



European Hydrogen and Fuel Cell Technology Platform

**Financing Sub-Group
Key Issues and Recommendations**

March 18, 2005



Financing Sub-Group

- **Mission:**

To examine the key issues from a financial perspective and design the most appropriate financing engineering to achieve the HFP objectives

- **Composition (14 Members):**

- ✓ Public bodies: European Commission, Member States Mirror Group, European Investment Bank
- ✓ Industry: large corporations and SMEs
- ✓ Finance industry: incubators, seed & early stage VCs, late stage VCs, corporate VCs, and investment banks

- **Document (HFP website):**

Comments on the Strategic Research Agenda and the Deployment Strategy – Key Issues from a Financial Perspective and Recommendations on Financial Instruments



Financing Sub-Group

Underlying Assumption:

Hydrogen and fuel cells are disruptive technologies

- Changes the way goods/services are produced and delivered
- Creates new products and service markets (e.g. computers)

Key Issues:

- Many of the major strategy and technological breakthroughs, and ultimate product delivery, are made by “New companies”
 - ✓ EU “new companies” suffer from a lack of cash-flow and capital (equity)
- Policy credibility is of particular significance: industry and investment community need to be convinced that policy statements are backed by appropriate policy actions before they commit to the development of these technologies
 - ✓ Waiting for market push to deploy the H2&FC systems in the EU could carry huge potential risks, including the migration of technology and human capital, and employment prospects



Financing Sub-Group - Key recommendations

More assertive use of the existing financial instruments, and the introduction of more flexible and innovative ones (besides partial subsidies) are essential, including the following:

- Public contracts (by whatever name) – help generate sales volumes
- The provision of debt finance for R&D infrastructures and industrial innovation projects, including demonstration projects
- EU-wide incentive schemes, fiscal and others (e.g., extending incentives on renewables to clean conversion technologies on H2 & FC)
- The provision of equity capital for seed & early stage entities (particularly, European Investment Fund participation in H2&FC-specific EU funds with the appropriate expertise and understanding at this level)



Provision of Debt Financing - existing instruments:

Structured Finance Facility (“SFF”)

as applicable to the Development of H2&FC Technologies

- Reserves of EUR 750 Million committed (of which EUR 500 Million released) for debt finance (loans or guarantees) of projects with a higher risk profile in
 - ✓ TENs
 - ✓ Public-Private Partnerships
 - ✓ i2i (R&D and research infrastructure)
- Direct or (bank-) intermediated financing structures
- Covered risk profiles: BB+ down to B-



Provision of Debt Financing - instruments under development:

FP7 Risk Sharing Finance Facility (“SFF-RTD”)

as applicable to the development of H2&FC Technologies

- Joint EU Commission / EIB initiative to leverage EIB lending to R&D and industrial innovation projects and infrastructures
- Projects have to pass an eligibility check based on the following criteria
 - ✓ FP7 approval (funded or unfunded)
 - ✓ Non-FP7 projects
 - ✓ Trans-national projects
 - ✓ Contribution to European Research Agenda
- Risk profiles and procedures similar to EIB’s existing SFF

