COVID-19: Compostable disposable surgical masks and compostable disposable respirators used in the Canadian healthcare system

Sponsor

National Research Council of Canada (NRC), in collaboration with Environment & Climate Change Canada (ECCC), Health Canada (HC) and Natural Resources Canada (NRCan)

For More Information

Visit the COVID-19 Challenge website [1].

Description

The COVID-19 pandemic has generated an increased consumption of disposable personal protective equipment (PPE) by healthcare workers and by the general public. As of June 29, 2020, based on federal government projections for PPE demand over the next year, it is estimated that approximately 63,000 tons of COVID-19 related PPE will end up as waste, being ultimately landfilled.

In November 2018, the Canadian Councils of the Ministers of the Environment (CCME) adopted Canada's Zero Plastic Waste Strategy to reduce the environmental impact of plastics and promote a circular economy. To support this strategy and to reduce the environmental footprint of PPE in Canada, the Government of Canada is supporting the development of solutions to manufacture more sustainable PPE and to better manage their end of life. Strategies include re-usability, alternative materials, improved recyclability and novel recycling technologies, as well as compostability.

This challenge is in support of the compostability element of that strategy. The National Research Council of Canada (NRC), in collaboration with Environment and Climate Change Canada (ECCC), Health Canada (HC), and Natural Resources Canada (NRCan) are seeking solutions for the manufacture of compostable disposable surgical masks and respirators to be used by healthcare workers.

Essential (mandatory) outcomes

The proposed solution must:

1. Lead to the industrial scale manufacturing of compostable disposable surgical masks (at

least Level 1) and/or compostable disposable respirators (at least N95 equivalent). Applicants must reach a production capacity of 1 million masks / month at the end of Phase 2, and they must clearly provide their plans for larger scale manufacturing and commercialization.

2. Meet the following requirements, as demonstrated by prototypes and test data, and must have the potential to be authorized by Health Canada:
    - Compostable disposable surgical masks must meet at least Level 1 requirements (see requirement specification table on COVID-19 Challenge website [1])
    - Compostable disposable respirators must meet at least N95 requirements (see requirement specification table on COVID-19 Challenge website [1])
3. Demonstrate compliance with the requirements of one of the two ASTM standard specifications, whichever is applicable: For example, products made of compostable biopolymers are certified to ASTM D6400, whereas, products made of compostable polymer coatings on paper or other compostable substrates are certified to ASTM D6868.
4. Be manufactured in Canada.
5. Demonstrate, via a cost analysis, that reasonable cost targets can be met to support commercial/market adoption.
6. Bring environmental benefits compared to conventional, non-compostable equivalents, as demonstrated by Life Cycle Analysis (LCA).

Eligibility

Solution proposals can only be submitted by a **small business** that meets all of the following criteria:

- for profit
- incorporated in Canada (federally or provincially)
- 499 or fewer full-time equivalent (FTE) employees*
- research and development activities that take place in Canada
- 50% or more of its annual wages, salaries and fees are currently paid to employees and contractors who spend the majority of their time working in Canada*
- 50% or more of its FTE employees have Canada as their ordinary place of work*
- 50% or more of its senior executives (Vice President and above) have Canada as their principal residence*

* Calculations must take into account and include affiliated businesses, such as parent companies and subsidiaries, that are either in or outside of Canada.

Funding Availability

Multiple grants could result from this Challenge.

- Estimated number of Phase 1 grants: two
- Estimated number of Phase 2 grants: one

Maximum Project Value

The maximum funding available for any Phase 1 Grant resulting from this Challenge is **$300,000.00 CAD for up to four months**.

The maximum funding available for any Phase 2 Grant resulting from this Challenge is **$1,000,000.00 CAD for up to eight months**. Only eligible businesses that have completed Phase 1 could be considered for Phase 2.

Project Duration

- Phase 1 projects have a maximum duration of four months.
- Phase 2 projects have a maximum duration of eight months.

Special Notes

Please refer to the Office of Research COVID 19 web-page [2] for directives related to research activities at the University of Guelph.

Deadlines

If College-level review is required, your College will communicate its earlier internal deadlines.

Type	Date
External Deadline	Tuesday, November 17, 2020 - 2:00pm

How to Apply

Eligible companies are required to submit their application through the Innovative Solutions Canada Website [1].
For Questions, please contact
All incoming questions regarding this specific challenge should be addressed to solutions@canada.ca [3].

All enquiries must be submitted in writing no later than ten calendar days before the Challenge Notice closing date. Enquiries received after that time may not be answered.

You can also consult the Frequently asked questions [4] about the Innovative Solutions Canada Program.

A glossary [5] is also available.

Alert Classifications**Category:**
Funding Opportunities and Sponsor News

Disciplines:
Health and Life Sciences
Physical Sciences and Engineering

Source URL:https://www-research.uoguelph.ca/research/alerts/content/covid-19-compostable-disposable-surgical-masks-and-compostable-disposable-respirators-used

Links
[1] https://www.ic.gc.ca/eic/site/101.nsf/eng/00117.html
[2] https://www.uoguelph.ca/research/article/2019-novel-coronavirus-information
[3] mailto:solutions@canada.ca
[4] https://www.ic.gc.ca/eic/site/101.nsf/eng/00004.html
[5] https://www.ic.gc.ca/eic/site/101.nsf/eng/00005.html