



## **Minnova Corp. and Minnova Renewable Energy Announce Positive Velocimetry Test Results and Hydrogen Market Update**

### **NOT FOR DISSEMINATION INTO THE UNITED STATES**

July 13, 2022, Toronto, Ontario – Minnova Corp. (TSXV: MCI, OTC Pink: AGRDF, "Minnova" or the "Company"), is an evolving resource development company with an exciting green hydrogen and cleantech innovation strategy to compliment our development-stage PL Gold Mine restart plan.

#### **Positive Particle Velocimetry Test Results**

We are pleased to announce positive particle tracking velocimetry results of the DUMA technology. The tests were conducted by University of L'Aquila (Italy) and support the development of our planned demonstration plant in Swan River, Manitoba ( see press release [MCI-MRE-Restructuring-and-Site-Selection-Announcement.pdf \(minnovacorp.ca\)](#)) and other future commercial development sites in Europe and central America.

The DUMA 3<sup>rd</sup> generation gasification design builds on existing fluidized bed gasification technology but incorporates patent pending design and operational features that enable high throughput to produce a high hydrogen content syngas. Two floor standing cold model units were built by DUMA at the beginning of 2022 to experiment different configurations and working parameters.

Velocimetry tests analysed the trajectories of the bed particle images acquired with a high-speed and high-resolution camera and processed by software that uses pixel-by-pixel analysis with a preprocessing step of background subtraction and thresholding segmentation. This analysis enables our engineering team to reconstruct the velocity and distribution of the entrained biomass particles inside the bed reactor.

Velocimetry test results were positive, indicating a biomass flow rate of the DUMA 3<sup>rd</sup> generation gasification system up to 375% higher than existing technology. This is a remarkable achievement and represents a truly significant advancement in fluidized bed gasification technology that can result in higher initial syngas hydrogen content (over 50% H<sub>2</sub>), lower green hydrogen production costs, smaller plant footprint and lower capital costs of the entire production plant.

In addition to positive test results, we are pleased to announce that gasification test work has begun on selected corn residues from Romania and tropical fruit residues from Costa Rica. Gasification test work is being conducted at The University of Teramo (Italy) with results and reports expected by the end of August 2022. These results combined with planned demonstration plant in Swan River, MB will inform our engineering and design for commercial scale plants. Our goal is to accelerate commercial scale development, in targeted jurisdictions, during 2023 to achieve green hydrogen production by 2025 or earlier.

## Hydrogen Market Update

Minnova Renewable Energy is actively advancing our green hydrogen production initiative in Canada, Romania, and Costa Rica, to start. Any jurisdiction with abundant sustainable biomass can be targeted by our highly efficient 3<sup>rd</sup> generation biomass gasification technology with a view to build a global development and production pipeline. Looking to Europe and in particular Germany, infrastructure development to support hydrogen in mobility applications (i.e., hydrogen fuel stations) is well advanced with 96 hydrogen fueling stations offering convenience and short refuelling times of less than 3 minutes. An additional 36 hydrogen fuelling stations are under development in Germany and elsewhere in Europe. The energy transition utilizing hydrogen is well underway. More information on European hydrogen for mobility applications can be found at H2 Mobility (<https://h2-mobility.de/unternehmen/>). We note recent retail price reported for hydrogen from H2 Mobility fuel stations in Germany is currently over €12.00 per kg, up from €9.50 per kg as recently as March 2022 (see Figure 1).