Financing Sub-Group - Conduit Ventures Limited

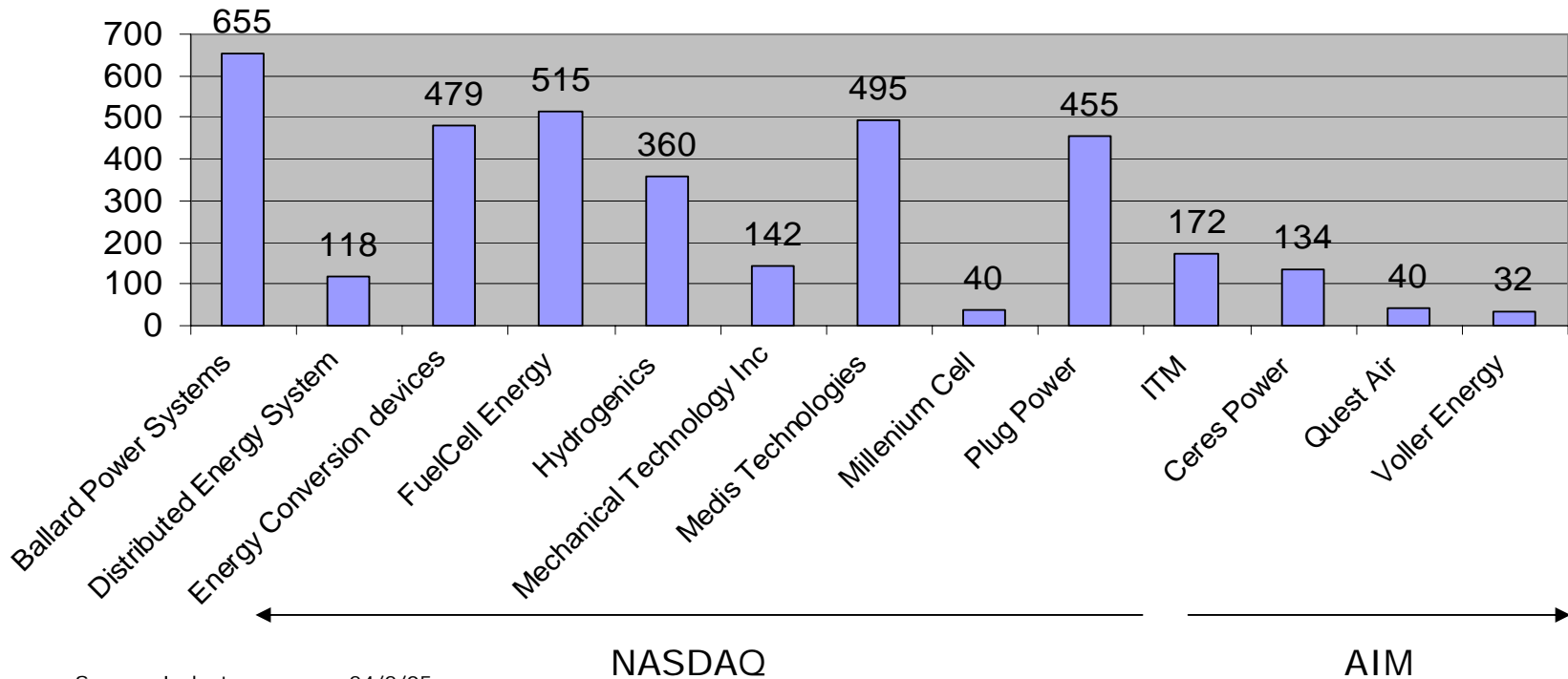
Late-stage and IPO Issues



The EU vs. the US: UK AIM and NASDAQ

AIM for Fuel Cell companies – small though encouraging steps since Nov 2004!

Market Cap (million USD)



Source: Industry sources, 24/2/05



- It is easier for technology companies to go IPO in the US than in the EU due to deep capital foundation with high level of acceptance
- AIM listing is becoming attractive for fuel cell and other new energy companies while NASDAQ appears to be stagnant after Nov 2004
- The appetite for energy technology in the EU is currently stronger than in the US. Therefore, AIM listing is increasing. Conduit view is that this is likely to spread into other EU financial markets
- As noted earlier, government should support commercialisation and deployment through policies such as tax incentive schemes, grants etc

