

Hydrogen and Fuel Cell Futures
Conference 12th - 15th September 2004

Public Perception and Economic Preferences towards the use of H₂FC buses in Perth.

Lisa Garrity



Acknowledgments: P. Jennings & P. Newman (Murdoch University); S. Whitehouse (WA Department for Planning and Infrastructure); M. Altmann, P. Schmidt & R. Wurster (L-B-Systemtechnik GmbH); S. Mourato, T. O'Garra & D. Hart (Imperial College); C. Graesel & A. Beerenwinkel (Universität des Saarlandes).

Overview

- Importance of Public Perception
- AcceptH2 Project
 - Partners
 - Objectives
 - Methodology
 - Preliminary Results Perth
 - Acceptance of Hydrogen
 - Perception towards Hydrogen
 - Knowledge about Hydrogen
 - Willingness to Pay for Hydrogen
- Individual Protesters
- Conclusions

Importance of Public Perception

- BP Ethanol, Queensland

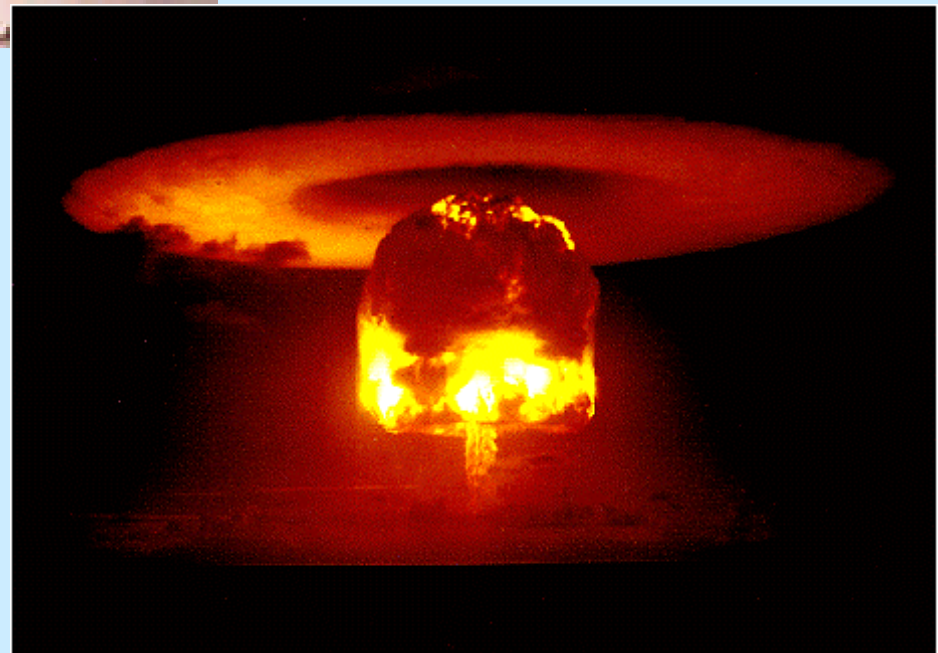
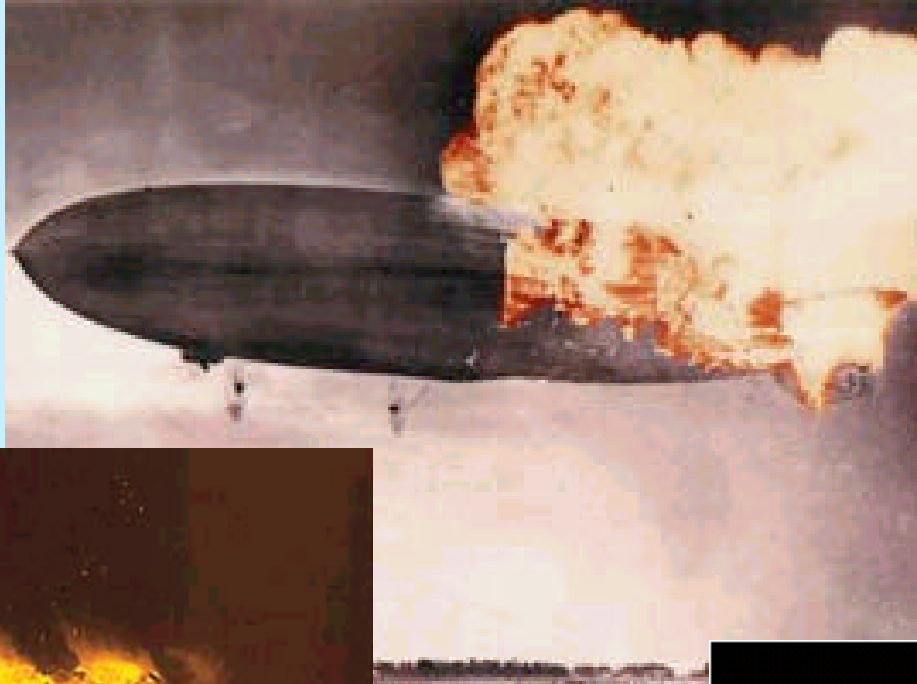
"While BP's ethanol-blended petrol is a high-quality product which poses no threat to car engines, it makes little sense to offer customers a product when they are telling us they don't want it." *BP spokesman Peter MacCuspie*

