

# **Transformative Bioeconomies: Towards a materials transition that phases out fossil feedstock**

## **Call for wild cards 2023**

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# Transformative Bioeconomies: Towards a materials transition that phases out fossil feedstock

## Call for wild cards in 2023

### Introduction

The investment theme Transformative Bioeconomies will fund innovative ideas elaborated into new projects that fit within its strategic research agenda (see the programme document attached). For the 2023 project period, we can grant 7 wild card projects in the investment theme.

We are looking for innovative, ground-breaking and high-risk ideas with an explorative character. We are looking for creative, novel ideas to be elaborated on maximum 2 pages including budget (See the format attached). The project should be finished by (December 31<sup>st</sup> 2023) and have a maximum budget of 50k€. The investment theme runs for another two years, so there may be opportunities (depending on results and programme priorities) to get follow-up projects funded in 2024. Conditions are explained below.

The wild card projects should contribute to one or more of the aims of the program; see the research goals and value creation goals in the programme document (attached).

### Domains

The programme has chosen the societal sectors of **textiles** and **building materials** (interior and housing) as its application domain. Interaction with stakeholders in these domains will be organised in the two Domain Flagships. **Wild card projects must have clear relevance to at least one of these two domains.**

### Transition pathways

The program investigates 4 different pathways to facilitate the materials transition. These 4 are bio-based materials, recycling of carbon based materials, CO<sub>2</sub> capture and utilization technologies, and dematerialization. More information can be found in the attached programme document. Wild card 2023 projects are expected to have clear relevance to one or more of these pathways. In this years' call, give less priority to the bio-based materials pathway relative to other pathways (see below)

### Wild card 2023 project topics

For the 2023 program period, we are specifically looking for wild card 2023 projects that address one or more of the following points:

- (1) Wild card projects that explore social or institutional innovations/changes that are likely to significantly accelerate the materials transition or may act as a game changer. For example:
  - innovative finance or tax instruments that stimulate investment in fossil-free materials production or discourage continued investment in fossil-based materials;
  - corporate governance arrangements that promote attention for public interests and/or future populations;
  - new methodological approaches to testing/studying institutional innovations;
- (2) Wild card projects that analyze the materials transition using systems thinking and leverage points<sup>1</sup> to identify intervention points to facilitate the transition. For example:
  - new methods to identify intervention points that have leverage over other system components;
  - an innovative way of making systems thinking productive and time-effective in inter- and/or transdisciplinary learning and negotiation processes;
- (3) Wild card projects that develop and test methods to address the complexity of the materials transition: the uncertainty, controversies and politics of transition processes, and the pain caused by breaking down existing practices, cultures and institutions, with a specific focus on the roles of researchers in either the textiles or the building materials domain. For example:

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<sup>1</sup> Donella Meadows developed 12 leverage points to intervene in a system (Meadows, 1999). Recently this approach has been used in sustainability and sustainability transition research (Abson et al., 2017).

- A study on the extent to which choices for an innovation are informed by including outsider perspectives and anticipating negative consequences
  - A workshop design to elicit trade-offs and their consequences and develop creative solutions
- (4) Wild card projects that are applying CO<sub>2</sub> capture and utilization technologies to produce materials. For example:
- a proof of principle on lab-scale of an innovative technology
  - a techno-economic comparison of different potential technological approaches
  - a study on socio-economic, organizational and/or legal barriers to CO<sub>2</sub> capture and utilization;
- (5) Wild card projects that focus on recycling of discarded carbon based materials. For example:
- a pilot study on the application of a nature-based solution for recycling;
  - a study on social or organizational barriers for recycling of carbon based materials
  - a techno-economic analysis of different recycling approaches
- (6) Wild card projects that further operationalize the de-materialization pathway: reduction in the use of carbon-based materials (possibly intersecting with the other options). For example:
- an exploration of a relevant concept (i.e., connection between dematerialization, recycling and/or CO<sub>2</sub> technologies)
  - development and exploration of a typology of dematerialization pathways and challenges/opportunities connected to these.

Typically, Wildcard projects are meant to explore and experiment with novel technical, socio-institutional and/or nature-based options that have a low 'innovation readiness' (Sartas et al., 2022), indicating that novel ideas have not yet been tested or proven at all, and where practical application is still far away (i.e. innovation readiness levels 0-3, see Table 1 in attached programme document).

