



TNO

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Date 11 December 2025  
Corresp.no. [redacted] J  
File no. NGF [redacted] M  
Budget no. [redacted] M  
Phone [redacted] J  
E-mail NGF-projectbeheer-ENW@nwo.nl  
Website www.nwo.nl/en

Round NGF - GroenvermogenNL R&D work package 6 2025  
Title HyFINE: Green Hydrogen and Electrons for Specialty and Fine Chemicals  
**Please include date, file number and correspondence number in any reply**

Subject Grant award decision NGF: Hydrogen and green electrons for speciality and fine chemicals,  
GroenvermogenNL – Workpackage 6.

Dear [redacted] J

On 20 November 2025, NWO completed the decision-making process concerning the above-mentioned proposal. I am pleased to inform you that the NWO Domain Science Board has decided to award your proposal. NWO has assessed your proposal according to the procedure and criteria described in the Call for proposals. The assessment report is attached (Attachment 2). I ask you to consider the recommendations of the assessment committee and describe in the progress reports if and how they have been addressed.

NWO kindly requests you to inform partners involved in the project of the granting decision.

#### Grant size

The grant awarded is based on the application budget and is at most [redacted] G. This amount is exclusive of the co-financing contribution. For a specification of the co-financing contribution of your partner(s), I kindly refer you to the application budget in attachment 3.

The personnel costs that apply to this project are compliant to the Integral cost system (IKS) as filed at the Netherlands Enterprise Agency (RVO). In addition, the salary table UMCNL 1 July 2025 + 50% premium, UNL 1 July 2025 + 50% premium and/or HOT 2025 + 50% premium applies to this project ([www.nwo.nl/en/salary-tables](http://www.nwo.nl/en/salary-tables)), and/or a fixed hourly rate of € [redacted] G. There is no possibility of indexing the IKS and fixed hourly rates.

The disbursement of the cash co-funding will not proceed via NWO. Therefore, the total amount that NWO will transfer is at most [redacted] G.

The amount will be disbursed in instalments according to the information in the Start form (see attachment 4).

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### Start of the project

Your project may start no later than 11 June 2026.

### Which conditions and requirements apply?

The Dutch General Administrative Law Act (in Dutch: Algemene wet bestuursrecht), the NWO Grant Rules 2024 ([www.nwo.nl/en/nwo-grant-rules](http://www.nwo.nl/en/nwo-grant-rules)), the condition mentioned in attachment 1 and all conditions included in the Call for proposals NGF: Hydrogen and green electrons for speciality and fine chemicals, GroenvermogenNL – Workpackage 6 are applicable to this grant, with the exceptions stated in paragraph 3.5 of the Call for proposals.

The responsibility for making (consortium) agreements concerning intellectual property and publication (IP&P) rests with you and your knowledge institution. We advise you to contact your Knowledge Transfer Office (KTO) and all users/partners involved in your project about this.

If you fail to satisfy these conditions and requirements, then this can have consequences for the amount of the grant.

### State aid

The grant that is allocated to the activities of the main applicant or co-applicants from research organisations, as described in the application, is not considered to be state aid. The grant that is allocated to the activities of enterprises and civil society organisations is awarded under application of article 25 (aid for research and development projects) of the General Block Exemption Regulation (GBER). The grant for activities of enterprises and civil society organisations will cover at most 40% of the eligible costs of the research project:

- Software for Chemistry & Materials BV (SCM): [redacted] G
- Signify N.V.: [redacted] G
- BTG Biomass Technology Group BV: [redacted] G
- FeyeCon D&I BV: [redacted] G
- Vertoro: [redacted] G
- Sulis Polymers BV: [redacted] G
- Paques Biomaterials: [redacted] G
- Mevaldi: [redacted] G
- InCatT: [redacted] G

### Executive Committee

The main applicant and technical manager of the application HyFINE - [redacted] M are expected to join the GroenvermogenNL executive committee for the R&D programme as described in Section 5.1 and 7.4 of the Call for proposals.

### How to start your project?

Before the project may start, you must satisfy several conditions. The documents and actions to be submitted via your ISAAC account are listed in the attached Guidelines and actions project leaders. All required initial documents must be submitted no later than 2 weeks before the actual start date.

If all conditions have been met, you will receive a confirmation. The project can start and the first payment will follow.

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Please note that costs for personnel or materials incurred before the start date of the project confirmed by NWO may not be charged to the project.

#### **What else do you need to know?**

Considering the obligations arising from article 9 of the GBER, NWO will publish this grant award decision on its website (<https://www.nwo.nl/kennisgevingen-steunmaatregelen>).

NWO will assign a digital object identifier (DOI) to your grant (the moment your project is visible on the NWO website). This will facilitate automatic tracking of grant outputs and it can also enhance the impact of your research and increase your visibility. This DOI (Grant ID) will be assigned at the project's start, you will receive further information at that point.

To stay updated on the GroenvermogenNL developments, you and the consortium members can register for the digital newsletter via <https://groenvermogen.nl/inschrijven-nieuwsbrief/>. For the digital newsletter of NWO you can register via <http://www.nwo.nl/en/newsletter>.

#### **Contact?**

If you have any questions about this project, then please contact [redacted] J via NGF-projectbeheer-ENW@nwo.nl.

If you have any questions about this decision or if you are considering lodging an objection, you can contact [redacted] J via [redacted] J @NWO.NL or +31 [redacted] J to get a further explanation. This contact does not have a suspensive effect for the objection period.

I wish you success with the realisation of your project.

