



## **Financing Investments in Fuel Cells – Support from the EIB Group**

***Fuel Cells and Hydrogen Joint Undertaking – FCH JU***

***3rd Stakeholders General Assembly***

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## European Investment Bank - background



*The European Investment Bank is the European Union's long-term financing institution. The Bank acts as an autonomous body set up to finance capital investments furthering European integration by promoting EU policies.*

- ❖ EIB was created by the Treaty of Rome in 1958
- ❖ EIB is a **not-for-profit, policy driven** institution
- ❖ EIB is 100% owned by the 27 EU member states
- ❖ EIB has subscribed capital of EUR 232.4 bn as of 2009
- ❖ EIB is AAA/Aaa rated by rating agencies
- ❖ EIB funds itself on the capital markets: EUR 79.4 bn in 2009
- ❖ EIB signed loans amounting to EUR 79.1bn in 2009
- ❖ EIB is the largest multilateral financing institution





# European Investment Bank - objectives



## 1. Within the European Union

- ❏ Cohesion and convergence
- ❏ Small and medium-sized enterprises (SMEs)
- ❏ Environmental sustainability
- ❏ Knowledge Economy
- ❏ Trans-European Networks (TENs)
- ❏ Sustainable, competitive and secure energy

## 2. Outside of the European Union

- ❏ Private sector development
- ❏ Infrastructure development
- ❏ Security of energy supply
- ❏ Environmental sustainability
- ❏ Support for EU presence in Asia and Latin America via Foreign Direct Investment (FDI)