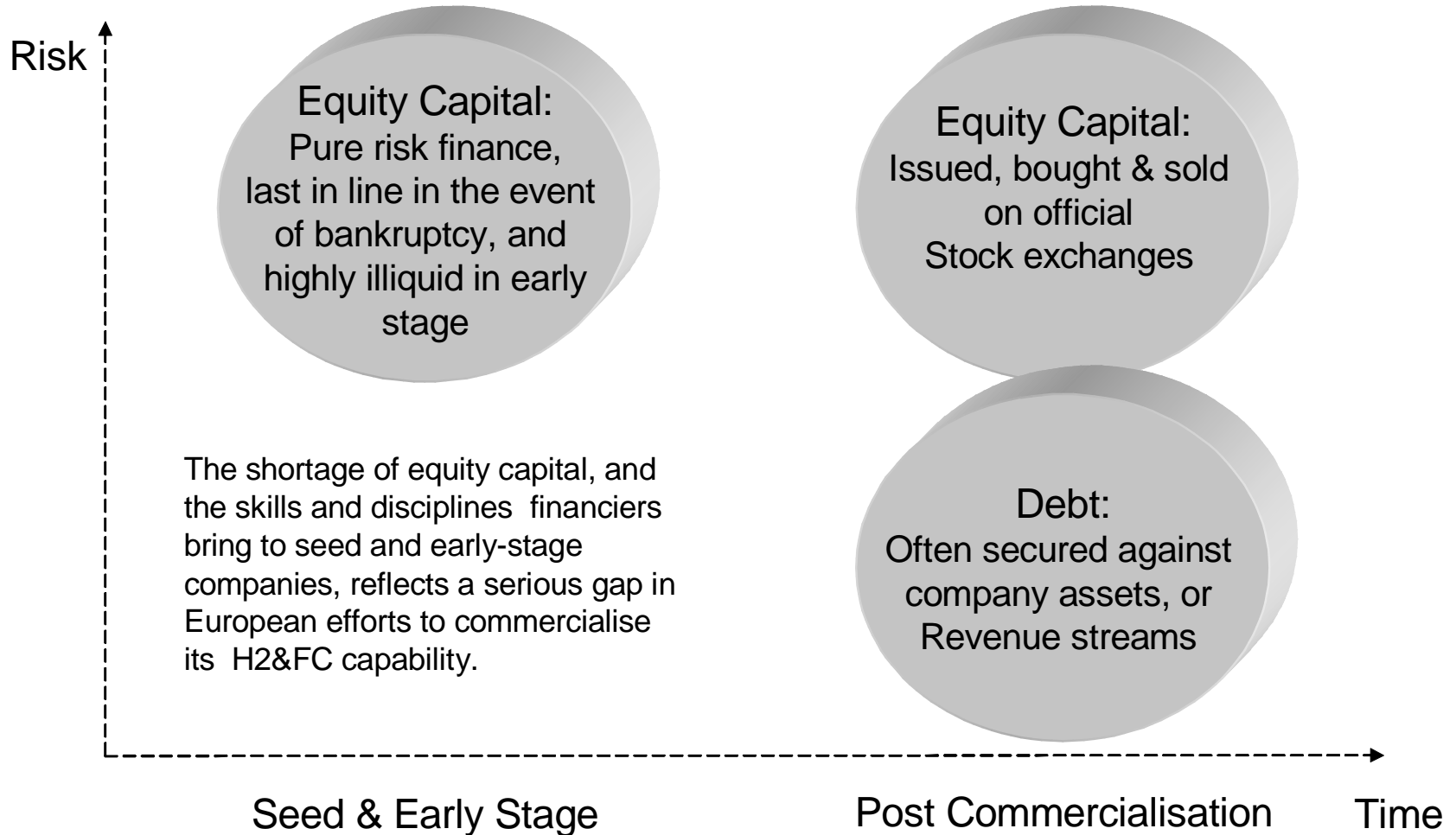


Europe's seed & early stage entities require capital

- Relative to the US financial market, Europe financial markets consistently fail to nurture seed & early stage companies
- CTV work indicates that Europe is awash with potential H2&FC companies
- These entities cannot take advantage of many of the R&D grants and capital allowances
 - ✓ Because they do not have the capital to match the funding
 - ✓ And they do not have the human resources to make the application in the first place
- As noted earlier, given this “market failure” European policy-makers will need to apply existing financing instruments more assertively, and devise new ones if the EU is to benefit from its independent H2&FC developers

