



NORTHSTAR
CLEAN TECHNOLOGIES

NORTHSTAR'S CALGARY SCALE UP ASPHALT SHINGLE REPROCESSING FACILITY FOUND TO REDUCE CARBON DIOXIDE EQUIVALENT (CO_{2e}) EMISSIONS BY 60%

Independent life cycle assessment of Northstar's Calgary scale up facility confirms carbon dioxide equivalent emissions benefits vs. landfilling asphalt shingles and use of virgin materials

VANCOUVER, British Columbia – May 25, 2022 – Northstar Clean Technologies Inc. (TSXV: ROOF, OTCQB: ROOOF) (“Northstar” or the “Company”) is pleased to announce the positive results of a second independent carbon dioxide equivalent (“CO_{2e}”) life cycle assessment (“LCA”) completed by Burgess Environmental Ltd. (“Burgess”) for selected performance indicators for Northstar's planned scale up asphalt shingle reprocessing facility in Calgary, Alberta (“Calgary Empower Facility”). The LCA is based on sophisticated modeling from the front-end engineering design (“FEED”) completed by BBA Inc. (“BBA”), Northstar’s engineering consultant, on March 25, 2022. The LCA assessed the impacts and benefits of reprocessing asphalt shingles and compared them to the impacts and benefits related to the disposal of discarded or defective asphalt shingles in landfills and virgin production of asphalt shingles.

Highlights from the Calgary Empower Facility LCA:

- Based on the FEED design, the Calgary Empower Facility will have lower CO_{2e} emissions than landfilling and virgin production and therefore provides a sustainable industry solution for reusing asphalt shingles.
- Net estimated greenhouse gas emission savings of approximately 117 kg of CO_{2e} per 1 tonne of feedstock⁽¹⁾.
- Net estimated CO_{2e} emission savings in the range of 3,500 tonnes to 4,700 tonnes of CO_{2e} per year⁽¹⁾ depending on production volume.

Calgary Empower Facility's Carbon Dioxide Emissions:

- 77 kg of carbon dioxide equivalent produced per 1 tonne of feedstock⁽¹⁾

Virgin Production and Landfill Disposal Carbon Dioxide Emissions:

- 44 kg of CO_{2e} produced from 1 tonne of feedstock routed to landfills.⁽¹⁾
- 603 kg of CO_{2e} produced from 1 tonne of virgin asphalt, including transportation to the Calgary market⁽¹⁾ (151 kg of CO_{2e} per 1 tonne of feedstock)
- Total of 195 kg of CO_{2e} per 1 tonne of feedstock

Net Savings:

- **117 kg of CO₂e per 1 tonne of feedstock (approximately 60% net savings)**

Aidan Mills, President & CEO and Director of Northstar, states, “We are very happy with the results of our second independent LCA for the Calgary Empower Facility. The results show strong potential CO₂e emission savings of 60% for our Calgary Empower Facility over virgin production and landfill disposal carbon dioxide equivalent emissions. The completion of the LCA is another step towards the development of our Calgary Empower Facility and builds on the momentum of the completion of the FEED design and awarding of non-dilutive grant funding from Alberta Innovates. This analysis quantifies how our operations in Alberta can support our customers and industry partners in delivering circular and “green” renewable asphalt produced with significantly lower carbon intensity. The industry needs to significantly reduce its carbon emissions and landfill disposal, and we are working to become a sustainable solution for reprocessing asphalt shingles across North America.”

Mr. Mills also said, “Our long-term vision is to be an environmentally responsible, sustainable clean technology company delivering renewable products with a significantly lower carbon intensity. In addition to the full diversion of asphalt shingles from landfills, we now know our production process can deliver a meaningful reduction in CO₂e emissions and make a significant contribution to the circular economy in the asphalt industry. We are committed to the long-term sustainability of our operations and are very pleased to see that our clean technology is proving itself to be a significant contributor in the transition to a low carbon economy.”

Additionally, depending on the regulatory and legislative framework, carbon dioxide equivalent emissions benefits may allow Northstar to potentially generate future revenue and margins from carbon credits, in addition to the expected revenue streams from incoming tipping fees and from the sale of its end-use products: liquid asphalt, fibre, and aggregate.