"Public confidence in ethanol as a safe alternative fuel has been undermined by a scare campaign, but there is no reason why ethanol blends can't be a success when properly marketed as the safe, clean fuels they are." *Australian Biofuels Association Executive Director Bob Gordon.*

The Courier Mail 19 Feb 03

- GM Foods

- Nuclear Energy



Hindenburg, 1937

Vidicom Media Productions

www.vidicom-tv.com/tohiburg.htm

H-Bomb

<http://www.bilderberg.org/hbomb.htm>

Public Perception

Need to know:

- perceptions, attitudes
- what is influencing perceptions
 - particular values
 - knowledge
 - demographic factors

⇒

- appropriately targeted information campaigns etc.
- modification to the product

⇒

Smooth/Efficient introduction of technology

AcceptH2

Aim:

- to determine the public perception and economic preferences towards the use of hydrogen fuel cell buses across five cities: Berlin (Germany), London (UK), Luxembourg (Luxembourg), Oakland (California, US), Perth (Australia).

Partners:

- Imperial College, London, UK
- L-B-Systemtechnik, Munich, Germany
- Saarland University, Saarland, Germany
- University of California, Davis, US
- AC Transit, Oakland, California, US
- Murdoch University, Perth, Australia

Objectives

Objectives:

- Assess public knowledge, perceptions, values and attitudes concerning hydrogen and fuel cell bus technology

Outcomes:

- Identification and analysis of barriers to the introduction of H₂ fuel cell buses
- Comparison of knowledge and perceptions before and after trial
- Analysis of Willingness To Pay for H₂ fuel cell buses
- Recommendations for information campaigns

Methodology

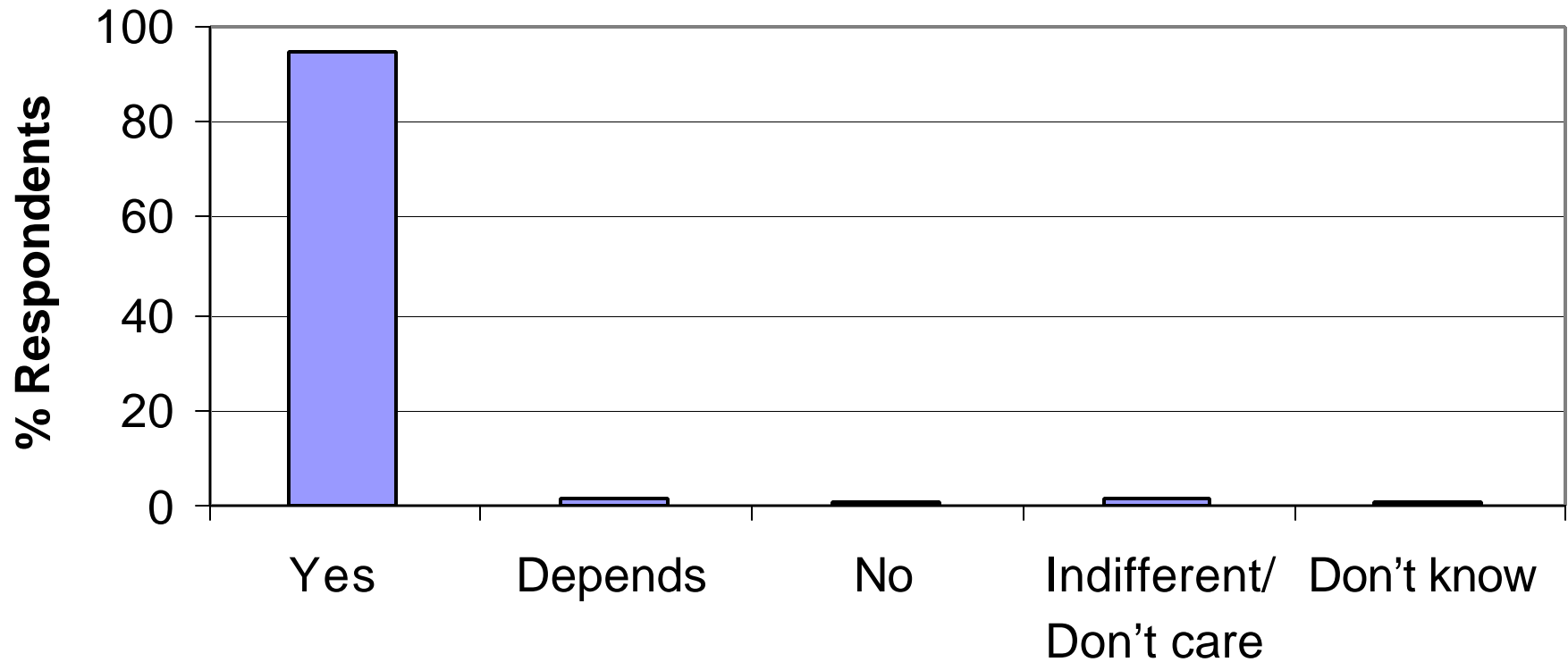
- 300 Perth residents surveyed before fuel cell bus trial.
- 154 bus users and 146 non-bus users.
- 15 minute telephone interview.
- 300 Perth residents to be surveyed a few months into the fuel cell bus trial

