

Clean Hydrogen In European Cities



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<Action Plan for Engaging with Sceptics and Critics other opinion former opponents. >

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0 Executive Summary

While the use of hydrogen as a means of motive power for transport continues to gain credibility, its acceptance is by no means universal. There continue to be people and organisations who are at best sceptical of the future practicability, at worst, highly critical.

While these critical voices are not always heard or understood by those who are involved in the development of hydrogen based transport systems, they are sometimes heard quite clearly by policy and decision makers.

This task (*Task 3.5.2*) involves identifying some of the key sceptics and critics, listening to their opinions and issues, and documenting them clearly and independently. The objective is to assist stakeholders involved in the development of hydrogen based transport (CHIC partners and others) to fully understand these different points of view.

A subsequent stage of the task will bring together sceptical and critical stakeholders to discuss their issues with hydrogen based transport developers.



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List of abbreviations

CHIC	Clean Hydrogen in European Cities
CUTE	Clean Urban Transport for Europe
H ₂	Hydrogen
HyFLEET:CUTE	Successor Project to CUTE



1 Objective of the Report

The objective of this report (Deliverable 3.2 of the Clean Hydrogen for European Cities (CHIC) Project) is to lay out an action plan for CHIC Task 3.5.2. This task will engage with critics and sceptics of using hydrogen (H₂) as a transport fuel.

1.1 Background to Task 3.5.2

The use of hydrogen as a fuel in engines goes back well over a hundred years. However, the omnipresence and ease of use of oil has meant that H₂ in transport has not been developed commercially. Given the issues of global oil depletion, environmental pollution (including that resulting in climate change) and the need for the European Union to secure energy sources, there has been a re-igniting of interest in the potential of hydrogen as a fuel.

The European Strategic Energy Technology (SET) Plan has identified fuel cells and hydrogen among the technologies needed for Europe to achieve the targets for 2020 - 20% reduction in greenhouse gas emissions; 20% share of renewable energy sources in the energy mix; and 20% reduction in primary energy use - as well as to achieve the long-term vision of decarbonisation.

However there are people in the community, including some National Governments, within Europe and elsewhere, who have concerns about the use of H₂, even some who are implacably opposed to it. During the life of the CUTE, and the HyFLEET:CUTE projects¹, it was noticeable that while H₂ researchers and advocates engage widely with the community in terms of disseminating the achievements of leading edge H₂ transport technology, there was no concerted outreach to listen to, document and ultimately address the concerns of the unconvinced; those people and organisations that are, at best, apathetic about hydrogen for transport or, at worst, are critics and sceptics. Conferences on hydrogen powered transport tend to attract the converted and the curious and who have, to some extent, become a hydrogen “club”.

¹ CUTE: Clean Urban Transport for Europe 2001 – 2006; HyFLEET:CUTE – Successor project to CUTE 2006 - 2009



The objective of Task 3.5.2 is to get outside this “club” and to primarily listen to and document the concerns of these “others” – the critics and sceptics. Subsequently, a cross-section of the sceptics and critics already interviewed will be invited to a forum to meet with members of the CHIC project team where the negative views can be further aired in a facilitated environment and, to some extent, addressed.

A fundamental premise on which this task is based is that the rapid commercialisation of Hydrogen Powered Transport can be severely affected and slowed by influential others who, for whatever reason, are not supportive of it. Listening to and understanding the reason for the opposition has the potential to head off this problem. In addition, it is believed that the proponents of Hydrogen Powered Transport (such as the CHIC project partners) can learn a lot from the views of sceptics and critics about the information and misinformation that needs to be targeted for successful commercialisation.

1.2 Relationship to Task 3.5 as a whole

Task 3.5 focuses on a broad social assessment of the causative drivers behind the different attitudes and perceptions of people to the introduction of hydrogen powered public transport buses. A sample of people from seven target groups (see Appendix 4.1) will be surveyed and among these will be critics and sceptics (Task 3.5.2.). The findings will then be analysed according to a change management model for the introduction of technological innovation. This model² considers seven parameters that might influence societal acceptance of an innovation:

- Habits
- Expectations
- Visibility
- Level of Knowledge
- Contribution/Participation
- Level of Impact

² For source references for the Model refer to Deliverable 3.3



- Life Style.

