

Towards The Hydrogen Economy: A South African Perspective

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Presentation Outline

- South Africa's unique drivers
- Strategy in brief
- Implementation plan

South African Drivers

Unique drivers to those of the world:

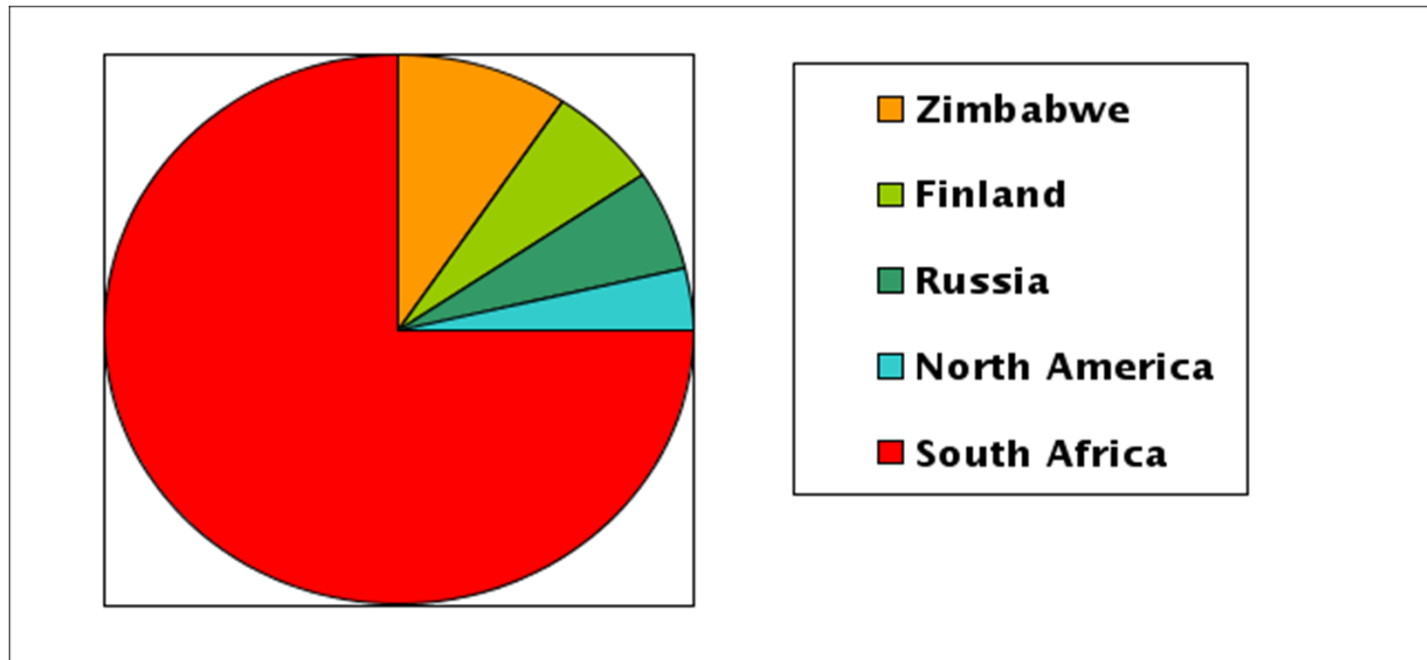
- Over 75% of platinum group metal reserves
- Socio-economic benefits from value-addition of minerals

Government Initiatives

- Provides policy leadership for a sustainable energy sector
- HCD to enable SA tackle energy security challenges
- SME involvement in commercialising the resultant technologies.

Why is South Africa talking Hydrogen?

World platinum resources: Cawthorn, 1999



- Pt – superior catalytic properties for fuel cells
- Significant investment in various applications R&D globally



