Global market potential POLY4

1 Global fertilizer outlook 2018
   (in Mtpa of product with contestable products POLY4)

<table>
<thead>
<tr>
<th>Product</th>
<th>1,4</th>
<th>5.8</th>
</tr>
</thead>
<tbody>
<tr>
<td>Kieserite</td>
<td></td>
<td></td>
</tr>
<tr>
<td>AS</td>
<td>25,5</td>
<td>51.1</td>
</tr>
<tr>
<td>SSP</td>
<td>32,7</td>
<td>28.8</td>
</tr>
<tr>
<td>NOP</td>
<td>1,8</td>
<td></td>
</tr>
<tr>
<td>SOP-M</td>
<td>2,1</td>
<td></td>
</tr>
<tr>
<td>SOP</td>
<td>5,6</td>
<td></td>
</tr>
<tr>
<td>MOP</td>
<td>71,3</td>
<td></td>
</tr>
</tbody>
</table>

2 Global fertilizer outlook per region
   (in '000 Ktpa of product with contestable products POLY4)

Notes:
1) Global fertilizer outlook 2018 based upon CRU estimates contestable products POLY4 (NOP, Fertecon outlook); 2) Fertilizer outlook per region based upon CRU estimates demand in 2018

Source: CRU; Fertecon; Sirius Minerals;
The European Zechstein Deposit

Sedimentary rock layers of the middle to late Permian period

Key comments

- The disappearance of the Zechstein Sea was part of a general marine regression that preceded and accompanied the Permian-Triassic extinction.

- Polyhalite is an evaporate mineral deposited here 250-260 million years ago.

- Polyhalite is a hydrated sulphate of potassium, calcium and magnesium with formula: $\text{K}_2\text{Ca}_2\text{Mg(SO}_4\text{)}_4\cdot 2\text{H}_2\text{O}$.

- A triclinic crystal structure with a hardness index of 2.5-3.5 Mohs.

- Initially discovered in 1818.

Polyhalite resource
With developed markets maturing, MOP demand growth is forecasted to be driven by developing countries

**World MOP demand 2007-2020**

Mn tons

<table>
<thead>
<tr>
<th>Year</th>
<th>Rest of the world</th>
<th>Brazil</th>
<th>U.S.</th>
<th>India</th>
<th>China</th>
<th>Europe</th>
</tr>
</thead>
<tbody>
<tr>
<td>2007</td>
<td>54.4</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>2008</td>
<td>49.8</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
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<tr>
<td>2009</td>
<td>29.3</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>2010</td>
<td>47.7</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>2015</td>
<td>63.9</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>2020</td>
<td>73.6</td>
<td></td>
<td></td>
<td></td>
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</tr>
</tbody>
</table>

**CAGR 2010-2015**

<table>
<thead>
<tr>
<th>Region</th>
<th>CAGR 2010-15</th>
<th>CAGR 2015-20</th>
<th>CAGR 2010-20</th>
</tr>
</thead>
<tbody>
<tr>
<td>Rest of the world</td>
<td>4.3%</td>
<td>2.0%</td>
<td>3.1%</td>
</tr>
<tr>
<td>Brazil</td>
<td>9.7%</td>
<td>4.0%</td>
<td>6.8%</td>
</tr>
<tr>
<td>India</td>
<td>5.8%</td>
<td>4.0%</td>
<td>4.9%</td>
</tr>
<tr>
<td>China</td>
<td>11.8%</td>
<td>5.0%</td>
<td>8.3%</td>
</tr>
<tr>
<td>U.S.</td>
<td>2.5%</td>
<td>0.3%</td>
<td>1.4%</td>
</tr>
<tr>
<td>Europe</td>
<td>2.1%</td>
<td>1.1%</td>
<td>1.7%</td>
</tr>
<tr>
<td>Total</td>
<td>6.0%</td>
<td>2.9%</td>
<td>4.4%</td>
</tr>
</tbody>
</table>

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1. Numbers based on Potassium Chloride 10 Year Outlook by CRU as IFA numbers are not available from 2014-2020
2. Assumption: figures for 2020 extrapolated from 2019

Sources: CRU; Sirius Minerals

Strictly confidential - for internal review only
A new benchmark in sustainability

York Potash has been designed to minimize the impact on the National Park

Traditional approach to mining has historically been low cost, high impact
Low impact design
Development plan

World class mining facility will result in high productivity and low costs
Product performance drives marketing success
Multiple demonstrations of POLY4 benefits on a global scale

1. POLY4 CHARACTERISTICS & PRODUCT DEVELOPMENTS
   - Testing product suitability and practical implications
   - Conducted by 9 leading universities and laboratories
   - Understand value proposition and product opportunities

2. GREENHOUSE CROP TRIALS
   - Validate POLY4 in a controlled environment
   - 17 trials on 13 crops completed to date
   - Strong results from ‘straight’ and ‘blend’ trials

3. FIELD CROP TRIALS
   - Demonstrate the value of POLY4 in the field
   - 25 crops in 8 countries completed/under way
   - Straight and blend performance validated in field
   - Expanding global reach targeting crops in key markets

4. COMMERCIAL TRIALS
   - Mid to large scale trials reinforce the value of POLY4
   - Support sales effort across all markets
   - Trials conducted with commercial partners

Notes: Forecasted numbers based on Company estimates as of September 2015. Source: Sirius Minerals
Sirius Minerals agronomic program

Global agronomic program covering 77 trials in 8 countries over 25 crops

Global POLY4 agronomy programme is designed scientifically grounded commercial data on the market changing potential of POLY4

Notes: Trials as of September 2015
The attractions of polyhalite
A single source of bulk nutrients as foundation for more balanced fertilization

The Sirius ‘POLY4’ characteristics

- Supply of four of the six macro nutrients & micro nutrient
- Straight or as part of a fertilizer blend
- Nutrients are readily available
- No negative effect on soil conductivity
- Essentially chloride free
- Does not change soil pH
- Certified as organic

Notes: 1) Based on 90% Polyhalite grade. Macro nutrients based on w/w % and micro nutrients based on mg/kg. 2) POLY4 is the trademark name for polyhalite products from the York Potash Project.
Positive results for POLY4 as a potash source in N and P balanced trials

Crop study results show that POLY4 is effective for crops of global importance

Notes: Detailed crop study results available on company website; Yield parameters by crop; soybean fresh weight, potato tuber fresh weight, onion colossal yield, wheat seed fresh weight, sugarcane yield, Tomato yield, Cabbage head weight; 1) Yield gains of POLY4 over MOP straight; 2) Field trial; 3) Greenhouse trial; Source: Texas A&M; Durham University; University of Florida; Shandong Agricultural University
Added value of a unique fertilizer
Sirius minerals agronomy programme examines the scientific basis for yield improvement

Sirius Minerals has a continued commitment to developing agronomic understanding of Polyhalite

Notes: Sirius Minerals Agronomy webcasts
Sustained nutrient delivery from POLY4

Results based on six crops in five trial locations across the world

- **N**: Improved nitrogen use efficiency – all trials N balanced
- **P**: Normal P uptake, considered a risk when additional calcium is applied
- **K**: K from POLY4 elevates uptake above other K sources
- **S**: POLY4 is more supportive of S uptake than SOP
- **Mg**: Improved Mg uptake supports photosynthesis
- **Ca**: Calcium is often overlooked but an unmet demand is seen

![Infographic showing nutrient uptake results](image-url)
Thank you