

FME HighEFF

Centre for an Energy Efficient and Competitive Industry for the Future



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Evaluation and execution procedures of novel emerging concepts

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Abstract
<p>The HighEFF Centre has allocated a funding of 1500 kNOK/year for developing Novel Emerging Concepts that are not covered by the planned or on-going activities in the Centre.</p> <p>Recommendations for managing Novel Emerging Concepts are divided in 5 stages:</p> <ul style="list-style-type: none"> Application requirements System for evaluation of applications Approval of detailed plan and budget Execution according to plan and budget Follow up after concluded execution

Executive summary

HighEFF has allocated 1.5 MNOK/year for exploration of Novel Emerging Concepts. The report describes procedures for evaluation of the Concepts and execution and follow up on Concepts that have been granted support. In short, the report describes 5 stages for handling the Concepts:

- Stage 1: The Call
- Stage 2: The Evaluation
- Stage 3: Plan and Budget Approval
- Stage 4: Concept Execution
- Stage 5: Post Project

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1 Introduction

The HighEFF Centre has allocated a funding of 1500 kNOK/yr for developing Novel Emerging Concepts (NEC) that are not covered by the planned or on-going activities in the Centre. Procedures for evaluation and developing accepted NECs are given in this document.

2 Overview

Recommendations for managing Novel Emerging Concepts are divided in 5 stages summarized below with a more detailed description in Chapter 3, Methodology.

Stage 1: The Call

The applications should be limited to 2 pages, covering the following topics: (1) Concept description with Technology Readiness Level (TRL) explained, (2) How it agrees with the overall objectives of HighEFF, (3) Main references to current knowledge (maximum 3, to be submitted with the application), (4) Short execution plan, (5) Tentative budget, and, (6) Market potential.

Stage 2: The Evaluation

HighEFF will appoint 3 permanent evaluation members. For each application, two additional members with relevant competence in the field of the concept will be appointed. Evaluation criteria is novelty, realistic goals, acceptable technology readiness level (TRL) within the scope of FME funding.

Stage 3: Plan and Budget Approval

Approved projects will be subject to detailed planning and budgeting, defining progress plans with decision points and post project goals.

Stage 4: Project Execution

The appointed project leader will be responsible for executing the project. The project leader will report to the evaluation team, unless project conditions make other arrangements more appropriate.

Stage 5: Post Project

If the result of the project is successful, and if appropriate, mentors will be appointed to support further progress (next step) towards a successful implementation as a spin-off project.

3 Methodology

3.1 Stage 1: The Call

The call will be open to all Novel Emerging Concepts (NEC), but has to satisfy the following criteria:

- Be within the scope of the HighEFF objectives (In short: emerging, energy efficient and cross-sectorial technologies for the industry)
- Have a realistic scope within the financing scheme (HighEFF Allocation 1.5 MNOK/yr)
- Only Research partners in HighEFF may utilise the funds allocated
- Have a realistic time frame
- Concept not covered by an on-going activity in the Centre (it is not an instrument to add financing to on-going research activities in the Centre)

- Represent a novelty outside state of the art
- The outcome of the NEC should be for the benefit of the HighEFF participating bodies

The call has no restrictions in means to demonstrate the NEC, e.g. it may be through student work (summer internship, project and master theses), participating research bodies, participating industrial bodies, or combinations. In-kind contributions can be included, if appropriate.

For the evaluation team to be able to do a just decision, the following topics have to be included in the application:

- A concise description of the NEC
- Description of the research approach (may include a Gantt chart)
- A few references to state of the art
- Budget
- Market potential (companies and/or industrial sector)

The application should not be more than 2 pages.

3.2 Stage 2: Evaluation

The evaluation team (HighEFF NEC Evaluation Committee) should preferentially consist of 5 persons, three permanent members to assure fair and consistent evaluation of applications and two specially appointed members for each application to assure a professional technology evaluation of the concept. The appointed members should preferentially be recruited from the industrial participants from the industrial sector where the NEC is most likely to have an impact.