Kind regards,  
On behalf of the NWO Domain Science Board,

[redacted signature block] J

[redacted signature block] J

#### **Attachments:**

1. Guidelines and actions project leader
2. Assessment report
3. Application budget
4. Start form

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*The NWO Domain Science Board is authorised to take this decision under a mandate from the NWO Executive Board. Please see: [www.nwo.nl/mandateregulation](http://www.nwo.nl/mandateregulation).*

*You have the right to lodge an objection to this decision within six weeks of the date of the decision letter. Your objection should be sent in writing or by mail to the NWO Executive Board, P.O. Box 93138, 2509 AC The Hague. It must be signed and dated, must specify your name and address, and must state the reasons why you object to the decision. A copy of this decision letter should be enclosed with your written objection. Further information about the objections procedure can be found on the NWO website.*

*You can also file your objection digitally. To do so, you can only use the email address that is provided by NWO for this: [bezwaar@nwo.nl](mailto:bezwaar@nwo.nl). Your digital objection must satisfy the same requirements as a written objection. Make sure that you scan your written objection or add a scanned signature in your objection.*

 M.v.A.

 T.T.



## Attachment 1: Guidelines and actions project leader

*This document contains instructions and actions that the project leader must carry out prior to the start of the project, during of the project and after completion of the project. Failure to meet with these guidelines can have consequences for the amount of the grant.*

### Submission start documents and agreements:

Upload all required start documents and agreements via your ISAAC account.

All required initial documents must be submitted no later than 2 weeks before the actual start date.

To be able to start a project:	
What does NWO need from you?	Instructions
Signed consortium agreement	The consortium agreement signed by all consortium members should be uploaded via your project in ISAAC / Choose 'Projects' on the menu bar and select your project / tab 'Project documents' / Click 'Submit' button .
Data management plan	<p>Upload the detailed data management plan (DMP) as a PDF document via your project in ISAAC / Choose 'Projects' on the menu bar and select your project / tab 'Project documents' / Click 'Submit' button. A data management form is available via <a href="http://www.nwo.nl/en/research-data-management">www.nwo.nl/en/research-data-management</a>.</p> <p>The project can only start once the DMP has been approved by NWO. The DMP needs to be completed in consultation with research data management support staff at the home institution of the grant holder.</p>
Start form	<p>The 'start date project' entered on the start form must be on or after the date on which all start conditions have been met and no later than the latest start date stated in the grant award decision.</p> <p>Costs for personnel or materials incurred before the start date of the project confirmed by NWO may not be charged to the project.</p> <p>Upload the fully completed Start form as a PDF document via your project in ISAAC / Choose 'Projects' on the menu bar and select your project / tab 'Project documents' / Click 'Submit' button. The form must be signed by both the project leader and the financial manager.</p> <p>You must submit the Start form after the consortium agreement has been signed. The starting date of the project should be after the date of the last signatory of the agreement.</p> <p><i>You will find the Start form attached to this grant award decision (Attachment 4).</i></p>

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Appointment project members at start	<p>Enter the details of all project members, whose salaries are paid from the grant, to be appointed via your project in ISAAC / Choose 'Projects' on the menu bar and select your project / tab 'Project members' / click 'Add' button.</p> <p>Please note:</p> <ul style="list-style-type: none"> <li>- The duration of appointment should fall between the start and end date of the project and the position should be in accordance with the grant awarded.</li> <li>- It is only possible to register project members from the UMCNL and UNL rates in ISAAC. Project members from the HOT rates cannot be registered in ISAAC.</li> <li>- Do not register the details of the replacement for which the budget has been requested via the budget module 'replacement' in ISAAC, but include the replacement in the financial final report.</li> </ul>
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During the project / continuously:	
What does NWO need from you?	Instructions
Progress report	<p>You will receive a request, including instructions, via email to supply a progress report or an interim evaluation in accordance with the conditions stated in the Call for proposals.</p> <p>You should upload the completed report in your project in ISAAC / Choose 'Projects' on the menu bar and select your project / tab 'Reports' / Click 'Submit' button.</p> <p>NWO will request interim substantive and financial reports from the project leader for the purpose of monitoring the project's progress. Given the reporting obligations under the National Growth Fund, NWO will share (parts of) these reports with RVO and GroenvermogenNL. The reporting format will be made available via ISAAC.</p>
Registration publications and other output	<p>Each year in mid-October you will receive a request to submit the publications and output realised.</p> <p>Register all your output until two years after the grant settlement via your project in ISAAC / select your project / tab 'Product' / click 'Add' button.</p> <ul style="list-style-type: none"> <li>- in publications and other output, you must always include an acknowledgement with a reference to the NWO funding (see <a href="http://www.nwo.nl/en/acknowledgement-in-publications">www.nwo.nl/en/acknowledgement-in-publications</a>);</li> <li>- when you add articles refer to the Grant ID number in the window intended for this. The Grant ID will become available when all conditions are met and the project can start.</li> </ul> <p>Tip: Enter your publications and output on a regular basis to prevent a backlog.</p>

