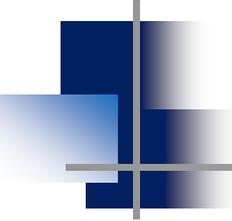


# Carbon Roadmap for Lime

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NLA Sustainability Committee  
Meeting (via Zoom)

May 3rd, 2023

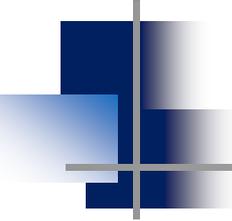


# Carbon Neutrality Roadmap for Lime

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## Purpose

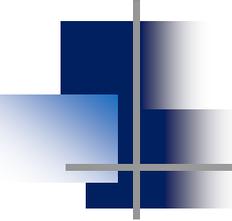
- Lay out industry carbon reduction goals
- Steps needed to satisfy goals



# Roadmap Outline

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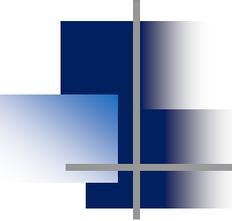
1. Introduction
2. Executive Summary
3. General Commitment
4. Specific Commitments: Elements
5. What is needed for Success
6. Conclusion



## 3. General Commitment

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- Option 1 – carbon neutrality across lime product value chain by 2050
- Option 2 – Similar commitment, but with a different target date (e.g., 2060 or 2070)
- Option 3 – Carbon neutrality by 2050 – if needed actions by others are taken



## 3. General Commitment (cont.)

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- Option 4 – A general commitment without a specified target date (i.e., as soon as is technologically and economically feasible)
- Option 5 – Specific steps only, without a general commitment
- Option 6 – Improving efficiency by improving on product benchmarks



# 4. Specific Commitments: Elements

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## 1. At the Lime Plant

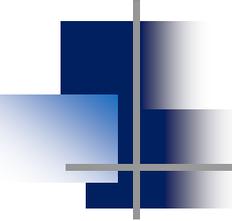
### a. Energy vs Process Emissions

#### i. Energy-Related Emissions

- Fuel switching
- Kiln efficiency
- Heat recovery
- Increase sale of LKD

### b. Process Emissions

- i. Innovative kiln design
- ii. CCS/CCUS (requires investment by others)



## 4. Specific Commitments: Elements (cont.)

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2. Beyond the lime plant – offsets
  - a) Investment in reforestation and similar projects
3. In the Value Chain
  - a) Efficient use of lime products
  - b) Recarbonization: life cycle of lime products

# 4. Specific Commitments: Elements (cont.)

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## 4. What is Needed for Success

- a) Full commitment by the lime industry
- b) Effective advocacy
- c) Cooperation with suppliers and customers
- d) Stable and effective regulation and legislation
  - I. Fair international trade environment
  - II. Credits for early reductions and offsets
  - III. Recognition process and fuel emissions are different
  - IV. Investment in technology and infrastructure