Chinese Graphite Industry
Market Opportunity and Industry Outlook

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Introduction

• China is the world’s largest producer of natural graphite:
  - conserves the most graphite resources;
  - 70% of global production;
  - 60% of export.

No.1 in the world!

• However, China is not powerful in the graphite industry:
  - low profit products (as raw materials supplier);
  - immature market (low entry threshold, vicious competition, etc.).

• Integration of graphite resources and industries in recent years:
  - consolidation of small companies into large, leading enterprises;
  - production of comprehensive, high-tech products.
Distribution of Natural Graphite in China

**North China**
- 22 mines;
- CG: 20, 63m ton;
- CCG: 2, 110k ton.

**Northeast China**
- 28 mines;
- CG: 25, 113m ton;
- CCG: 3, 5.3m ton.

**East China**
- 16 mines;
- CG: 16, 16m ton.

CG: crystal graphite
CCG: cryptocrystalline graphite
Policies and Government Guidelines

Key new policies:

• Developing advanced materials, including ultra-high purity graphite products and novel carbon-carbon composites;

• Establishing new statistic, testing protocols and national standards for new materials;

• Encouraging the use and development of new materials, ensuring a safe environment for new investments on medium to high risk projects;

• Industrialisation of the manufacturing of new materials, for both commercial and military uses.
Policies and Government Guidelines

Guidelines on advanced materials:

• Development and industrialisation:
  - new equipment and manufacturing facilities;
  - new research laboratory, production lines and science parks.

• Promoting the use of new materials:
  - other relevant industries (design, manufacturing, etc.) for advanced materials;
  - government support on the leading companies for developing new materials.

• Improving the creativity of new materials industry:
  - developing and manufacturing new materials using new technologies;
  - improving the existing materials characterisation techniques;
  - enhancing market promotions;
  - setup information and service portals.
## Key targets and milestones

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<th>By 2015</th>
<th>By 2020</th>
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<td>• Develop manufacturing techniques, patents, etc. on advanced structural, functional materials and composites;</td>
<td>• Acquire and utilise high-end technologies to manufacture high quality products for nationwide key projects; increase the use of local products rather than imported parts and components;</td>
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<td>• Use the new materials to fabricate relevant components and products with high quality for industrial uses;</td>
<td>• Develop high quality, competitive products to use in other industries; become worldwide major suppliers of advanced materials;</td>
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<td>• Construct and consolidate 20 leading companies in the materials industry with large market shares to provide medium to high level products for other industries.</td>
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Inner Mongolia Rising Energy Group Ltd

- The Rising graphite industry park: 1902 acre.
Inner Mongolia Rising Energy Group Ltd

Advantages:

• One of the leading graphite manufacturers in China with key projects supported by the government;

• Closely following the State’s new policies on the graphite industry, focusing on green exploitation of the natural resource and ultra fine refining using novel technologies with minimum emissions;

• The company has been listed on the nation’s new industry catalogue and will be receiving much more supports from the local government;

• Collaborations with national institutes and laboratories including the Shanxi Institute of Coal Chemistry (CAS), Tsinghua University and China Research Association of Non-metal Materials.
Inner Mongolia Rising Energy Group Ltd

Flake Graphite ore

Crystal Graphite ore

Factory / Production lines

Vegetation recovery / Land reclamation
Summary

- China is a resourceful country of natural graphite; it is an essential economic and strategic resource of China;

- In the next decade, the focus will be on developing novel advanced materials and composites using graphite related products;

- Consolidation of small companies into large, leading enterprises will allow a better exploitation of natural resources and encourage the production of high quality products;

- Several new policies have been published and legalised to regulate the graphite industry, with top priorities on resources protection, vegetation recovery and environment protection.

**China will devote greater efforts towards the protection and development of the graphite industry.**
Acknowledgement

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Thank you!