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Open Access / CC BY licence	Publications that emerge from this project must, at the moment of publication, be made immediately available (without embargo) in Open Access form, in accordance with the Open Access Procedure of NWO. The grant awarded by NWO bears the explicit condition, unless otherwise determined in the call for proposals, that an irrevocable, non-exclusive CC BY licence applies to the author's version of all publications emerging from this grant. You should make the existence of this licence known to each party who you consult with concerning the publication of (a part of) the project results. Failure to meet the aforementioned conditions can lead to a change in and/or adjustment in the determination of the grant. NWO is at all times entitled to inform third parties of this licence. For more information about the Open Access policy of NWO see: <a href="http://www.nwo.nl/en/open-science">www.nwo.nl/en/open-science</a> .
Change requests, e.g. for personnel or budget shifts	Changes should be requested in advance via the request for change form (see the 'Requests for change' tab in your ISAAC account or <a href="http://www.nwo.nl/en/project-changes">www.nwo.nl/en/project-changes</a> ) and be approved by NWO. Upload your request for change via your project in ISAAC / Choose 'Projects' on the menu bar and select your project / tab 'Requests for change' / click 'Add' button. If you want to know which change is applicable, then please consult the changes decision tree via <a href="http://www.nwo.nl/en/project-changes">www.nwo.nl/en/project-changes</a> .
Appointment project members during the duration of the project	Enter the details of all project members to be appointed via your project in ISAAC / Choose 'Projects' on the menu bar and select your project / tab 'Project members' / Click 'Add' button. Please note: The duration of appointment should fall between the start and end date of the project and the position should be in accordance with the grant award decision or the request for change.

At the end of the project:	
What does NWO need from you?	Instructions
Final report	One month before the planned end date of your project you will receive an email with a request and instructions to deliver a final report and/or financial final report. The deadline for submission is three months after the end date of your project. You should upload the completed report via your project in ISAAC / Choose 'Projects' on the menu bar and select your project / tab 'Reports' / Click 'Submit' button.

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Auditor's statement	<p>You will receive an email with a request and instructions to supply an auditor's statement.</p> <p>NWO obliges Beneficiaries to provide an audit opinion in the following cases:</p> <p>a. if the Audit Protocol for the Education Sector adopted by the Ministries of Education, Culture and Science and of Economic Affairs does not apply to Beneficiaries. The basic premise in this regard is that, in principle, an audit opinion is only required for grants in excess of [redacted] G, and/or</p> <p>b. if NWO itself is bound by a specific condition to submit an audit opinion with regard to funds it has received from public co-funders for the Grant Instrument under which the Beneficiary receives a grant.</p>
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Other:	
Information	Instructions
Authorisation ISAAC account	If you wish, you can grant people involved in the project access to your project in ISAAC. To do so, you should download the authorisation form via your project in ISAAC / Choose 'Projects' on the menu bar and choose your project / tab 'Project access'. Upload the completed form via your project in ISAAC via 'Project documents'.
Project meetings/ Introduction Programme Officer NWO	[redacted] J, NWO Programme Officer, would like to join the project meetings. Could you please be so kind as to invite the Programme Officer via [redacted] J @NWO.NL?
Programme meetings	The programme board of GroenvermogenNL will organise programme meetings (see also the governance of this project and its relationship to the other components of GroenvermogenNL as explained in Section 7.4 of the Call for proposals). All projects within the R&D pillar of GroenvermogenNL, including this project will be invited to participate in these. This concerns all consortium participants.



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Users' committee	After allocation of the project, in accordance with article 3.3.2.a of the NWO Grant Rules, the project leader establishes a User Committee, consisting of at least the main applicant, co-applicants, co-funders and cooperation partners. This committee will follow the project and advise the project leader on its progress. The GroenvermogenNL programme board may be invited as participants.
Executive committee / Knowledge Sharing Committee	The programme board of GroenvermogenNL interacts with the projects that follow from this Call for proposals through a knowledge-sharing committee for the GroenvermogenNL R&D programme. In this committee, each project is represented by the project leader and technical manager(s). The project leaders and technical managers provide the programme management with relevant information (including knowledge and project results) about the R&D programme. In addition, knowledge and insights from the different projects are exchanged with each other.
Guidance Committee	To strengthen the monitoring of the projects that follow from this Call for proposals, NWO will set up a Guidance Committee consisting of independent experts. This committee will monitor the progress of the projects. The Guidance Committee will also participate in the above-mentioned programme meetings to the extent necessary to carry out its task.





## Attachment 2: ASSESSMENT REPORT

Grant: NGF: Hydrogen and green electrons for speciality and fine chemicals  
Groenvermogen NL – Work Package 6  
File number: NGF. [REDACTED] M  
Applicant: [REDACTED] M  
Title: HyFINE: Green Hydrogen and Electrons for Specialty and Fine Chemicals

### How was the assessment of your proposal realised?

The assessment committee assessed the above-mentioned proposal according to the procedure and criteria as described in the Call for proposals. For each criterion, your proposal received a numerical score. The assessment committee subsequently drew up an advice. Based on this advice, the NWO Science Board decided to award the proposal.

In this round, NWO uses the score scale below and the associated translation into qualifications.

The proposal must receive at least the qualification 'good' (5.4 or better) for assessment criterion 1, the qualification 'very good' (3.4 or better) for the average of assessment criteria 2 and 3 together. For the average, both criteria 2 and 3 have a weight of 50%. In addition, the proposal must receive a score of 4.0 or better for both individual assessment criteria 2 and 3 to be eligible for awarding.

Score	Qualification
1.0 to 1.4	Excellent
1.5 to 3.4	Very good
3.5 to 5.4	Good
5.5 to 9.0	Unsatisfactory

The table below provides information on the scores and final qualification of your proposal.

### The substantive assessment of your proposal

Below you find an explanation of the assessment of the assessment committee for each of the assessment criteria.