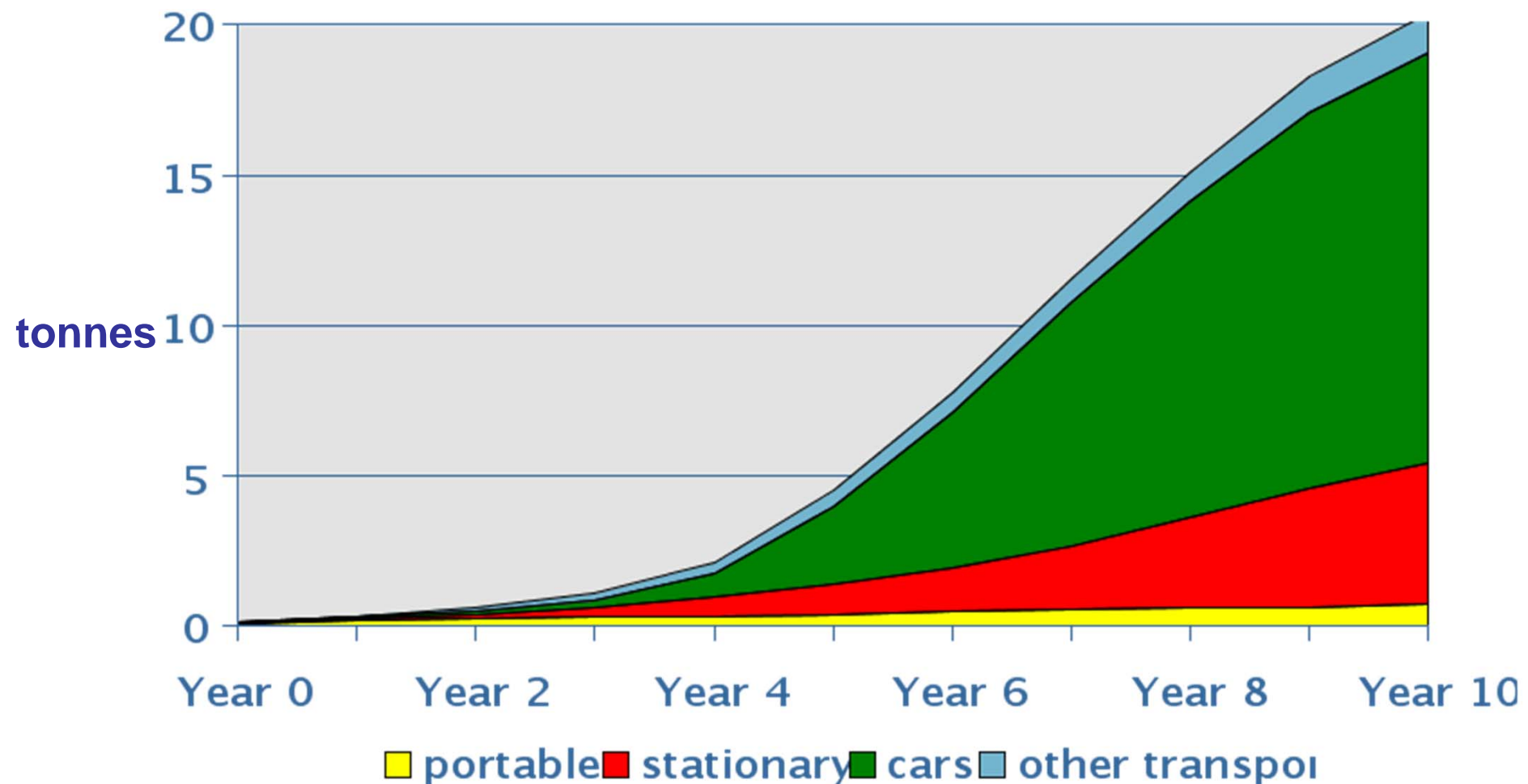
Pt loading: ICE vs. FCV



Car today: 2 – 5g Pt Fuel cell car: 60g Pt

Pt demand for Fuel Cell applications

(Data from Johnson Matthey, 1995-2005)



Hydrogen South Africa Vision

“ to create knowledge and human resource capacity that will develop high value commercial activities in hydrogen and fuel cell technologies utilising local resources and existing know-how”

Strategic Goals

- Develop local cost competitive hydrogen generation solution based on existing know-how
- Wealth creation through value added manufacturing of PGM catalysis, goal – supply 25% of catalysts demand by 2020
- Promote equity and inclusion in the economic benefits of South Africa's resources