The views of critics and sceptics will be categorised in this way – providing insight into how the introduction of the technology would need to occur to help ensure its success.



2 Activities and Timeframes in Task 3.5.2.

The actions that will be undertaken for this task and the timeframes for their completion are set out below.

2.1 Action 1: Identifying individuals and organisations that are sceptics and critics of H₂ powered transport.

This action will include identifying people who can lead the researchers to the most influential sceptics and critics to be targeted. Among the categories of people to be identified will be people from:

- Environmental/Lobby Groups on International, European and Member States levels
- Political Parties on a European and Member States levels
- Government Officials responsible for transport, energy and environmental issues
- Media representatives
- International Policy-oriented Associations and Organisations
- Representatives of selected European Cities/Regions
- Industry/Transport Companies

Timeframe: Commences Month 11

The researchers will interview between 25 (min) – 50 (max) individuals for this task. The researchers take the view that quality (getting the right people to interview i.e. those who are influential or may have a uniquely useful perspective) rather than quantity is the appropriate focus.



It should be noted that the list of people targeted for interview will be a dynamic list and will change as interviews lead to other possibilities.

2.2 Action 2: Interviews with Critics and Sceptics.

All information will be solicited through interview. Where possible this will be undertaken face to face. Some telephone interviews will be undertaken. Detailed notes will be kept of each interview and the content analysed for themes and for applicability to the theoretical model (See 1.2 above).

In some cases, and where applicable, individuals may be interviewed more than once.

Timeframe: Month 13 – Month 32

2.3 Action 3: Forum for Sceptics and Critics to discuss issues and develop resolutions/proposals

Building on the information gained through Action 2, a cross-section of those interviewed will be invited to attend a forum, along with selected CHIC project partners and other relevant stakeholders including relevant participants targeted through Task 3.4.2.

The forum will take the form of a structured, facilitated, constructive dialogue using deliberative engagement techniques where there is a concerted effort to both elicit participant views and concurrently inform these views. The concerns/beliefs of the sceptics and critics group will be explored and some two-way information exchange will occur between this group and the group of CHIC and other Hydrogen powered transport proponents.

Detailed notes will be kept of the interchange at the forum. The outcomes of this task will be reported in deliverable report 3.6 (“Forum for sceptics and critics and other opinion-former opponents to discuss issues and develop resolutions/ proposals”)

Timeframe: Month 36



2.4 Action 4: Joint Statement identifying issues of concern to external stakeholders and critics and pathways to resolution

A content analysis will be undertaken of all the material gathered from the interviews and the forum in line with the theoretical model for innovation change management.

The objective is to develop a joint statement which draws on this content analysis and the learning acquired through all the activities undertaken as a part of Task 3.5 in Work Package 3. A common view will then be presented of issues that need to be addressed in the social sphere when introducing the H₂ powered bus technology. This learning will be largely applicable to all other forms of H₂ powered transport technology. The outcomes of this task will be reported in deliverable 3.8 (“Joint statement identifying issues of concern to external stakeholders and critics, and pathways to their resolution”)

Timeframe: Month 42



3 Assessment Framework for Task 3.5.2.

Task 3.5.2 will have achieved its intention if it can provide well researched and referenced answers to these questions:

- What are the issues and concerns of hydrogen critics and sceptics?
- How might these concerns be addressed?

Performance Indicators:

- Interviews meet minimum quantity and show broad cross section of community input.
- A report which details the major issues of concern, and proposes strategies for addressing them.



4 Appendices

4.1 Target Groups for Task 3.5.

Groups who will be targeted by the Social Acceptance Research in CHIC:

- General Public /Bus Users
- Political Decision-Makers
- Transport Companies
- Cities/Regions
- Industry
- Interest Groups
- Media

4.2 Time Frame

PROJECT MONTH	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41	42	
ACTION 1	█	█	█	█	█	█	█	█	█	█	█	█	█	█	█	█	█																
ACTION 2				█	█	█	█	█	█	█	█	█	█	█	█	█	█	█	█	█	█												
ACTION 3																					█	█	█	█	█	█	█						
ACTION 4																								█	█	█	█	█	█	█	█	█	█

Table 1: Chart showing timeframe for achievement of actions for Task 3.5.2