Assessment criterion	Score	Qualification
Criterion 1: Comply with the Framework for State aid for research and development and innovation and the GBER	1.58	Very good
Criterion 2: Consortium quality (50%)	1.97	Very good
Criterion 3: Quality research plan (50%)	2.56	Very good
<b>Average of criteria 2 and 3</b>	<b>2.26</b>	<b>Very good</b>

#### *Motivation from the assessment committee*

The committee unanimously voted for advising the NWO Science Board to grant the application HyFINE the foreseen funding amount. In the following, the motivation of the final scores is detailed per assessment criterion.

#### **Criterion 1: Comply with the Framework for State aid for research and development and innovation and the GBER**

The committee is convinced that the work in the proposal concerns groundbreaking fundamental research to be developed by the academic partners. While the consortium is constructed out of a significant number of industrial partners, the independent scientific research undertaken by the research entities are explicitly defined as non-economic. The committee therefore concludes that the requirements for criterion 1 are met and rates this criterion as very good.

## **Criterion 2: Consortium quality (50%)**

The committee is very positive about the quality of the consortium. Overall, the committee is impressed by the scale of the HyFINE consortium, bringing together 35 partners, including 15 research organisations and 20 companies, among which are both multinationals and numerous spin-offs and SMEs. This broad composition across the entire value chain from feedstock to end-use of fine chemicals is a clear strength and underlines the industrial and economic relevance of the project. The strong presence of companies enhances the potential for impact and translation into practice. Therefore, the committee rates criterion 2 as very good. A more detailed assessment of this criterion is given below.

### *1. Expertise and track record of applicants specifically in relation to public-private partnerships in the area of this Call for proposals.*

The committee is of the opinion that all universities, universities of applied sciences and research organisations are well established and recognised partners in international research projects. In addition, the end users show a solid track record of collaboration with scientific organisations. While some of the SMEs seem relatively new to this type of partnership, the committee is convinced that their integration into the research plan is balanced and coherent.

Regarding the leadership team, the committee points out that the track record of the project leader and technical manager are not well described in the proposal. During the interview, the representatives of the consortium elaborate on their personal track record by providing the committee with examples of their experience. The committee is satisfied with their answers and is convinced that the main applicant and her organisation (TNO) possess substantial experience to be able to manage large-scale public-private partnerships. In addition, the technical manager has a very active and prolific role in the proposed research area.

### *2. Consortium composition in relation to the proposed research and innovation programme.*

The committee appreciates the complementarity of the consortium very well. The consortium consists of a mixture of material providers, modelling and simulation experts, catalyst developers and TCA providers. The value-chains are well represented with no apparent gaps. The committee is impressed by the number of partners that bring together a wide range of specialties and expertise.

The committee raises the concern that it is unclear how some of the participants are selected and whether specific contact persons for all partners are defined. During the interview, the representatives of the consortium elaborate about the selection procedure of the participants, and confirm that democratic approaches were taken and good connections have been established with all partners during the workshops. The committee is satisfied with the answer and judges that the composition is very good.

### *3. Clarity of governance structure and interdependence of and commitment to linking research themes within the plan.*

Overall, the committee deems the governance structure as clear and well-defined. The project management is well balanced with the project leader and a technical manager, supported by other permanent staff forming the management team. The committee feels that the management framework is appropriate for a project of this size and complexity. The tasks and clusters are nicely interconnected, particularly Tasks A and B complement each other.

One concern raised by the committee is that it is not clear how the leadership team will anticipate contingencies during the research, that could affect the progress of the tasks. The representatives of the consortium explain that there are multiple structural meetings in place to monitor the progress of the tasks. The consortium emphasises that the involvement of the industry partners will be an important factor, as they will help to drive the project to deliver solutions and create impact. The committee is overall pleased with the answers.

### *4. Active participation of project partners and knowledge-sharing activities.*

According to the committee, all project partners seem to have a strong commitment. Active participation from all partners is considered in the project structure with specific roles at work packages and task level. Commitment of the industrial partners is demonstrated by the in-kind contributions, which includes access to proprietary software licenses from SCM and specialised high-pressure reactor infrastructure, which are critical for technology validation. The committee appreciates the planned knowledge-sharing activities, such as the creation of a project newsletter and planned structural meetings. Numerous actions are foreseen to ensure the truly collaborative character of the work.

During the interview, the committee expresses concerns about how the consortium will share knowledge between academic and industrial partners, in particular how the consortium will cope with intellectual property (IP) rights. The representatives of the consortium respond that most of the planned research is precompetitive and that some discussions about IP have already taken place during the workshops organised by NWO. In addition, the representatives take learned lessons and best practices from previous large projects. Furthermore, IP will be an important part of the consortium agreement. The committee is content with the answers.

#### *5. Distribution of resources and project partners.*

The committee is of the opinion that the distribution of resources across partners is balanced at the financial level. Resource and task allocation seems appropriate for the scope and proposed targets. The budget allocation among partners is well balanced and reflects their designated roles and responsibilities within the research plan. The committee questioned the representatives of the consortium why there is less budget allocated to partners in Task C. The representatives of the consortium explain that the dissemination budget allocated to TNO for Task C is accessible to the entire consortium and that partners can make a claim on part of this budget when needed. The committee is satisfied with the answers of the consortium.

### **Criterion 3: Quality research plan (50%)**

The committee is generally positive about the quality of the research plan and thus rates criterion 3 as very good. A detailed evaluation of this criterion is given below.