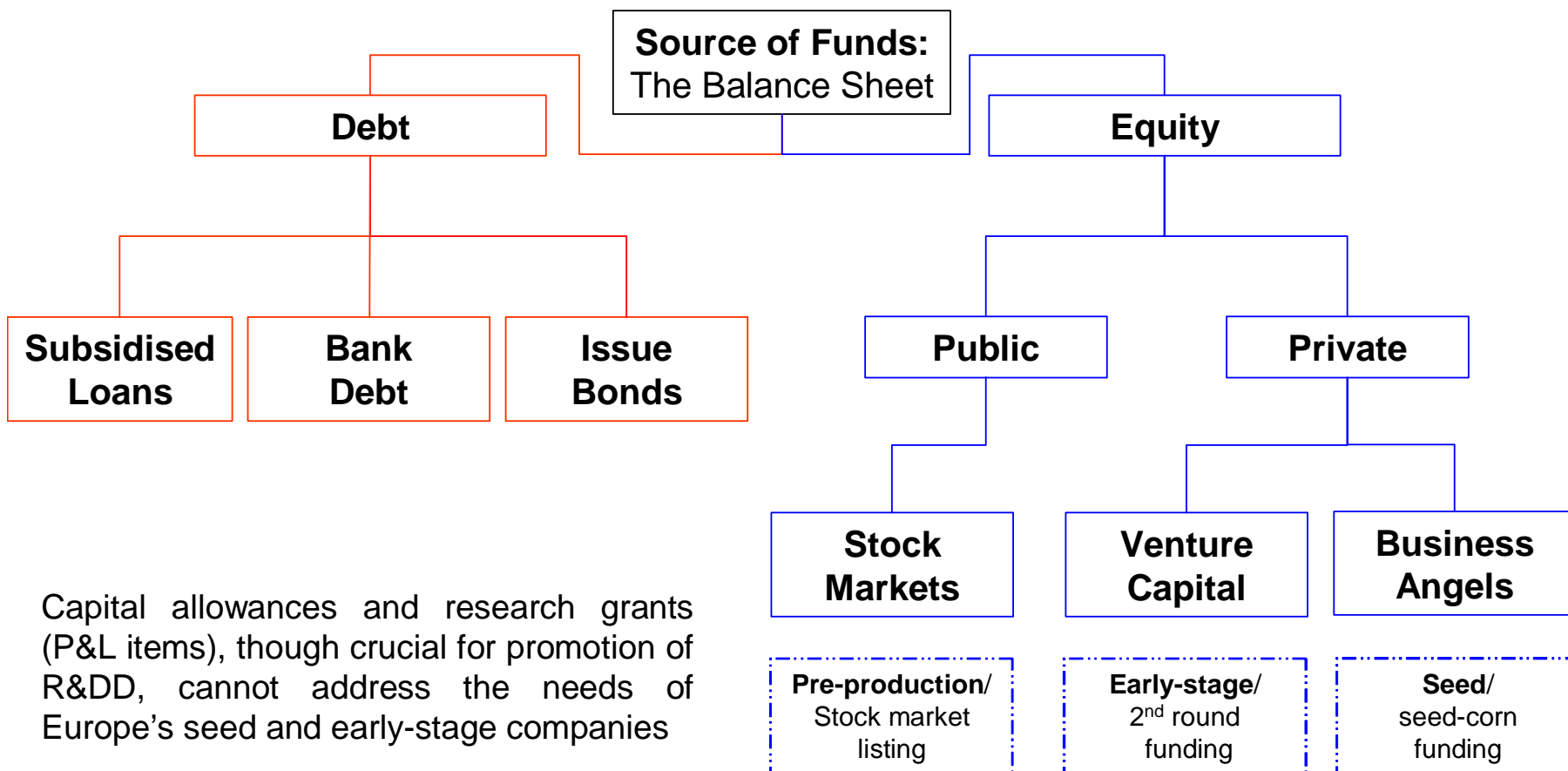
Financing Sub-Group - Core Technologies Ventures

Access to Capital: Debt and Equity



Financing Sub-Group - Core Technologies Ventures

Access to Capital: The Balance Sheet



Capital allowances and research grants (P&L items), though crucial for promotion of R&DD, cannot address the needs of Europe's seed and early-stage companies



- The North American H2&FC industry benefits from the US market being a single source of funds with a single regulatory regime, a more mature venture capital industry and a generally greater tolerance to risk
- By contrast, EU H2&FC industry faces fragmented finance markets, relatively immature venture capital markets and risk averse investors, which combine to leave EU independent H2&FC developers significantly under-capitalised in terms of both equity finance & human capital
- The insufficient provision of equity capital could ultimately spell the migration of EU technology and human resources out of the EU
- However, Europe could build on its highly successful renewable energy policies, which have created the world largest wind industry, by extending its vision to EU H2&FC industry



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