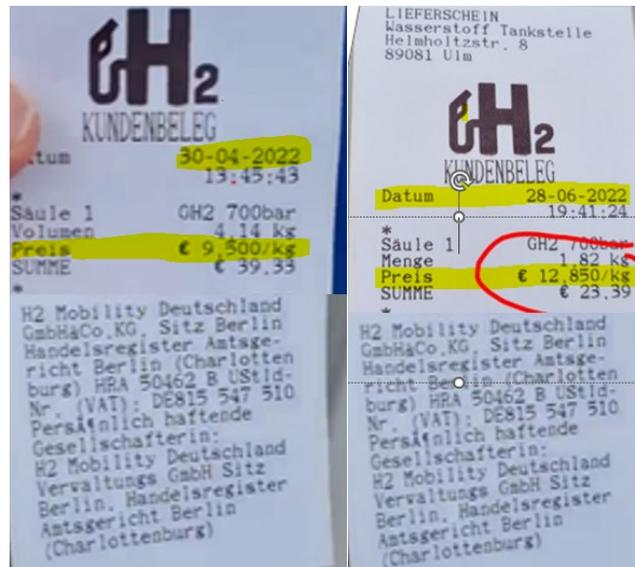


Figure 1: Retail Hydrogen Price in Germany - source LinkedIn posts

Gord Glenn, President & CEO commented “Market demand for green hydrogen is forecast to be on the order of 200 million tonnes per annum by 2030 (source: <https://www.iea.org/data-and-statistics/charts/global-hydrogen-demand-by-sector-in-the-net-zero-scenario-2020-2030>). The high growth outlook for hydrogen and zero carbon emission green hydrogen offers an exceptional opportunity for Minnova Renewable Energy as we advance our biomass to green hydrogen strategy and our high growth project pipeline. Green hydrogen production is a focus of global policy makers, the incumbent energy industry and increasingly the investment community as a critical zero emission energy source. We believe our timing and strategy to enter the high growth green hydrogen market, with a highly efficient gasification technology and attractive current



market prices, represents an extremely attractive value proposition for Minnova Corp. shareholders and new investors.”

### **About Minnova Corp.**

Minnova Corp. is an emerging Canadian gold producer with a focus on incorporating clean energy into the restart plan for the PL Gold Mine. In addition to expanding gold resources on its PL and Nokomis gold deposits the Company established a wholly owned subsidiary, Minnova Renewable Energy, which is targeting green hydrogen production. The Company has completed a Positive Feasibility Study in support of restarting the PL Mine at an average annual production rate of 46,493 ounces over a minimum 5-year mine life. The resource remains open to expansion and future surface exploration work programs will target resource expansion. The PL Gold Mine has a short pre-production timeline forecast at 15 months, benefits from a valid underground mining permit (Environment Act 1207E), an existing 1000 tpd processing plant, over 7,000 meters of developed underground ramp to -135 metres depth, is fully road accessible and close to existing mining infrastructure in the prolific Flin Flon Greenstone Belt of Central Manitoba. Minnova announced an exclusive agreement to acquire up to 100% of the outstanding share capital of DUMA Engineering (2018) Inc. (“DUMA”) on December 13, 2022. The acquisition price will consist of; a) an initial payment of C\$100,000 for a 50% interest and b) a final payment to be determined following the completion of satisfactory due diligence and the filing of certain patents related to their innovative gasification technology. The closing of the acquisition of DUMA is subject to several conditions including the satisfactory completion of due diligence, receipt of all regulatory approvals and is expected to be concluded by the end of Q3/2022.

### **For more information please contact:**

#### **Minnova Corp.**

Gorden Glenn  
President & Chief Executive Officer

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Visit our website at [www.minnovacorp.ca](http://www.minnovacorp.ca)

### **Forward Looking Statements**

*This news release contains "forward-looking information" within the meaning of applicable Canadian securities legislation. Forward-looking information includes, but is not limited to, information regarding the Company including management's assessment of future plans and operations, that may involve risks associated with mining exploration and development, volatility of prices, currency fluctuations, imprecision of resource estimates, environmental and permitting risks, access to labour and services, competition from other companies and ability to access sufficient capital. As a consequence, actual results may differ materially from those anticipated in the forward-looking statements. A feasibility study has been completed on the PL Gold Mine development project but there is no certainty the disclosed targets will be achieved nor that the proposed operations will be economically viable. Minnova has attempted to identify important factors that could cause actual results to differ materially from*



*those contained in forward-looking information. Forward-looking information is provided for the purpose of providing information about management's expectations and plans relating to the future. The Company disclaims any intention or obligation to update or revise any forward-looking information or to explain any material difference between subsequent actual events and such forward-looking information, except to the extent required by applicable law. There may be other factors that cause results not to be as anticipated, estimated or intended. There can be no assurance that such information will prove to be accurate, as actual results and future events could differ materially from those anticipated in such information. Accordingly, readers should not place undue reliance on forward-looking information. Minnova does not undertake to update any forward-looking information, except in accordance with applicable securities laws.*

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