#### *1. The urgency of the research, the choices made in relation to the two tasks of the GroenvermogenNL growth fund plan as described in chapters 2 and 7, and the extent to which the proposed research contributes to increasing insight and expertise in relation to the goals of this Call for proposals in general.*

Overall, the committee states that the proposed research is timely and highly relevant. In particular, the research activities in the proposal align very well with the tasks of the GroenvermogenNL growth fund plan described in the Call. The integration of different approaches (thermochemical, electrochemical, photochemical and biocatalytic), supported by modelling and analytics, offers scientific opportunities and potential for impactful results. Moreover, the inclusion of multiple value chains is strategically important.

During the interview the committee questions how the proposed project complements other ongoing research projects and how the proposal can go beyond the state of the art in this context. The representatives emphasise the strong application component, the ample collaboration with companies, the different TRL levels, and the unique cluster formation during the workshops, in particular. The committee also poses a question about the considered chemicals and the difference between specialty, and bulk or commodity chemicals. The consortium representatives argue this falls into a grey area and remarks, specifically, the approach based on the industrial needs and the focus on specific sectors, and high-value chemicals. The answers given by the consortium generally satisfied the committee.

#### *2. Scientific and methodological quality.*

The committee deems the scientific and methodological quality of the proposal high. The proposed technology development is well structured into Task A (innovative pathways from diverse feeds including lignin, sugars, fatty

acids and polymers), and Task B (enabling technologies such as accelerated catalyst studies, photochemical methods and electrochemical methods).

The committee raises questions concerning the topics of 1) data management and data sharing, and 2) computational modelling and machine learning methodologies. Overall, the committee is satisfied with the answers by the consortium representatives. Specifically, the consortium representatives address the intended solutions regarding uniform data sharing and management, and the use of best practices following the regulations in the Netherlands and the available infrastructure. Integrating the industrial partners, in particular, is considered as a challenge by both the consortium and the committee.

Moreover, the committee expresses concerns regarding the level of description in the different tasks and subtasks in the proposal regarding performance targets, KPIs, and quantitative measures since varying degrees of detail are provided in the proposal. During the interview, the committee poses questions concerning, in particular, the KPIs and related scales in the polymer chemistry section, and the KPIs in the electrochemical section. Concerning the polymer description, specifically, the consortium members explain that relevant numbers were discussed during the workshops considering the different TRL levels (different KPIs for different TRL) but acknowledge that this is indeed missing in parts of the proposal. The committee generally agrees with the provided answers.

Lastly, during the interview the committee questions certain aspects of 1) the catalysts that are proposed to be developed (section B.3 in particular), the rationale behind this choice and the considered family of materials, and 2) the catalyst degradation and contamination (crossover) and possible solutions. The consortium representatives emphasise, particularly, the expertise within the consortium regarding these particular points and the focus in the proposal on scaling up and less on design. Moreover, the applicants acknowledge that while some particular details are missing in the proposal, these topics will be addressed within the project. The committee points out the importance of such a description, namely, concerning the catalyst stability and the family of materials to be tested.

In conclusion, while the specificity of certain details in the proposed research remains a point of attention, the committee is generally positive about the answers and discussion during the interview.

### 3. Feasibility and appropriateness of the proposed plan, including associated budget.

The committee is convinced that the project plan is well structured and considers the proposed budget to be well-balanced and coherent with the proposed plan. In particular, the planned loop of inputs and outputs between Tasks A and B appears particularly effective to ensure integration and continuous feedback throughout the project. Overall, the proposal lays out a highly comprehensive and ambitious plan

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[REDACTED] K K  
[REDACTED] K  
[REDACTED] K. The choice to include these different technologies is appropriate, which will ensure progress being made if one technical route would fail.

The committee poses questions about concrete milestones and benchmark processes concerning the most successful ideas and the critical decision points in this regard. The consortium representatives address the questions and mention, in particular, the different considered research lines and acknowledge the need to focus on the most promising ones and the use of techno-economic analysis. Moreover, a timeframe of one to one and a half years is mentioned as appropriate for this purpose. While the committee considers the answers pertinent, a discussion about even more specific milestones could have been desirable. Moreover, mentioning in the proposal TRL 7, in particular, is considered by the committee as a clear misstep in the description of the technological maturity and this is remarked during the interview, and the consortium representatives generally agree.

### 4. Expected impact, route to impact and strategic importance: to what extent does the proposal contribute to the eight ways for impact through knowledge utilisation as described in Section 2.2.



The committee is very positive about the expected impact, route to impact and strategic importance of the proposal. The consortium aims to apply scientific and technological insights to achieve breakthroughs for cost- and energy-efficient sustainable and stable production of speciality and fine chemicals. The development and demonstration of these innovations shall be combined with lifecycle and techno-economic assessments. The expected impact is accordingly very high, from both a fundamental research viewpoint and industrial applications to increased societal awareness of the importance of the green chemical industry.

5. *Deployment and use of human capital: to what extent the project plan gives substance to making relevant and new knowledge available and translating it into applications, educational programmes and training (WO/HBO/MBO) for professionals through the deployment of the knowledge platform and learning communities from the HCA GroenvermogenNL.*

The committee considers that the proposal presents a clear plan for the training of next-generation researchers in new sustainable industries. The balanced combination of PhD students and more experienced postdocs, including their interaction with industry seems to be optimal to ensure training. Dissemination and outreach activities are also well described. The project plan gives significant substance to making relevant and new knowledge available and translating it into applications. Moreover, educational programmes and training for professionals are well balanced.

The committee lacked more information in the proposal about how the students and young researchers would be integrated in practice into the project and how this group can benefit from such a big consortium. During the interview, the consortium representatives address this topic and mention, in particular, regular meetings, workshops, the important interaction with the industry, and dedicated learning communities where not only results are shared. Moreover, it is mentioned that the consortium will follow the experiences from previous projects and consortia, and this provides an opportunity for further development. The committee understands the reasoning of the representatives regarding this point and is of the opinion that the applicants are aware of its importance.