LCA Results Summary

The LCA compared the following performance indicators for the Calgary Empower Facility to virgin asphalt production and landfill disposal of discarded or defective asphalt shingles:

- Carbon dioxide equivalent emissions
- Land disturbance
- Water consumption

CO₂e emissions from the Calgary Empower Facility are expected to be 60% lower than the emissions related to virgin production and landfill disposal of the asphalt shingles, emitting 77 kg of carbon dioxide equivalent per tonne of feed stock compared to 195 kg of carbon dioxide equivalent per tonne of feedstock for virgin production and landfill disposal. This implies a net carbon emission savings of 117 kg of carbon dioxide equivalent per tonne of feedstock. Assuming that the Calgary Empower Facility operates five days per week and 52 weeks per year and has a production range of between 150 and 200 tonnes per day, net estimated carbon dioxide emission savings are expected to be in the range of 3,500 tonnes to 4,700 tonnes of carbon dioxide equivalent per year. In addition, each 1 tonne of feedstock processed is expected to reduce water consumption

in the range of 18,000 m³ to 24,000 m³ per year and avoid land disturbance in the range of 13,800 m² to 18,400 m² 0.46 m² per year.

The full detailed LCA can be downloaded on our website at the following link:

<https://www.northstarcleantech.com/environmental>.

Northstar Q1 Financial Results

Northstar anticipates that it will release its Q1 2022 financial results on May 30th and will host an investor update call before market opens on May 31st.

Virtual Investor Webcast Call Details

Topic: Northstar Clean Technologies Q1 2022 Financial Results Webcast

Date: May 31, 2022

Time: 05:30 am PST / 08:30 am EST

Webcast URL: https://us06web.zoom.us/webinar/register/WN_rIiCj_o4SQiFJp_a8ySRzQ

Approximately two hours after the Q&A session has ended, an archived version of the webcast will be available via the webcast URL above.

Footnotes:

(1) Assuming the Calgary Empower Facility operates five days per week and 52 weeks per year.

About Northstar

Northstar Clean Technologies Inc. is a Vancouver-based clean technology company focused on the sustainable recovery and reprocessing of asphalt shingles. Northstar has developed a proprietary design process for taking discarded asphalt shingles, otherwise destined for already over-crowded landfills, and extracting the liquid asphalt, aggregate and fiber for usage in new hot mix asphalt, construction products and other industrial applications. Focused on the circular economy, Northstar plans to reprocess used or defective asphalt shingle waste back into its three primary components for reuse/resale at its Empower Pilot Facility in Delta, British Columbia. As an emerging innovator in sustainable processing, Northstar's mission is to be the leader in the recovery and reprocessing of asphalt shingles in North America, extracting the recovered components from asphalt shingles that would otherwise be sent to landfill.

For further information about Northstar, please visit www.northstarcleantech.com.

On Behalf of the Board of Directors,

Aidan Mills

President & CEO, Director

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Cautionary Statement on Forward-Looking Information

Neither the TSXV nor its Regulation Services Provider (as that term is defined in the policies of the TSXV) accepts responsibility for the adequacy or accuracy of this release. The TSXV has neither approved nor disapproved the contents of this press release.

This press release may contain forward-looking information within the meaning of applicable securities legislation, which forward-looking information reflects the Company's current expectations regarding future events. Forward-looking statements are often identified by the words "may", "would", "could", "should", "will", "intend", "plan", "anticipate", "believe", "estimate", "expect" or similar expressions. Forward-looking statements in this press release include statements concerning the anticipated release of the Company's Q1 2022 financial results and the scheduled virtual investor webcast, its confidence that it will play a pivotal role in the circular economy of the asphalt industry, its belief that the FEED design can be deployed across expansion facilities, its belief that its products can enter the circular economy while diverting waste from landfills, the Company's ability to generate future revenue from carbon credits, tipping fees and then the sale of its end-use products, and its projected project economics for its proposed Calgary Empower Facility. Such statements are subject to risks and uncertainties, that may cause actual results, performance or developments to differ materially from those contained in statements, including risks related to factors beyond the control of the Company as well as those risks and uncertainties which are more fully described under the heading "Risk Factors" in the final prospectus of the Company dated June 18, 2021 and in the Company's annual and quarterly management's discussion and analysis and other filings with the Canadian securities regulatory authorities under the Company's profile on SEDAR. The novel strain of coronavirus, COVID-19, and ongoing dispute between the sovereign state of Ukraine and Russia also pose risks that are currently indescribable and immeasurable. No assurance can be given that any of the events anticipated by the forward-looking statements will occur or, if they do occur, what benefits the Company will obtain from them. The Company does not undertake any obligation to update such forward-looking information whether because of new information, future events or otherwise, except as expressly required by applicable law.

Should one or more of these risks or uncertainties materialize, or should assumptions underlying the forward-looking statements prove incorrect, actual results may vary materially from those described herein as intended, planned, anticipated, believed, estimated or expected. Although the

Company has attempted to identify important risks, uncertainties and factors which could cause actual results to differ materially, there may be others that cause results not to be as anticipated, estimated or intended and such changes could be material. The Company does not intend, and do not assume any obligation, to update the forward-looking statements except as otherwise required by applicable law.