Respondents asked questions about their:

- perceptions of current Transperth bus features;
- perceptions, awareness and attitudes towards hydrogen and fuel cell vehicle technology;
- willingness to pay for hydrogen fuel cell buses and;
- current environmental awareness, knowledge and associated behaviour.

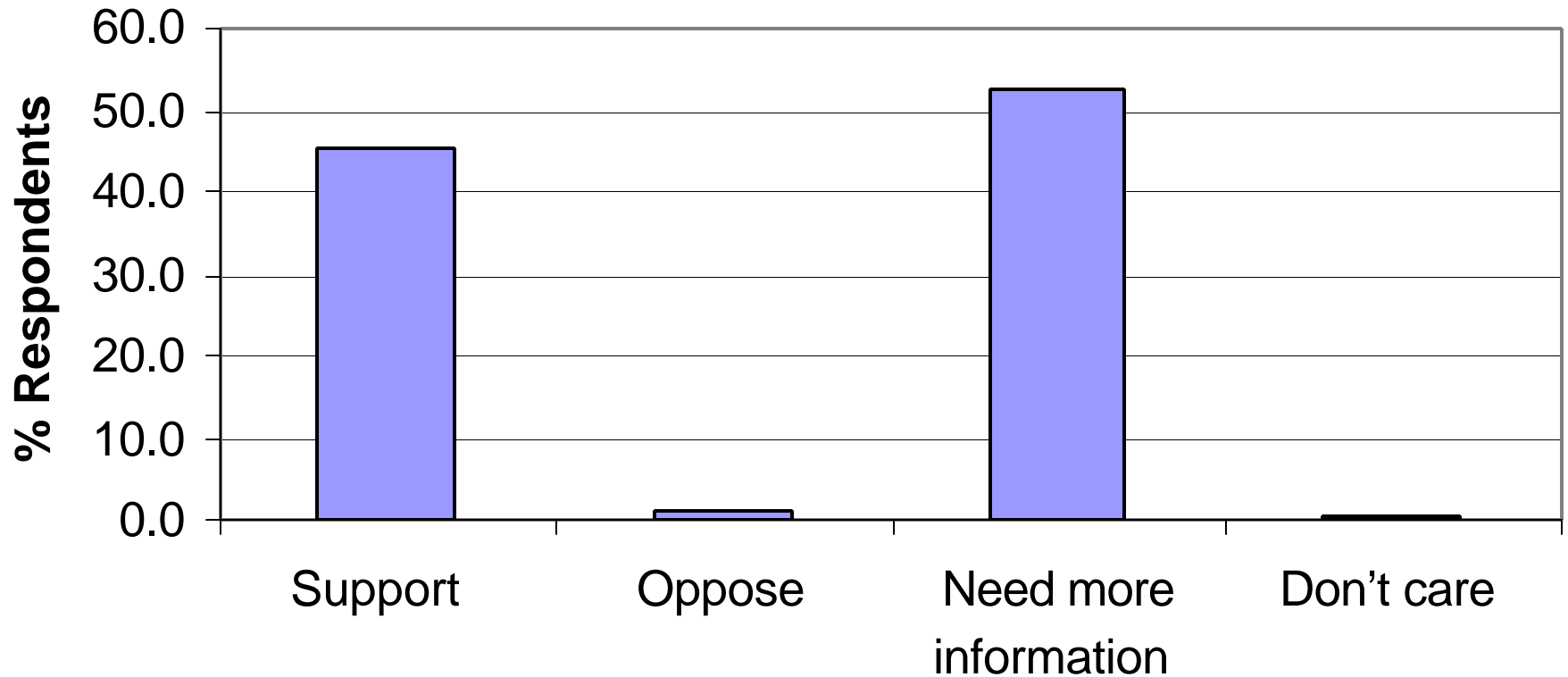
Acceptance

Do you think that it is a good idea that Perth is trialing hydrogen fuel cell buses?



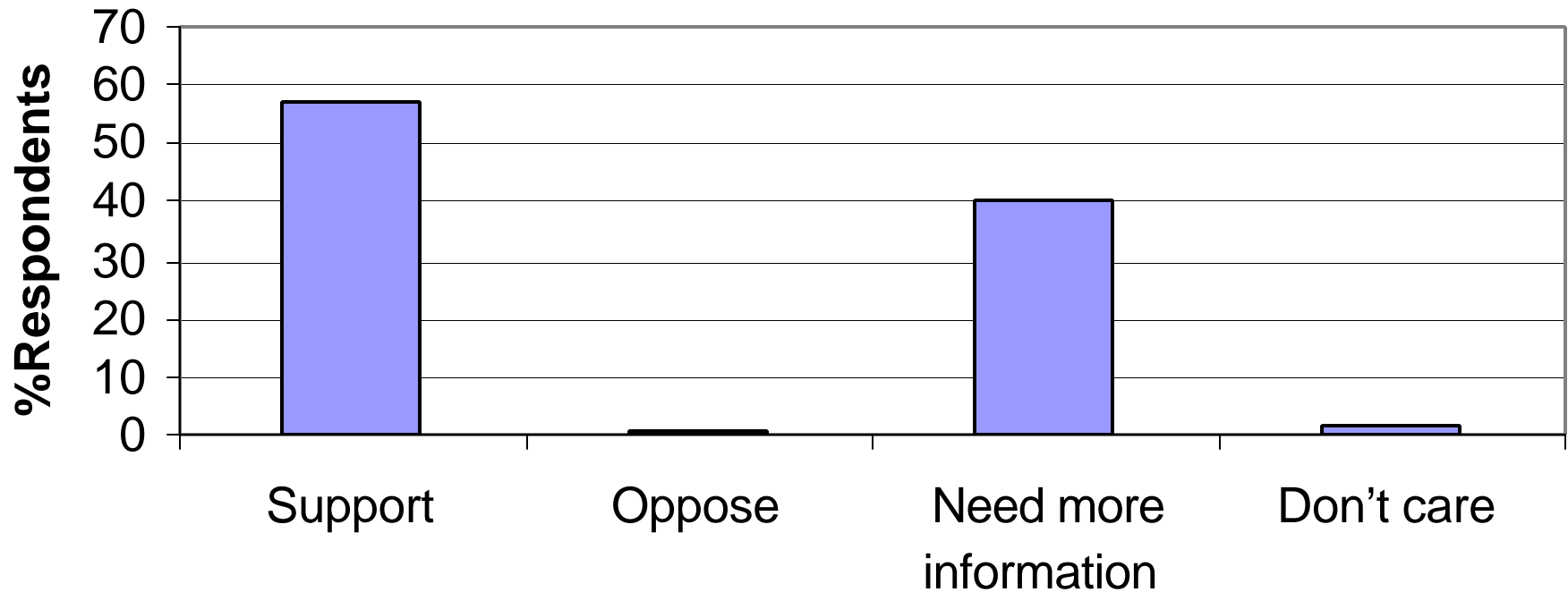
Acceptance

How would you feel about H2-powered vehicles being introduced in Perth?



