Profile of National Technology Platform

1.

Logo	TP name	Contact person (coordinator)
	Hydrogen and Fuel Cell National Technology Platform	Géza Mészáros

2. Coordinating institution (name, address, contact):

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3. Technical objectives:

Long-term and overall objective of the *Hydrogen and Fuel Cell National Technology Platform* is to facilitate the establishment of the Hungarian Hydrogen Economy, in close collaboration with the European Hydrogen and Fuel Cell Technology Platform.
Explicit objective of the Platform is to establish and accelerate the domestic research and development as well as the application of the hydrogen and fuel cell technologies based on detailed analyses and consistent research strategies prepared by the cooperation and collaboration of the interested organizations and experts.

Specific objectives of the Platform are as follows:

- Elaboration of research and development guidelines most significant to the Hungarian Hydrogen and Fuel Cell Economy, respecting local capabilities, resources and interests, as well as the "niche" markets.
- Development of strategic plans and implementation plans, reviewing them regularly, and coordinated and efficient management of domestic research in this field.
- Development of recommendations to the relevant bodies of the Hungarian government, aiming to harmonize them with related governmental strategies and implementation plans.
- Lobbying power to speak for the profession at governmental bodies.
- Establishment of affiliations with other segments of the energy sector to ensure a harmonized and smooth adaptation of hydrogen-based energetics into the whole of national power management.
- Mediation of the European Hydrogen and Fuel Cell Technology Platform's strategies, proposals, implementation programs and accomplishments towards the interested parties of the Hungarian Hydrogen and Fuel Cell Economy.

- Representation and mediation of Hungarian interests in the European Hydrogen and Fuel Cell Technology Platform in order to develop joint programs at EU level.
- Familiarization with and passing on of the accomplishments to the Hungarian industry, energy sector and its strategic partners, with special attention to SME's (small and medium enterprises)
- Via domestic and international projects, to facilitate overall development of Hungarian SME's in the Hydrogen and Fuel Cell sector, as well as growth of their market potentials, and technology advancement.
- Facilitation of cooperation between research labs, institutions of higher education and SME's in order to accelerate the realization of research findings into industry applications.
- Assistance at establishment of industry standards and regulations for Hydrogen and Fuel Cell technologies.
- To facilitate establishment of Hungarian Hydrogen Economy through education, training, consulting, and public propagation and mind-shaping.

4. Relevance to national economy:

Hungary depends on import for over 70% of its power supply, and this ratio is continuously increasing; within this, significant import of natural gas causes growing tension in energy supply. Increasing energy prices, and especially the expected sky-rocketing of crude oil and natural gas prices within the next few decades, substantiate development and dissemination of new, economical means of power supply. For this, Hungary possesses over considerable potentials in renewable energy resources, which could be very well utilized employing hydrogen-based technologies. Through establishment of a Hydrogen Economy, dependence on energy import will decline, a new industry with very high standards could be realized, which generates new jobs, and also creates very high intellectual added value.

5. Sectors within the TP:

- Large corporations, e.g. MOL who even today produces hydrogen
- Chemical businesses, who produce hydrogen as a by-product
- Industrial SME's, which develop and produce parts and self-contained products with Hydrogen and Fuel Cell technology
- Academic research institutions
- Institutions of higher education
- Energy-supplying companies
- Electricity industry, in terms of system regulation applications
- Banks, investors, project-financing enterprises
- "green" NGO-s

6. Manifestation of results of TP[*]:

New, added-value products and services	yes
New business models	yes

[*] Yes/No

New advanced industrial/economic engineering	yes
New emerging science and technologies	yes
Transformation of existing R&D and education infrastructure to support world-class R&D activity	yes

Others:
New electricity supply strategies, which will enable efficient co-existence of existing large-scale grid structures and novel decentralized electricity systems.

7. Research and Development activities:

At national level:

Catalyzer development
H_2 storage, e.g. metal hydrides
Production of bio-hydrogen, e.g. from waste
System integration: Hydrogen and Fuel Cell applications integration with existing systems
Fuel Cell technology development
Development for manufacturing accessories for proven fuel cell stacks

At international level:

Artificial photosynthesis
Cooperation with research institutes
Catalyzer and H_2 storage scope
Cooperation with leading fuel cell manufacturers for accessories production (e.g. Ballard)

Have the TP got Strategic Research Plan?*:

No

8. Stake holders:

a) Enterprises/companies
    1. Industrial: Accusealed Ltd., Bogányi és Fia Ltd., KONTAKT-Elektro Ltd., VERNO ENERGIA Ltd.
    2. Others: PYLON Ltd.
b) Universities: Budapest University of Technology and Economics, University of Szeged
c) Professional Organisations (associations, councils): Hungarian Energy Association – Hydrogen Section
d) Academic research centers: Chemical Research Center of Hungarian Academy of Sciences**,** Research Institute for Technical Physics and Materials Science (MFA) of the Hungarian Academy of Sciences
e) Research and/or innovation centers: CHIC (Central Hungarian Innovation Centre)
f) Policy agencies (national/regional): none existing, but there were preliminary contact to the state secretary of the Prime Minister's Office and parliamentary delegates
g) Financial institutions: none existing, but preliminary contacts have implemented
h) Others: none existing, but several NGO-s will be soon contacted

9. Geographical localization (map, localization of participants):

The Platform endeavors to exist on a national level. Current partners are from the Central, Southwest, and the Southern regions of Hungary, but expansion of the Platform will involve all regions.

10. Interaction with other Hungarian and foreign TPs:

The forming Hydrogen and Fuel Cell National Technology Platform desires close cooperation with the **European Hydrogen and Fuel Cell Technology Platform**, equivalent professional organization of the EU. Personal contacts have been established with some members of the European Platform through EHA (European Hydrogen Association)

11. Interactions with national programs/funds:

New Hungary Development Plan 2007-2013: Environment and Energy Operative Program, and other operative programs, which may involve Hydrogen and Fuel Cell technology applications, such as development of renewable energies, hydrogen generation through waste management, etc.

12. Funding instruments:

Upon being established, the Platform wishes to draw on local and EU tender resources to realize research, development and innovation projects, as set out in its strategic plan and implementation program.

To form, establish relations, substantiate its activities, develop its strategic plan and implementation program, the Platform wishes to apply for governmental financial assistance. Subsequently, funding of its sustainable operations will occur through member and stakeholder contributions, which will support the secretarial and coordination activities.
To realize projects generated through the Platform's activities, industry members (who will benefit from results) and other interested organizations will need to provide financial support, which is necessary for the long-term and sustainable operations. Considering the project objectives of developing innovative technologies and their industrial introduction, financial support from national and EU tenders will be needed for realization – and indirectly for operations of the Platform.