#### **Final recommendations by the committee:**

The committee is convinced of the quality of the consortium and research plan. Nevertheless, the assessment committee expresses some recommendations for the consortium as follows:

1. The committee recommends thinking thoroughly about how to bring PhD students and postdocs of the entire consortium together. The broad variety of topics within the proposal can make it a difficult process and a challenge to keep the younger researchers well connected within the consortium, as not all topics are relevant or of interest to all students. However, the variety of topics can also create an opportunity for PhD students and postdocs to learn from each other. The committee recommends that the leadership team comes up with a clear strategy for a community where young researchers can interact and learn from each other.
2. The committee recommends the leadership team to set up a comprehensive and concrete data management plan to promote data sharing within the consortium, specifically to enhance open communication between universities and companies.



Finance Summary

Name call:	J
UNL	1-7-2025
NFU:	1-7-2025
HOT-Tabel van:	2025
File number:	-
Cash cofunding via:	Research organisation

Expenses research organisations

Budget post	Amount
Total personnel	
-Personnel ac. institutes (incl benchfee)	
-Personnel other institutes	
-Personnel IKS	
-Personnel Fixed rate	
Total Material	
Total Investments (incl. by institution)	
Total Knowledge Utilisation	
Total Internationalisation	
Total Money follow Cooperation	
Total project management	
Total required resources	G

Expenses Enterprises & civil society organisations

Budget post	Amount
Total personnel	
Total Material	
Total required resources	G

Funding

Type of funding	Amount	Via NWO	Via institute
Research organisations funding			
Enterprises & civil society organisation funding			
In-kind co-funding			
In-kind co-funding (co-applicants)			
Investments via institute			
In-cash co-funding			
Total funding	G	G	G

Total project budget	
Total requested NWO budget	
Total via NWO (for tranches)	
% NWO funding of total project budget	G