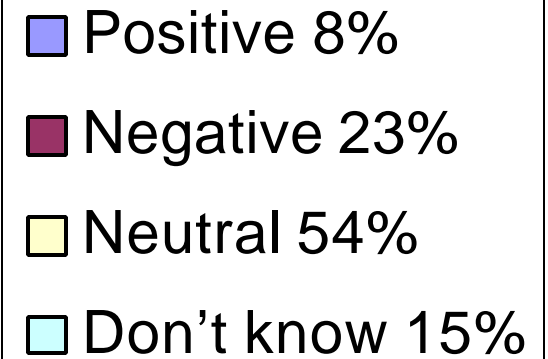
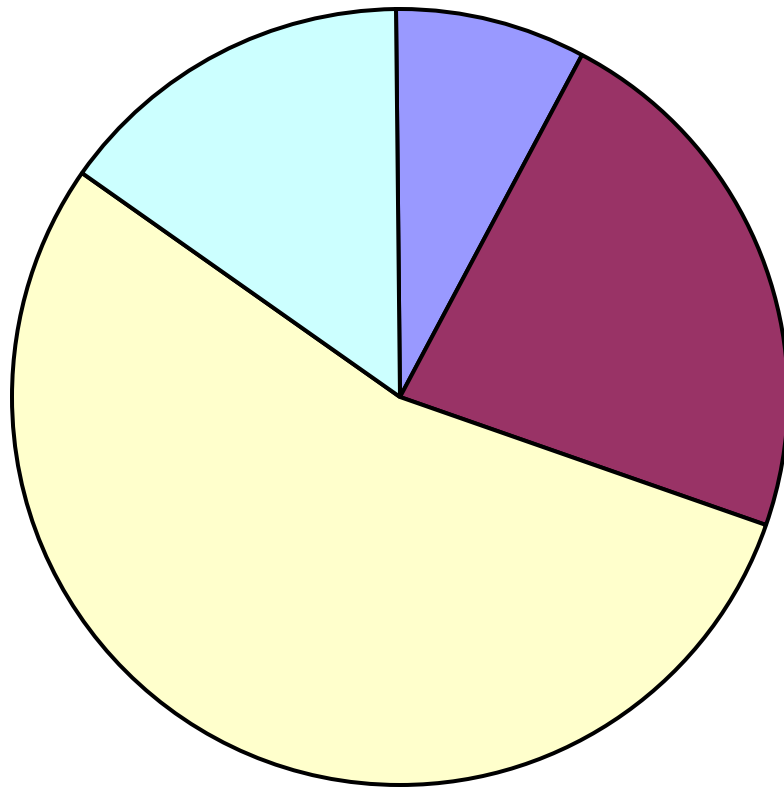
Acceptance

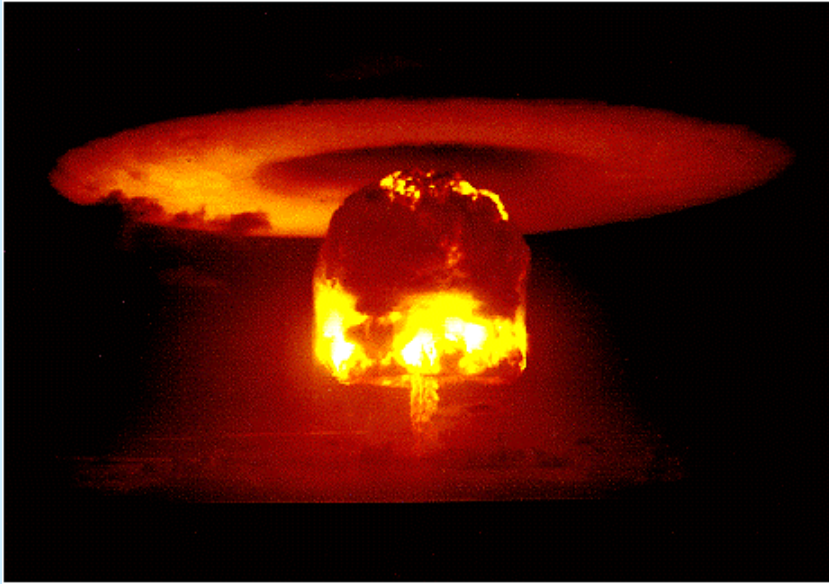
How would you feel about having hydrogen stored and included as a fuel option at your local petrol station?



Perception

Associations with the word 'hydrogen'.