The HighEFF NEC Committee

Permanent members:

- Arne Petter Ratvik, SINTEF Industri
- Jens Røyrvik, NTNU Samfunnsforskning
- Petter Nekså, SINTEF Energi

Substitutes:

- Ingrid Camilla Clausen, SINTEF Energi
- Leiv Kolbeinsen, NTNU Materialteknologi

Two temporary members to be appointed to each proposal

The evaluation is to be based on a ranking from 1 to 5, higher score is better, for each of the following criteria:

- Relevance to support the HighEFF objectives
- Novelty (is this beyond state of the art)
- Potential impact (compared to resources needed and benefits in implementation)
- Research needs (what are the benefits beyond present knowledge)
- Realistic (is it likely to reach a commercial product, i.e. industrial implementation or new product)
- Feasible (is the proposed plan feasible within the financial means asked for)

Proposals that are covered by other activities in the Centre or outside the scope of the HighEFF consortium should, in general, be rejected, unless strongly promoted by the actual RA in HighEFF. The evaluation team should also consider if other financial means are more appropriate.

Applications to be supported should reach an average of 4 points or better, preferentially with no single score below 3. The evaluation team should give special justifications in case they promote support for proposals not satisfying the above criteria. If none of the applications within the present year fulfils the above-mentioned criteria, the budget will be transferred to the next year's budget.

3.3 Stage 3: Plan and Budget

For those proposals worth supporting, the evaluation team will arrange a meeting with the proposer(s) to go through detailed plans and the budgeting. If appropriate, persons in the evaluation team can be replaced by persons with more hands on competence for the actual concept. The team takes the role as both project customer and advisory committee (HighEFF NEC Committee). A schedule for follow up towards the team is to be included in the project plan. One or more resource persons to the project leader may also be appointed if appropriate.

The meeting shall agree on progress plan and reporting and make sure the allocation is realistic for reaching the proposed concept conclusions. The project plan may include:

- Deliveries
- Decision points – go/no go decisions
- Reasonable number of tasks
- Activities related to continuation after the project period
- Follow up towards the HighEFF committee

3.4 Stage 4: Project Execution

The appointed Project Leader (PL) will be responsible for executing the project and report to the HighEFF NEC Committee appointed for the project. The committee has the mandate to decide whether the project should be continued or not at agreed decision points, or if other information mandate a cancellation. In case a project is terminated, adequate communication with the project leader that reflect all considerations must be assured.

The PL is responsible for allocating necessary resources, including use of experimental facilities and necessary Health, Safety and Environmental (HSE) issues in line with the HighEFF requirements. The following list is included as a reminder for the PL, however, established procedures for research and development at the actual partner the work is being conducted at has to be followed.

- Establish project team, including quality controller
- Get approval from the responsible manager (including resource allocations)
- Provide for necessary contracts and/or confidentiality agreements if the HighEFF consortium agreement is not adequate
- Assure that HSE requirements are satisfied and approved (if necessary)
- Prepare presentations and reporting at decision points
- Follow up on dissemination agreements and write final report
- Prepare for next step (marketing, continuation, etc)

3.5 Stage 5: Post Project

If the result of the project is successful, and if appropriate, HighEFF will seek to appoint mentor(s) or support team to bring the Novel Emerging Concept through the next implementation stage. This may include

proposals for further work, either at the Centre or as a standalone project, application for market implementation, technology transfer, etc.

4 Call for Novel Emerging Concepts

Suggested Call Text:

The FME HighEFF Centre has allocated 1.5 MNOK/year for funding Novel Emerging Concepts related to the HighEFF research and innovation objectives within emerging, energy efficient and cross-sectorial technologies for the participating industrial sectors (Metal and Materials - Oil, Gas and Energy – Food and Chemicals). Novel Emerging Concepts, not covered by on-going activities in the HighEFF, may apply for funding, normally limited to 1 MNOK and 1 year project period, to verify or realise the novel concept. The research must be performed by one or more of the research partners in HighEFF. Industry partners may contribute with in-kind contributions.

The applications should be maximum 2 pages and include:

- A concise description of the Novel Emerging Concept
- Outline of the Research Approach
- A few References to the State of the Art (attached with the application)
- Plan (e.g. Gantt chart) and Budget
- Market Potential (companies and/or industrial sector)

There is no deadline for submitting applications, however, submitted applications will only be evaluated two times per year, usually in February and October. Applications are to be sent by email to: All permanent members of the evaluation team.