	A	B	C	D	E	F	G	H
	<div><div></div><div>NGF GVNL WP6</div></div>							
1	<div><div>NWO</div><div></div></div>							
2	Date:		3-aug-2025	Main applicant:				TNO
3	Project title:		HyFINE					
4	File number (filled in by NWO):							
6	Summary							
7	Total project budget							Totals
8	Total NWO funding research organisations							
10	Total in-cash co-funding							G
14								
15	Personnel costs							
16	personnel funded according to UNL- or NFU-rates							
17	Category	FTE	Months	Costs (OSP)	Organisation type	Name organisation	Amount	
18	UNL - PhD				University	Leiden University		
19	UNL - Postdoc				University	Leiden University		
20	UNL - Postdoc				NWO institute	Differ		
21	UNL - Research leave				University	Delft University of Technology		
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45	Sub total:							G
46	Benchfee (for PhD en Postdoc)							
47	Category	FTE	Months	# Benchfee	€/benchfee	Organisation type	Name organisation	Amount
48	UNL - PhD					University	Leiden University	
49	UNL - Postdoc					University	Leiden University	
50	UNL - Postdoc					NWO institute	Differ	
51								G
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74	Sub total:							G
75	personnel funded according to HOT-rates							
76	Description	Scale	Total # hrs	Hourly rate		Organisation type	Name organisation	Amount
77	Scientist A1 2 FTE			€		University of applied sciences	Hanze Hogeschool	
78	Scientist C2 1 FTE			€		University of applied sciences	Avans Hogeschool	
79	Scientist C2 0,5 FTE			€		University of applied sciences	Fontys Hogeschool	
80	Scientist A3 2 FTE			€		University of applied sciences	Hanze Hogeschool	
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106	Sub total:							G
107	personnel funded according to IKS-rates. As deposited at RVO.							
108	Description / Segment / Tariff group / Department	Scale / Category	Step	Hourly rate	Total # hrs	Organisation Type	Name Organisation	Amount
109	PhD A1, PhD B1					University	University of Groningen	
110	PD A2					University	University of Groningen	
111	PhD A1, PhD A2					University	University of Utrecht	
112	PD A2, PD A3					University	University of Utrecht	
113	PhD B1, 2x PhD B2					University	University of Amsterdam	
114	PD B1 3 years					University	Radboud University	
115	PhD A3 & B2					University	University of Twente	
116	PD B3 1 year					University	University of Twente	
117	PhD B1					University	Delft University of Technology	
118	PD B1, B2					University	Delft University of Technology	
119	PhD A1, PhD A2					University	Eindhoven University of Technology	
120	PD B1, PD B3					University	Eindhoven University of Technology	
121	PhD A2, 2x PhD A3					University	Wageningen University	
122	Scientist A2 1,5 FTE, A3 1,0 FTE, B3 1 FTE					TO2 institute	Wageningen Research	
123	Scientist A2 2,5 FTE					TO2 institute	TNO	
124	Scientist B3 2,0 FTE					TO2 institute	TNO	
125	Scientist C1 1,75 FTE - technical coordination					TO2 institute	TNO	
126	Scientist C2 0,8 FTE					TO2 institute	TNO	
127	C2: PostDoc to increase technology maturity					TO2 institute	TNO	
128	(C1) Scientific coordination support staff TU-Delft (5y, 0,2FTE)					University	Delft University of Technology	
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149	Sub total:							G
150	Personnel funded according to fixed rate							
151	Description	Total # hrs	Hourly rate	Months	Organisation type	Name organisation	Amount	
152			€					
153			€					
154			€					
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	<div><div></div><div>NGF GVNL WP6</div></div>							
1								
2	Date:		3-aug-2025	Main applicant:		TNO		
3	Project title:		HyFINE					
4	File number (filled in by NWO):							
6	Summary							Totals
7	Total Enterprises & Civil Society organisation budget							
8	Total Enterprises & Civil Society funding requested from NWO							
9	Total Enterprises & Civil Society funding in % from NWO							
17								
18	Personnel costs for researchers, technicians and other supporting staff							
75	Personnel funded according to HOT-rates							
76	Description	Scale	Total # hrs	Hourly rate	Months	Organisation type	Name organisation	Amount
77	A2: Medior scientist / software developer					Enterprise	Software for Chemistry & Materials BV (S	
78	A2: Senior scientist / software developer					Enterprise	Software for Chemistry & Materials BV (S	
79	B1: Junior scientist / software developer					Enterprise	Software for Chemistry & Materials BV (S	
80	B1: Medior scientist / software developer					Enterprise	Software for Chemistry & Materials BV (S	
81	B1: Senior scientist / software developer					Enterprise	Software for Chemistry & Materials BV (S	
82	B2: Engineer/researcher photochemical reactor					Enterprise	Software for Chemistry & Materials BV (S	
83	B2: Engineer/researcher photochemical reactor					Enterprise	Signify N.V.	
84	B2: Engineer/researcher photochemical reactor					Enterprise	Signify N.V.	
85	A1,A2,B3: Senior Researcher - I					Enterprise	Signify N.V.	
86	A1,A2,B3: Senior Researcher - II					Enterprise	BTG Biomass Technology Group BV	
87	A1,A2,B3: Researcher					Enterprise	BTG Biomass Technology Group BV	
88	A1,A2,B3: Junior researcher					Enterprise	BTG Biomass Technology Group BV	
89	A1,A2,B3: Chemical analyst					Enterprise	BTG Biomass Technology Group BV	
90	A3: Technician sc CO2 operator HOT EUR 52+50%					Enterprise	BTG Biomass Technology Group BV	
91	A3: Scientist Supercritical HOT EUR 86+50%					Enterprise	FeyeCon D&I BV	
92	A3: Engineer/researcher HP Reactor					Enterprise	FeyeCon D&I BV	
93	B3: Technician scCO2 operator HOT EUR +50%					Enterprise	FeyeCon D&I BV	
94	B3 Project engineer HOT EUR +50%					Enterprise	FeyeCon D&I BV	
95	B3: Engineer/researcher high pressure CO2					Enterprise	FeyeCon D&I BV	
96	B3: Developer high pressure CO2 HOT EUR +50%					Enterprise	FeyeCon D&I BV	
97	B3: Senior scientist HOT +50%					Enterprise	FeyeCon D&I BV	
98	B3: Senior scientist HOT +50%					Enterprise	FeyeCon D&I BV	
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107	Sub total:							
110	Personnel funded according to fixed rate (60 euro).							
110	Description	Total # hrs	Hourly rate	Months	Organisation Type	Name Organisation	Amount	
111	A1: Researcher (lab/pilot-scale production of high-purity lignin + downstream processing of				Enterprise	Vertoro		
112	A2: Researcher (production of lab/pilot-scales samples of C5 sugars from biomass + downst				Enterprise	Vertoro		
113	A3: Scientist/engineer polymer synthesis, characterization, melt blending				Enterprise	Sulis Polymers BV		
114	B2: Engineer/researcher photochemical reactor /biocomposting				Enterprise	Sulis Polymers BV		
115	A3: Technician support				Enterprise	Sulis Polymers BV		
116	B2: Technician support				Enterprise	Sulis Polymers BV		
117	A3: Process engineer				Enterprise	Paques Biomaterials		
118	A3: R&D engineer				Enterprise	Paques Biomaterials		
119	A3: Analyst				Enterprise	Paques Biomaterials		
120	A3: R&D researcher				Enterprise	Paques Biomaterials		
121	B3: R&D engineer				Enterprise	Paques Biomaterials		
122	B3: R&D researcher				Enterprise	Paques Biomaterials		
123	A2: Researcher				Enterprise	Mevaldi		
124	A3: Researcher: Engineer				Enterprise	Mevaldi		
125	B1: scientist/engineer accelerated catalyst discovery				Enterprise	InCatT		
126	B1: scientist/engineer HT reactor engineering				Enterprise	InCatT		
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151	Sub total:							
155	personnel funded according to IKS-rates. As deposited at RVO.							
155	Description / Segment / Tariff group /Department	Scale / Category	Step	Hourly rate	Total # hrs	Organisation Type	Name Organisation	Amount
156	(We dont have enterprises with IKS rates)							
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197	Sub total:							
197	Total personnel costs:							
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200	Material costs							
201	Description					Organisation type	Name organisation	Amount
202	A1				Enterprise	Vertoro		
203	A2				Enterprise	Vertoro		
204	B3				Enterprise	FeyeCon D&I BV		
205	A3				Enterprise	FeyeCon D&I BV		
206	B3				Enterprise	FeyeCon D&I BV		
207								
208	A3				Enterprise	Sulis Polymers BV		
209	B2				Enterprise	Sulis Polymers BV		
210	B2				Enterprise	Sulis Polymers BV		
211								
212	A3				Enterprise	Paques Biomaterials		
213	A3				Enterprise	Paques Biomaterials		
214								
215	A2				Enterprise	Mevaldi		

