

London Hydrogen Partnership Transport Action Plan Project Introduction



For HyLights workshop
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Contents

Introduction to the London Hydrogen Partnership

Political support

Transport for London - London Hydrogen Transport Programme

Competitive procurement

Thoughts on demonstration

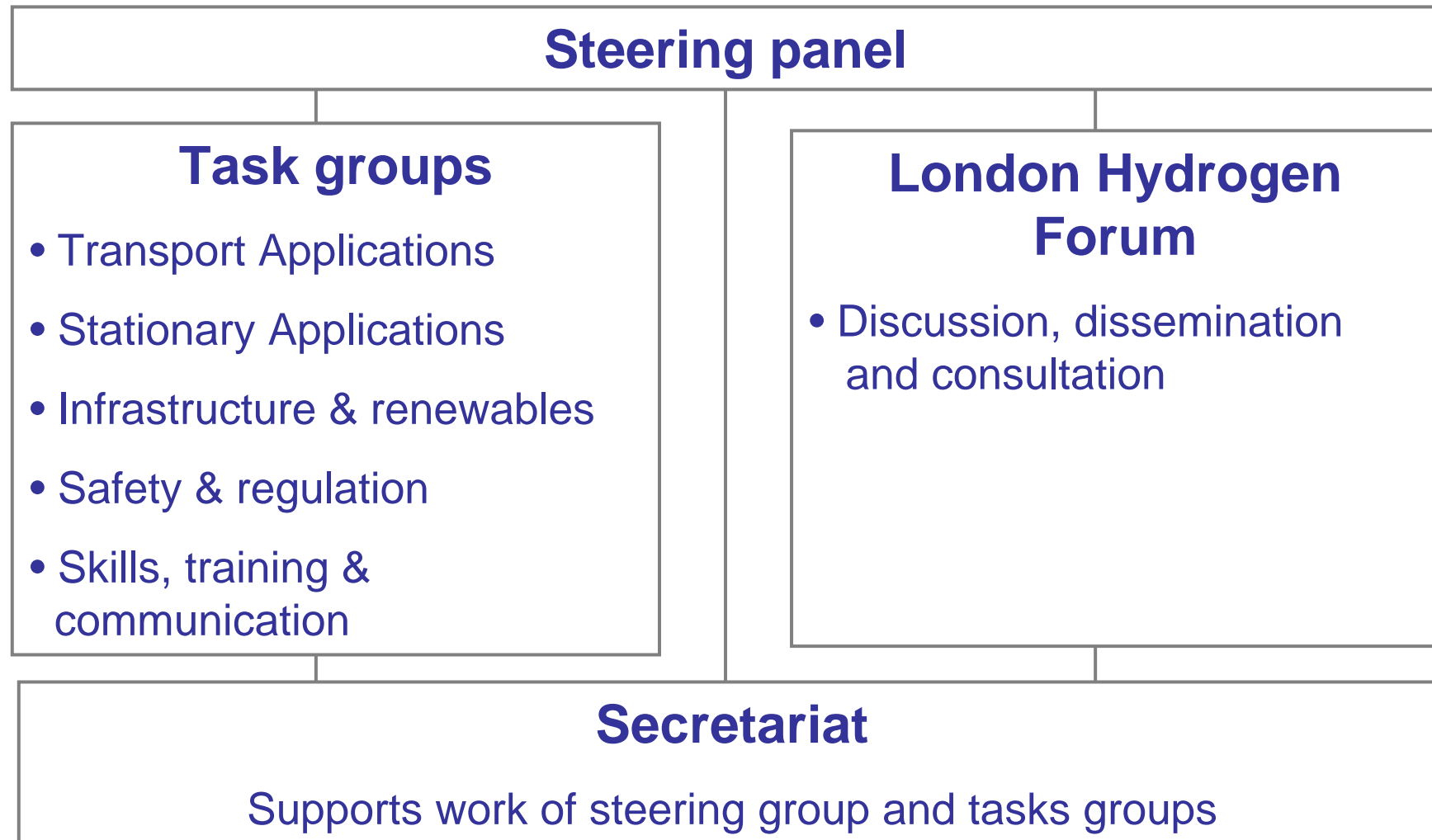


London Hydrogen Partnership - Background

- The LHP is a grouping of key stakeholders in the establishment of hydrogen energy activity in London.
- Participants include public sector agencies, technology providers, industrial gas companies and academic institutions
- The partnership was established by the London Mayor in 2002 and is supported by the Greater London Authority (GLA).
- The main objective of the LHP is to stimulate the hydrogen economy in London and the UK.
- Also to achieve benefits for air quality, reduced CO₂ emissions, increase energy security, to stimulate the green economy and enhance the London brand.



London Hydrogen Partnership - Structure



LHP Steering Board



LHP – legal issues and funding

The Partnership itself is housed in the Greater London Authority.