### **Collaboration**

One of the goals of having investment themes in Wageningen is to foster novel collaborations between people with different disciplinary backgrounds and expertise and/or from different organizational units that do not have long history of collaboration already. This can be between the University and Wageningen Research, or between different science groups.<sup>2</sup> Collaboration between WU and WR is especially appreciated. Thus, a requirement for all wildcard projects is that there is a *firm willingness* to somehow collaborate with others as part of the broader Transformative Bioeconomies investment theme. In any case your project will be somehow embedded in de Domain Flagship on Textiles and/or Building Materials and you are expected to reserve sufficient time (circa 10%) for having interaction with stakeholders and/or scientists from different disciplines as part of this.

### **Deliverables**

By participating in our programme you commit to deliverables proposed by your team, and also to three standard/default deliverables. These are:

1. a short accessible document for the inter- and transdisciplinary group of people involved in the programme that describes your wild card 2023 project and its rationale (template will be provided);
2. presentations at the community meetings of the investment theme in 2023;
3. a final report of the results of your learning journey that describes the key lessons learned during the wild card 2023 project implementation (template will be provided).

Additional deliverables are appreciated.

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<sup>2</sup> Ultimately because of the available funding we seek a with a 50-50% budget distribution for all wild cards overall between Wageningen Research and Wageningen University.

## How to submit?

Write your proposal on 2 A4 according to the proposed format (See annex of this document). The main applicant of the wildcard should submit the proposal to Harriette Bos ([harriette.bos@wur.nl](mailto:harriette.bos@wur.nl)), Cees Leeuwis ([cees.leeuwis@wur.nl](mailto:cees.leeuwis@wur.nl)) and Katharina Biely ([katharina.biely@wur.nl](mailto:katharina.biely@wur.nl)). The deadline for submission is January 24<sup>th</sup>. Please follow the exact instructions of the template. Proposal that do not adhere to the template will not be evaluated.

Final decisions will be communicated before February 15<sup>th</sup> 2023.

## Selection process and criteria

The call for wild cards is intended for proposals that, when funded, contribute to the WUR research priorities of the investment theme "Transformative Bioeconomies, Towards a materials transition that phases out fossil feedstock".

Proposals will be evaluated by members of the core team according to the following criteria:

- Strategic relevance (both scientific and societal) for the investment theme (maximum 6 points)
- Conceptual and/or methodological quality, originality and innovativeness (maximum 6 points)
- Novel collaboration across disciplines and/or WU/WR (maximum 3 points)
- Relevance of additional deliverables in view of the type of project and goals of the programme (maximum 3 points)
- Clarity of proposal and workplan (maximum 3 points)
- Feasibility within the proposed budget and time horizon (maximum 3 points)

The selection process consists of the following steps:

- Step 1: Scoring and selection by members of the core team.
- Step 2: Possibly: an interview and presentation to members of the core team.
- Step 3: A final decision by the coordinators of the programs (Cees Leeuwis and Harriëtte Bos) on which proposals to fund.

## Summary of the "wild card rules"

- Maximum amount awarded: 50 k€ per Wild card project
- Project should be completed before December 31<sup>st</sup> 2023 (final output to be delivered in December), because of budgetary restrictions
- Maximum length of the proposal is 2 pages A4 including budget; language is English (See attached format)
- Decisions are final and not open to negotiation. Where applicable specific comments on proposals will be forwarded to the submitter.

## References

- Abson, D. J., Fischer, J., Leventon, J., Newig, J., Schomerus, T., Vilsmaier, U., Lang, D. J. (2017). Leverage points for sustainability transformation. *Ambio*, 46(1), 30-39. doi:10.1007/s13280-016-0800-y
- Meadows, D. (1999). Leverage Points: Places to Intervene in a System. *Hartland*. Retrieved from [https://donellameadows.org/wp-content/userfiles/Leverage\\_Points.pdf](https://donellameadows.org/wp-content/userfiles/Leverage_Points.pdf)
- Sartas, M., Schut, M., Thiele, G., Proietti, C. & Leeuwis, C. (2020). Scaling Readiness: Science and practice of an approach to enhance impact or research for development. *Agricultural Systems*, 183, 102874.