	A	B	C	D	E	F	G	H
216								G
217	B1: materials for HTE reactor					Enterprise	InCatT	
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233							Sub total:	G
234	Costs of equipment							
235	Description					Organisation type	Name organisation	Amount
236	A2:	K			Enterprise	Software for Chemistry & Materials BV (S	G	
237	B1:				Enterprise	Software for Chemistry & Materials BV (S		
238	A3:				Enterprise	Sulis Polymers BV		
239	B2:				Enterprise	Sulis Polymers BV		
240								
241	A3:				Enterprise	Paques Biomaterials		
242								
243	A2				Enterprise	Mevaldi		
244								
245	B1:				Enterprise	InCatT		
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1	<div><div></div><div>NGF GVNL WP6</div></div>							
2	Date:	3-aug-2025	Main applicant: TNO					
3	Project title:	HyFINE						
4	File number (filled in by NWO):							
6	Summary							Totals
7	Total co-funding							
12	Total in-kind co-funding							
13	Total in-cash co-funding							
14	% in-cash co-funding of total project budget							
15	Total Funding other then NWO							
16	% co-funding of total project budget							G
17								
353								
354	Co-funding (non-applicants)							
355	In-kind co-funding							
356	Description	Nr of units or Nr of hours	Unit price or hourly rate	Organisation type	Name organisation	Amount		
357	(B3) supervision, training and other contributions to the project			Enterprise	Avantium			
358	(A1, B2, B3) collaborative research on flow metering and flow systems			Enterprise	Bronkhorst			
359	(A2, A3, B1, B3) collaborative research on transformations to fatty acids			Enterprise	Chaincraft			
360	(A, B, C) catalytic systems, supervision, training, process engineering for TEA			Enterprise	Innosyn			
361								
362	(A1) Equipment, chemicals, training for GC-Combustion-MS			Enterprise	Shimadzu			
363	(A2, B1) Software, training, collaborating research			Enterprise	Siemens			
364	(B3) collaborative research on paints and binders			Enterprise	Akzonobel			
365	(A1, B3) Research for scale-up of G/L/S-process and paired electrolysis			Enterprise	Nobian			
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368	(A2,A3) BASF collaborative research and testing on samples, PhD supervision			G Enterprise	BASF			
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387						Subtotal: G		
388	In-cash co-funding							
389	Description			Organisation type	Name organisation	Amount		
390	Cash co-funding Shell			Enterprise	Shell			
391	Cash co-funding Shimadzu			Enterprise	Shimadzu			
392	Cash co-funding Symrise			Enterprise	Symrise			
393	Cash-co-funding BASF			Enterprise	BASF			
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420						Subtotal: G		
421	Co-funding for Businesses & civil society organisations (co-applicants)							
422	In-kind co-funding							
423	Description	Nr of units or Nr of hours	Unit price or hourly rate	Organisation type	Name organisation	Amount		
424	(A2 + B1) Amsterdam Modeling Suite single academic group 5-module 5-year license			Enterprise	SCM			
425	(A3 + B2) polymer testing, degradation and biocomposting assesment, collaborative rese	G	G	Enterprise	Sulis Polymers BV			
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454						Subtotal:		
455	Total co-funding:							G

## Dutch Research Council

### Start form

Submit the completed form via the ISAAC account of the project leader.



file number	NGF
budget number	M
name project leader	M
knowledge institution (employer project leader)	
department knowledge institution	
address knowledge institution	
country knowledge institution	
start date project*	
end date project*	
IBAN or account number	
routing number (if applicable)	
BIC or SWIFT	
name account holder knowledge institution	
name of the bank	
KvK (Chamber of Commerce) number bank (if applicable)	
payment reference	
e-mail adress financial department	
name financial contact person	
e-mail address financial contact person	

#### financial manager knowledge institution

date	
name	
signature	

#### project leader

date	
signature	

\* date in full (example: 1 January 2025 **not** 01-01-2025)

Disbursement of the last tranche follows after receipt and approval of the (final financial and) scientific report.  
A final financial report is not required up to an amount of G unless stated otherwise in the Call for proposals.

Disbursement of the 100% grant according to the following schedule

#### Tranche and disbursement

1. At start date 20%
  2. 1 year after start date 15%
  3. 2 years after start date 10%
  4. 3 years after start date 15%
  5. 4 years after start date 10%
  6. 5 years after start date 15%
- Disbursement last tranche 15%

#### Tranche amount

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## Toelichting grondslagen

In dit document kunt u secties vinden die onleesbaar zijn gemaakt. Deze informatie is achterwege gelaten op basis van de Wet open overheid (Woo). De letter die hierbij is vermeld correspondeert met de bijbehorende grondslag in onderstaand overzicht.

### **G** Art. 5.1 lid 2 sub b

Het belang van de openbaarmaking van deze informatie weegt niet op tegen het belang van de economische of financiële belangen van de Staat, andere publiekrechtelijke lichamen of bestuursorganen

### **J** Art. 5.1 lid 2 sub e

Het belang van de openbaarmaking van deze informatie weegt niet op tegen het belang van de eerbiediging van de persoonlijke levenssfeer van betrokkenen

### **K** Art. 5.1 lid 2 sub f

Het belang van de openbaarmaking van deze informatie weegt niet op tegen het belang van de bescherming van andere dan in art. 5.1 lid 1 sub c genoemde concurrentiegevoelige bedrijfs- en fabricagegegevens

### **M** Art. 5.1 lid 2 sub h

Het belang van de openbaarmaking van deze informatie weegt niet op tegen het belang van de beveiliging van personen en bedrijven en het voorkomen van sabotage