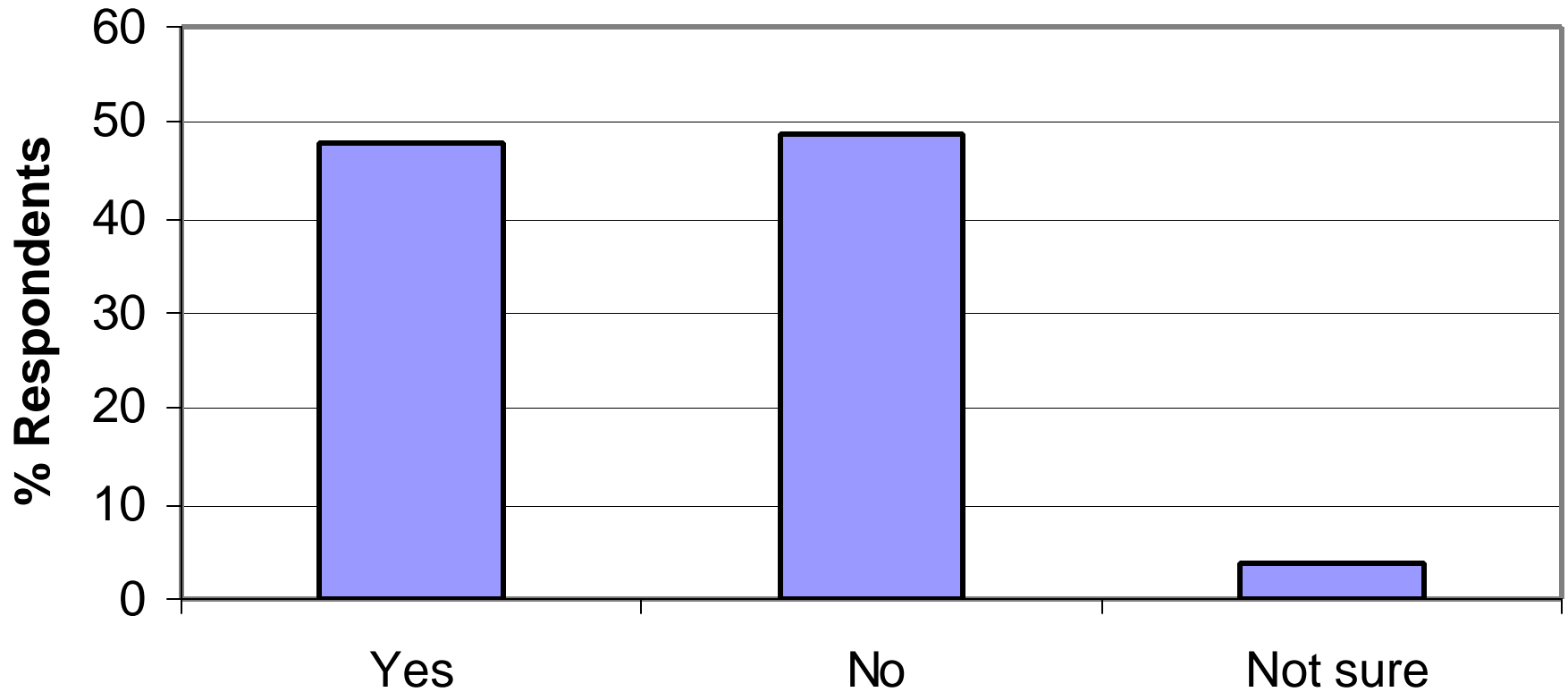
17% of all respondents associated 'bomb' or 'hydrogen bomb' with the word hydrogen