Implementation Plan

1. Three Centres of Competence



3. Hydrogen and Fuel Cell Technologies Education & Training Centre

Mechanisms – Competence Centres

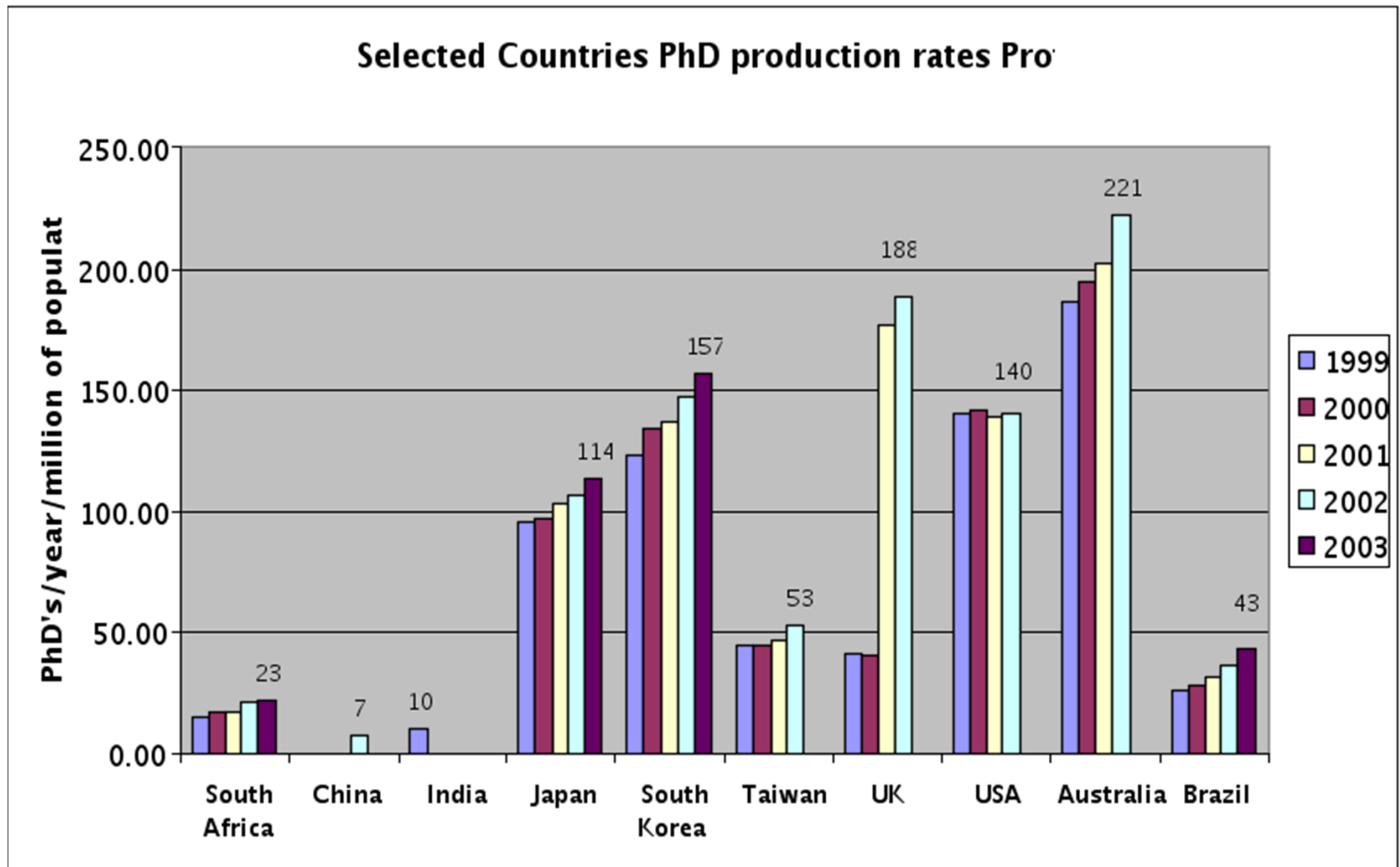
Based on a Hub & Spoke Model

- Contractual relationships between the parties
- Clear short, medium and long-term shared RDI objectives
- Commitment to commercialisation from the start
- Proactive attention to intellectual property issues
- Human capital development

Highlights

- Government long term commitment
- Competence Centres secured Centre Directors
- Finalising deal for a FC manufacturing facility
- Other deals on the cards
- Public-Private Partnership Agreements
- CoCs signed MOA with international interests
- H2 Powered Bike for unveiling in August

Benchmarking



Challenges

- Importation of know-how
- Lack of beneficiaries in SET
 - Undergraduates
 - Post graduates
 - Post docs
 - Professional
- Funding



THANK YOU