 4 - 6 |
| Notes | Concentrate = Production / Grade / Recovery | Completion Rate and Conversion Cost assumed | Reflect conditions of Off-take Agreement | |

Note that working capital requirements at mines are significantly less than at smelters as:

- There are no raw materials (and so no associated costs)
- Therefore inventory is valued on operating costs only (cost to convert ore into concentrate)
- The average holding period of WIP is lower

| Trade Payables | | |
|----------------------|-------------------------|---|
| Category | Average Period (Months) | Notes |
| People Cost | - | Paid in same month |
| All other Opex costs | 1 | Paid in following month |
| Capex | 1 | Paid in following month |
| Raw Materials (COGS) | 0 - 1 | 90% paid in the same month of purchase 10% paid in the following month |

| Trade Receivables | | |
|-------------------|-------------------------|---|
| Category | Average Period (Months) | Notes |
| Debtors | 0.75 - 1 | Average outstanding receivables as proportion of revenues |

Capital Expenditure

- Nyrstar segregates mine capital expenditure into the following categories
 - Exploration: exploration and evaluation of potential mineral reserves and resources
 - Development: activities to define, block out and gain access to the ore and prepare it for production
 - Property, Plant and Equipment: sustaining spend to continue existing production facilities; environmental, legal and safety spend to comply with internal and external standards

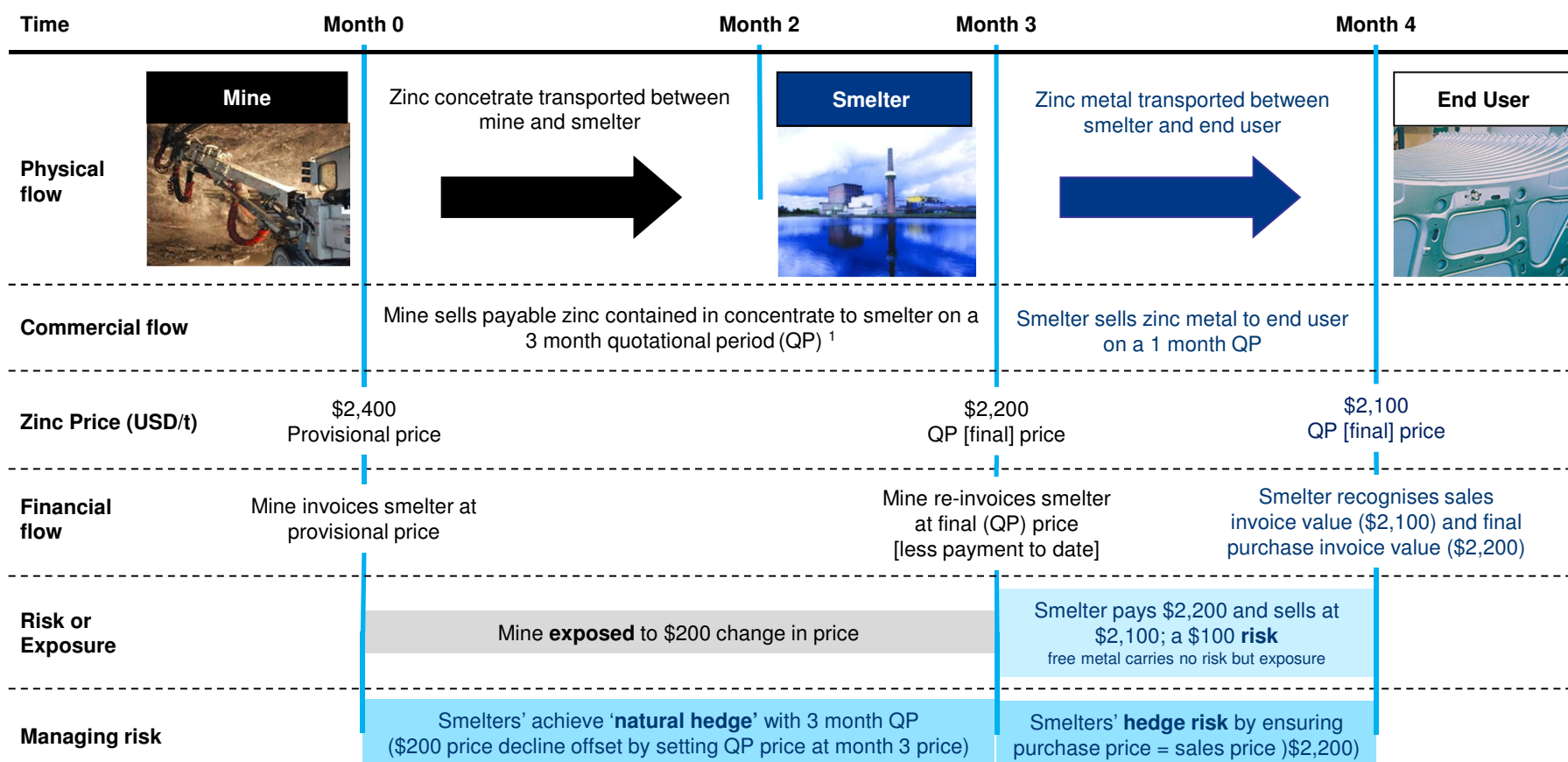
- Nyrstar segregates smelter capital expenditure into the following categories
 - Sustaining: spend to continue existing production facilities, including periodic maintenance shuts
 - Compliance and other environmental: environmental, legal and safety spend to comply with internal and external standards

- Nyrstar has a separate growth capital allocation process, which assesses major and incremental and major growth opportunities across the Group

- Capital expenditure by reporting segment is disclosed on a half and full year basis

Managing metal price risk

- During the working capital cycle, both mines and smelters are exposed to changes in metal prices
- Nyrstar does not hedge price risk at the mines but hedges transactional price risk at the smelters
- The simplified process below is an example of price risk and exposure within zinc mining and smelting



¹ Quotational Period (QP) is the contractually agreed timeframe which determines the metal price the smelter pays to the mine (usually the average price of the QP). Duration of QP can vary and is independent of physical flows