2% of all respondents associated the Hindenburg with the word hydrogen

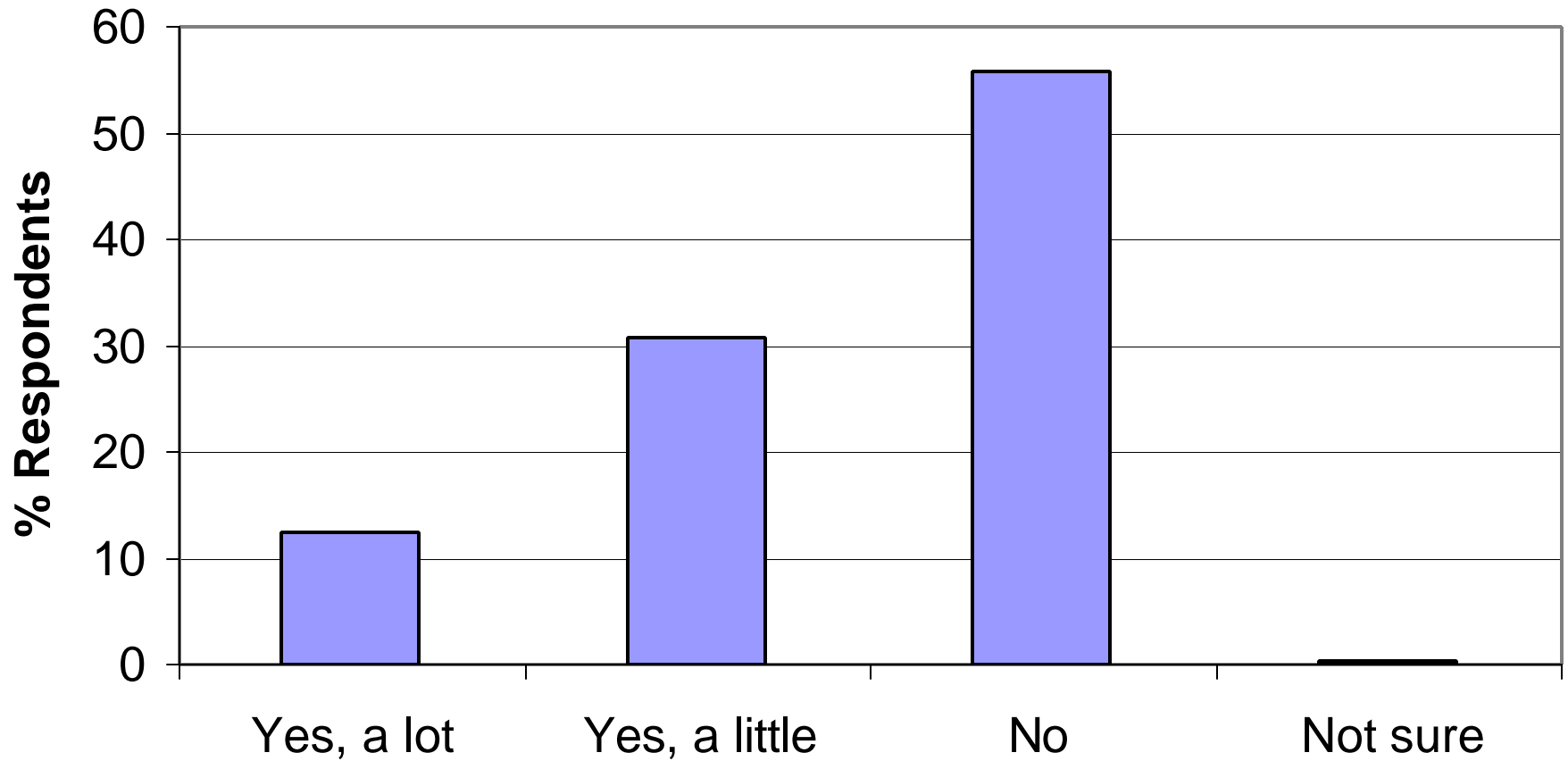
Knowledge

Did you know that car companies are developing hydrogen powered vehicles?



