Application to the Research Program TURBO POWER

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CSP Roadmap WP0

Management, Positioning and Dissemination for CSP Gas Turbine Demonstration

prepared by:

Proposal Leader **Assistant Prof. Björn Laumert** KTH Heat and Power Technology ☎ +46 8 7907480 bjorn.laumert@energy.kth.se	**Prof Tomas Grönstedt** Chalmers	**Assoc. Prof Magnus Genrup** LTH

Executive Summary

This research project is aimed at managing and positioning the work identified in the roadmap for demonstration of a utility scale gas turbine CSP hybrid plant that has been established for the TURBO POWER consortium. Furthermore, the project aims at identifying and following the development in alternative competing future technologies. The goal is to find means to successfully pursue the identified CSP work content such that the final demonstration objectives can be achieved and that TURBO POWER partners have contributed significantly and positioned themselves as research and technology leaders in future technology areas. This work shall be performed by the three strategic academic partners KTH, LTH and CHALMERS together with the industrial partner SIT under the leadership of Björn Laumert (KTH), Thomas Grönstedt (CHALMERS) and Magnus Genrup (LTH) in close collaboration with Niklas Lundin (SIT). This management group is taking the responsibility for the follow-up and dissemination of CSP roadmap goals, milestones and work outcomes, identifying relevant work packages towards demonstration, positioning the partners in relevant R&D networks and projects and forming strategic alliances. Additionally the partners shall work for a close collaboration with relevant public policy and decision makers, to keep them informed about the technology's potential, progress and public benefit.

TABLE OF CONTENTS

1. Background

CSP based gas turbine plants have been identified as an economic viable and environmentally sustainable power source with a good potential for significant market penetration. In order for this technology to become available, a number of technologies have to be developed and demonstrated. A roadmap for demonstration has been established and presented to the TURBO POWER stearing board who has decided to go ahead. This work is to be performed and managed in a strategic alliance between the TURBO POWER partners KTH, CHALMERS and LTH together with SIT. As not all necessary R&D work might be possible to be pursued within the TURBO POWER framework and in the identified time frame, it has been decided to form a dedicated work package to follow-up on the roadmap progress and to work for positioning partners in strategic networks and projects outside TURBO POWER. The aim is twofold: firstly, to actually pursue all necessary technology R&D for demonstration and secondly, to position partners as research and technology leaders in this field and in alternative competing future technology fields.

2. Objectives and Goals

The key objectives of this project are the following:

- Manage and disseminate the R&D work identified in the CSP roadmap for solar hybrid gas turbines such that partners are integrated and demonstration goals are met
- Build network and alliances to form projects outside TURBO POWER with partners in key positions
- Build confidence among public policy and decision makers for this technology concerning economic and ecologic viability
- Establish partners as research and technology leaders in this field

The objectives need to be managed continuously alongside the working progress in the road map. It is therefore proposed to run yearly for the TURBO POWER phase 2 project life time with the decision for continuation to be taken based on an evaluation at every year end. The starting year shall be 2013.

3. Scientific Benefit

The scientific benefit of this work is indirect as it shall support partners to reach key positions in state-of-the-art R&D projects.

4. Industrial Relevance

The industrial relevance is significant as the goal of this work is to position SIT as the technology and market leader for utility scale turbines adapted for solar energy input in the power generating cycle. This has the potential to open up a new and significant market for gas turbines and their applications.

5. Method of Attack

In order to accomplish the objectives and goals, the following shall be performed:

- Identification of solar Brayton hybrid CSP programs and activities outside TURBO POWER and partners' activities that are of strategic importance

- Strategic positioning of partners' R&D activities in appropriate programs to fill gaps in roadmap and to strengthen position internationally
- Formation of strategic alliances to position partners in relevant fora and programs for participation in demonstration
- Dissemination of partner activities internally and TURBO POWER activities externally
- Half-year follow-up and up-date of roadmap and reporting to TURBO POWER board

In detail, the following activities shall be pursued:

- Continous meetings in collaboration group (KTH, LTH, CHALMERS, SIT)
- Set-up of positioning plan for R&D programs to fill CSP gaps in programs outside TP
- Half-year up-date of R&D plan, monitoring of achieved milestones inside and outside TP
- Identification and documentation of relevant and important R&D partners and network to accomplish R&D goals and demonstration
- Preparation of presentation material to form consistent message to promote TP partners positioning in programs and networking
- Disseminate progress and findings to policy and decision makers for CSP issues
- Organisation of network meetings to form strategic alliances
- Report to TP stearing board every half year

6. Project Plan

The work package description is given below. Within each work package associated milestones (M) and deliverables (D) are identified and correspond to the time plan given in section 7. The project will be evaluated on yearly basis for continuation.

<u>WP 1: Management and Dissemination</u>

- Quarterly meetings between partners for status up-date and dissemination of roadmap work -> results in half year reports (executive summary) including reporting of achieved milestones
- Up-date of R&D plan on half year basis (roadmap up-date)
- Half year reporting to TURBO POWER board (presentation)

D1.1, D1.2: Executive progress summary + presentation

<u>WP 2: Networking and Positioning</u>

- Organisation of meetings for networking
- Dedicated meeting with STEM
- Establishment of application material for projects outside TURBO POWER

D2.1: Progress report network and positioning

7. Time Plan

	2013		2014		2015	
WP 1	D1.1		D1.1	D1.1	D1.1	D1.1
	D1.2		D1.2	D1.2	D1.2	D1.2
WP 2	D2.1		D2.1	D2.1	D2.1	D2.1

8. Project Budget

The total project budget per year is 300 kSEK.