The Partnership has no formal corporate identity and as such is **not a delivery body – it is a facilitator.**

Each year the Business Plan is updated, against an overall LHP Action Plan. This defines the funding required for the year.

Funding comes from the GLA (approx. 50%) and the Steering board members (equal contributions).

The public private split is approx. 50:50.

Funding covers secretariat salaries (2 people), dissemination activities and some consultancy.

All financial issues are arranged through the GLA.

The overall budget for each year is approx. £250k.



LHP Transport Action Plan

LHP Transport Action Plan was developed in 2005. The Plan details a vision for:

- **2%** of all vehicles in London are hydrogen fuelled by **2020**
- **5%** of all vehicles purchased in London are hydrogen fuelled by **2020**
- **5%** of all public sector fleet vehicles are hydrogen fuelled by **2015**

The Action Plan envisages an **early demonstration phase**. This will involve the operation of up to 70 hydrogen fuelled vehicles in London by 2011, comprising of:

- 10 hydrogen fuelled buses – subject of a separate procurement exercise
- Up to 60 'light vehicles' – motorbikes, cars and vans



Mayoral backing at the start of 2006

The LHP produced an outline budget for their Transport Action Plan, focussing on the first 5 year demonstration phase.

The LHP Transport Action Plan was supported by the Mayor at the start of 2006. This is the key to initiating the project.

The Mayor considered the cost of the project affordable given the benefits it offers for London.

The Mayor requested that his delivery agencies (Transport for London, Met Police and Fire Brigade) support the project from their existing bodies.

The main motive for supporting the project is the importance of London helping develop technology to combat climate change and in branding London.



LHTP – project delivery by TfL

The Mayor has asked Transport for London to lead on the delivery of the project.

Specifically, this means that by 2010:

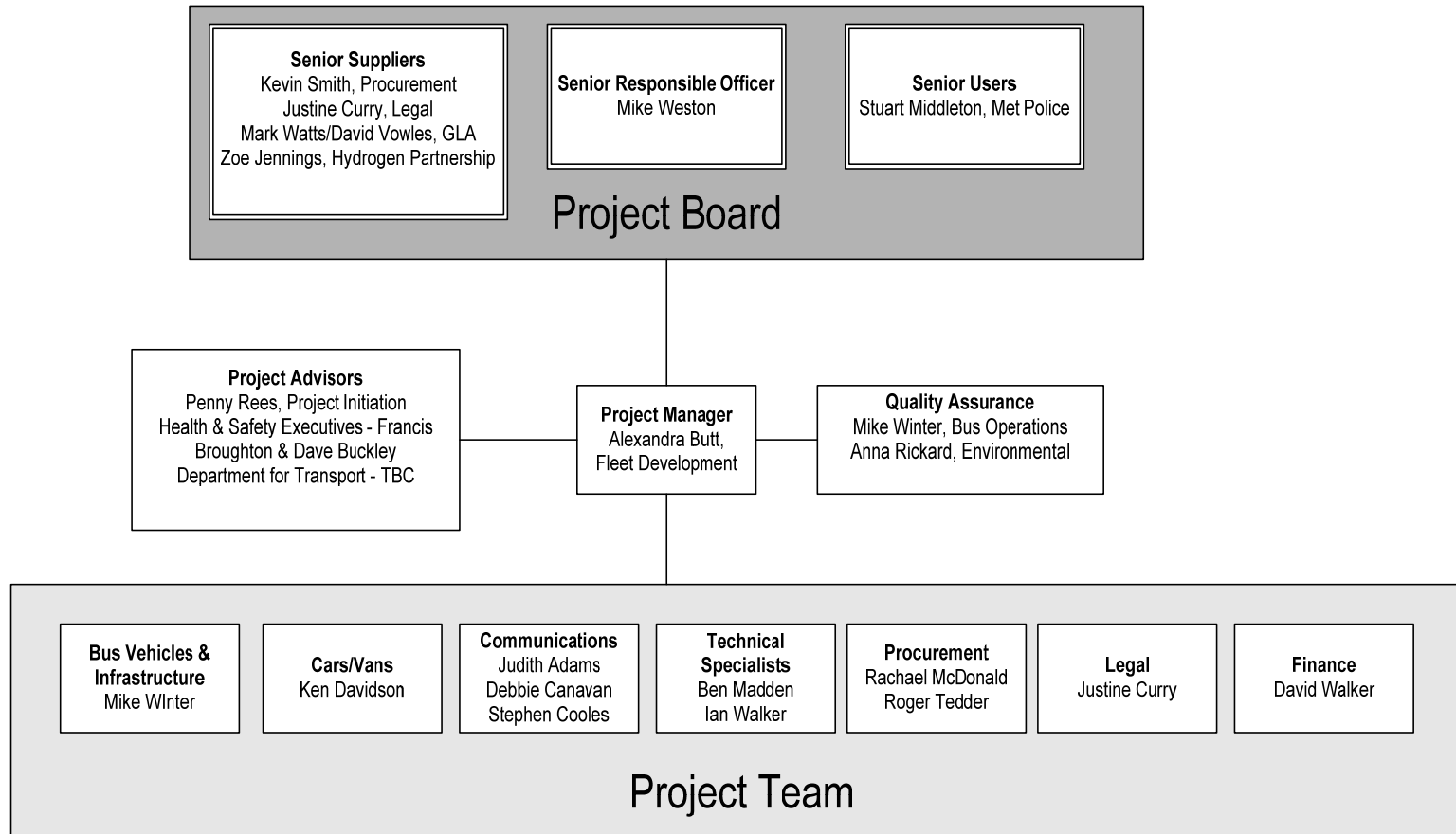
- 10 buses on a complete London route, operated under commercial conditions (5 years, 20 hrs per day, fast refuelling of all buses etc.)
- A large on-site refuelling facility – expected demand 220 kg/day
- Up to 60 vehicles operated by public sector fleets (police, fire, Underground etc.) – mix of OEM and SME vehicles
- 2 small central London refuelling stations
- Independent H2 vehicle support and maintenance
- Wide spread dissemination and publicity events