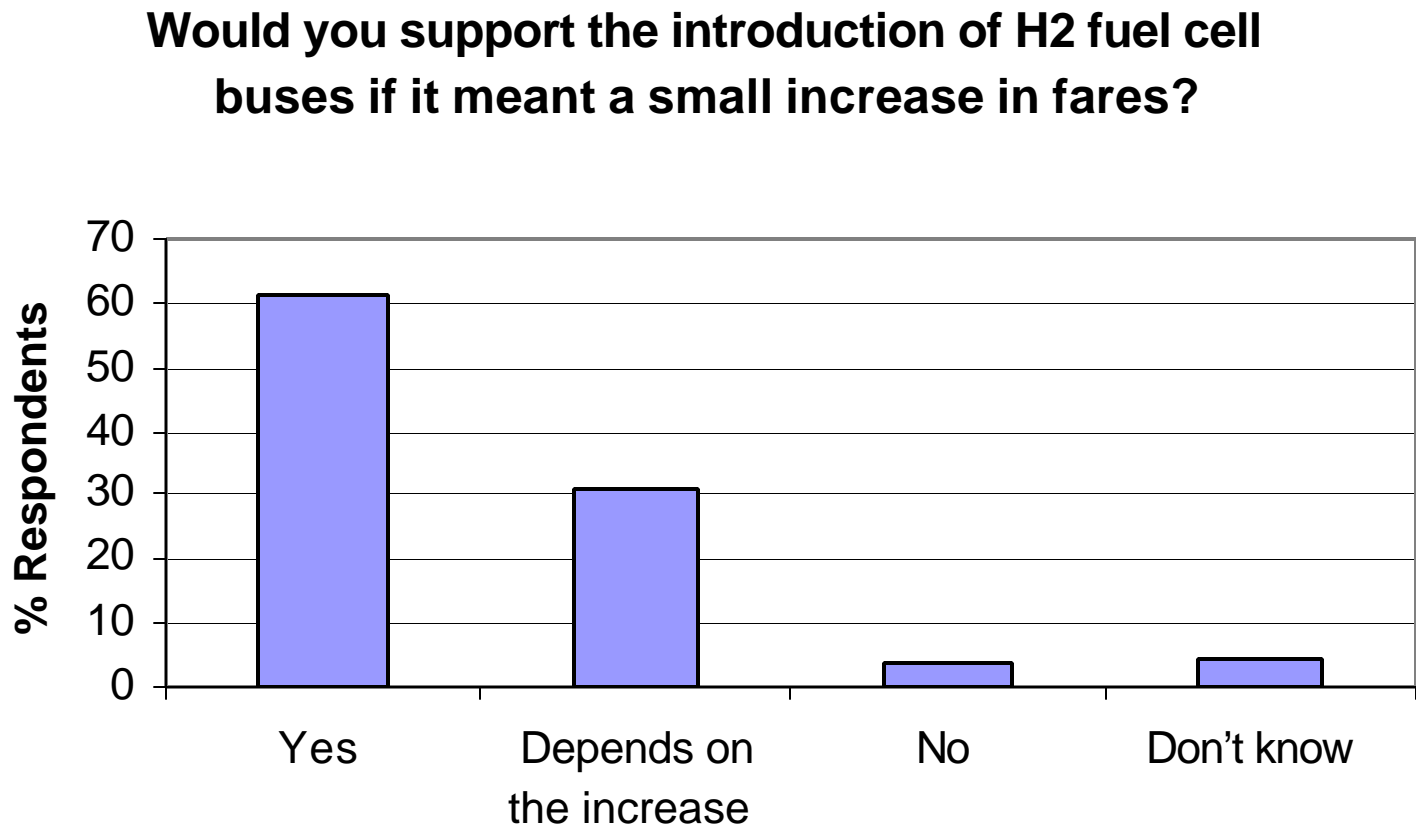
Knowledge

Have you heard of fuel cell vehicles?



Willingness to Pay

- 90% of respondents Willing To Pay extra per bus fare
- 50% of respondents Willing To Pay \$0.50 or more per fare
- 50% of respondents Willing To Pay \$20 or more through taxes p/a



Results Summary

- **Acceptance**

- Overall positive

- **Knowledge**

- Limited

- **Perception**

- Associations with hydrogen mostly neutral.
- Negative associations much higher than positive associations.
- 'Hindenburg' is not a widespread issue.
- Association with 'Hydrogen Bomb' is significant.

- **Willingness To Pay**

- Majority of people willing to pay extra for introduction of H₂ fuel cell buses
- Environmental sensibility influences WTP and perception

Individual Protesters

Perth

- “Time-Bomb Alert on Hydrogen Depot”

The West Australian June 2004 page 12.

- “Plan Fuels Debate: City to reconsider hydrogen base”

Eastern Suburbs Community Reporter March 16 2004 page 1.

- “Hydrogen Station Fuels Row”

Eastern Suburbs Community Reporter June 8 2004 page 3.

London

- “ ...we don't know much about it at all, other than we used to make bombs out of this stuff.” *Local Hornchurch resident, Mike Dyer*

Romford Recorder May 2003.

- “My feelings are rather strong on this, I think it must be dangerous.” *Local Hornchurch resident, Stephen Kelly*

Romford Recorder May 2003.

Conclusions

- AcceptH2 - Comprehensive investigation into public perception of hydrogen and fuel cell technology around the world.
- Widespread support for the introduction of hydrogen fuel cell buses, although many people would like to be better informed.
- Support derived from perceived environmental benefits - greenhouse gas and air pollution reduction.
- Results encouraging, although enough warnings to demonstrate the importance of a communication strategy as well as a technical strategy for the introduction of hydrogen and fuel cell technology.
- Political leadership still required despite strong support.

Thankyou for your attention

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AcceptH2: www.acceptH2.com