Transport for London now manage and fund the project.



London Hydrogen Transport Plan: Project Governance

Last updated: 8 March 2007



The project is managed using TfL's own project management tool – Spearmint (derived from PRINCE 2)



Progress

We have finished the tenders for buses and depot refuelling. A two stage negotiated tendering procedure was used for both.

Contract signature is anticipated this month (along with announcements of suppliers).

A Competitive Dialogue process for H₂ vehicles is nearing its final stage. We will select up to 5 different vehicle types.

A non-negotiated 2 tender for small refuelling is about to end.

We have worked with a number of cities to initiate the Hydrogen Bus Alliance – an end user base (Hamburg, Berlin, Amsterdam, Barcelona, BC Transit and Perth).

We expect first vehicle operating mid 2008 and the complete bus route operational by end 2008. Other vehicle delivered in 2009/10.



Overall costs public/private split

The total project cost is estimated at £25 million

This covers all 70 vehicles, 72% of the funding is required for the bus project.

Funding is sourced from:

TfL budgets (controlled by the Mayor)	86%
DTI (central government)	14%

Private funding is ADDITIONAL and difficult to estimate as costs are derived from tenders, which include any contribution.

Some tenders suggest up to 50% of cost reduction has been taken from the tender price. Tenders include very little contribution to development costs.

Perhaps 25% of additional funding is private sector contribution.



Use of competitive procurement - a success

We took the decision to use a competitive procurement approach to selecting industry providers. This is because:

- The procurement introduces competition helping to bring costs down
- The procurement forces suppliers to move towards a commercial offer from the current well insulated demo projects
- Contracts allow a well understood costing and transfer of risk
- EC law for public bodies is best met using OJEU processes

The procurement has been a success, with well defined contracts now in place.

We estimate that the procurement reduced the cost of the project by over 30%, through competition and hard negotiation on specifications.



Key procurement lessons learnt

Cost reduction was achieved through negotiation (22% refuelling >30% bus). This leads to a need for flexibility within the procurement route over post tender negotiation.

Length of time taken to agree a contract (these are new situations for all) – 4 months and counting..... especially for fuel supply

Sizing of refuelling facility was problematic due to uncertainty over bus H2 consumption (this is caused by twin tendering for vehicle and fuel).

High price of H2 – will only be overcome with longer contracts, bigger facilities and better contractor understanding of risk.

Double counting – need to be careful in specifying designs to avoid double margins (e.g. in bus range specification).



London's role in demonstration projects

London is seeking to play a major role as an early adopter of urban hydrogen transport.

London is primarily an END USER of the technology, investing due to the benefits the technology will eventually offer.

London has a number of potential benefits for demonstration activity:

- Very strong political support
- A very large city – e.g. largest bus fleet in Europe
- Policies in support of low carbon vehicles (e.g. the congestion charge)
- Well funded public sector fleets with a strong environmental remit
- Olympics 2012
- Neutrality with respect to origin of vehicles (including Japan, Korea, China, USA and Europe)



London will need commitment from industry

A clear signal is required from industry on cost reduction in order to continue support through 2010-20.

The current high costs to the public sector of hydrogen vehicle projects will become prohibitive to politicians when deployed at a large scale (100+ vehicles).

For London, a key result of any JTI would be a commitment from suppliers to a programme of reducing costs and increasing manufacturing output for vehicles up to 2015.

These plausible commitments allow London's public entities to reciprocate and align its substantial budgets, land allocation and fuelling infrastructure to support the commercialisation push.

London is already working with the Bus Alliance to develop this area specifically for buses.