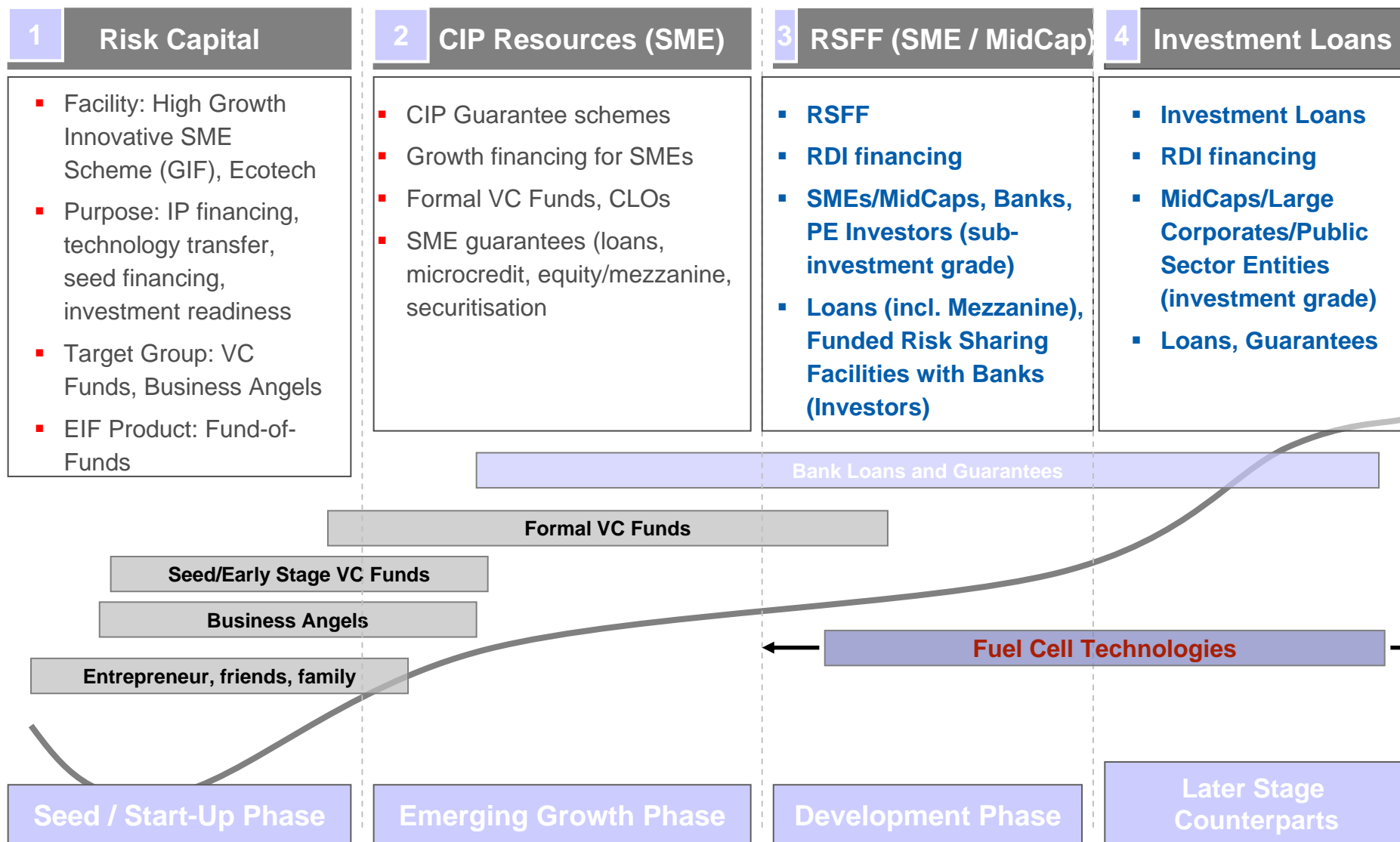
## 3. Under EU Mandates

- ❏ Pre-accession
- ❏ European Neighborhood
- ❏ Development





# EIB and EIF Financing Lifecycle Approach



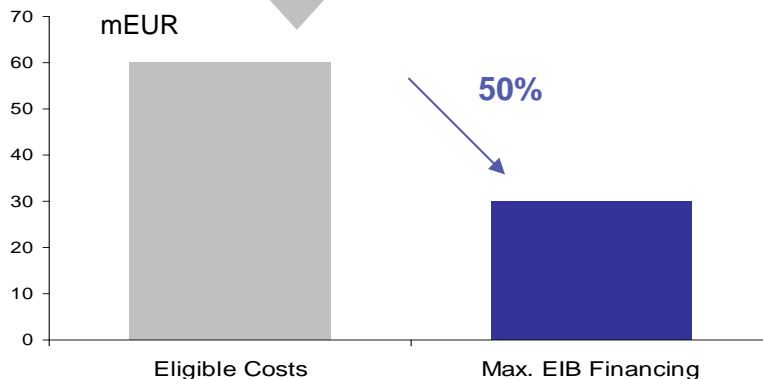


## Project Cost Definition for EIB financing



Time	ELIGIBLE COSTS		<ul style="list-style-type: none"><li>• R&amp;D project related CAPEX on tangible &amp; intangible assets</li><li>• Research staff costs</li><li>• Incremental working capital</li><li>• Related operating costs</li></ul>
	Year 1	€20m	
	Year 2	€10m	
	Year 3	€30m	
	Total	€60m	

**Eligible Costs**  
RDI Budget



### What can be financed ?

- › R&D programmes, typically over 3 to 4 years;
- › Prototypes & pilot plants;
- › Capital expenditure related to the first commercial launch.

### Eligible cost items

- › R&D opex, such as personnel costs, contract research, consumables;
- › R&D capex, such as facilities, equipment, acquisition of tangible & intangible assets, if a prerequisite;
- › Working capital.

**The size of the project defines the upper limit of the EIB financing (50% of total costs) !**



## EIB lending to investments in fuel cell technologies - track record



### ❖ What can be financed ?

- Components;
  - Systems;
  - Commercialisation;
  - Infrastructure.
- 
- R&D;
  - Prototypes & pilot projects;
  - Special equipment for first commercial production (e.g. dedicated machines, tooling);
  - Working capital.

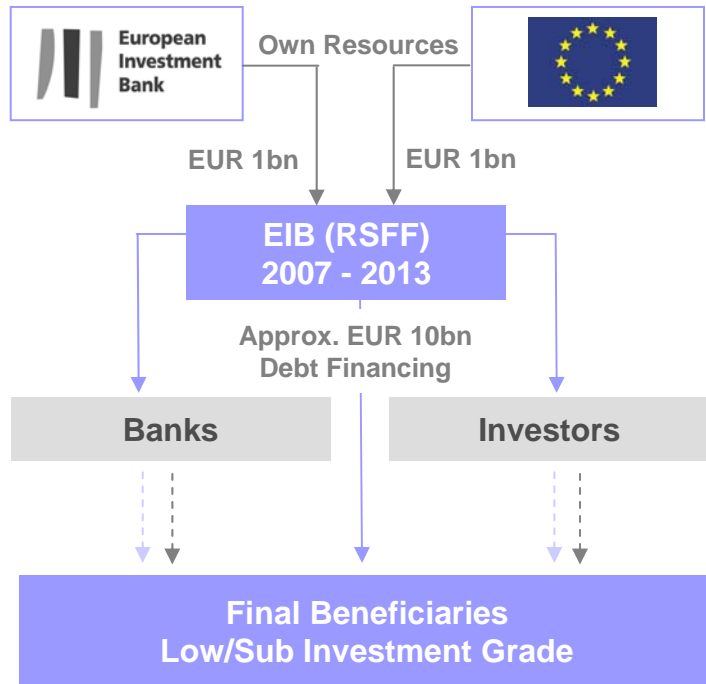
### ❖ Who can be financed (promoters/borrowers) ?

- Mid cap companies (chemicals, engineering, automotive suppliers);
- Large corporates (automotive, chemicals);
- Public sector/universities.

**Combination of financial & technical due diligence.**



## RSFF - A new Source of Risk Capital



- EIB RSFF funds complement other sources of debt capital available for low/sub investment grade RDI intensive corporates
- EIB RSFF funds are highly attractive for potential beneficiaries because of:
  1. Highly attractive terms & conditions (AAA rating and non-for-profit pricing)
  2. Long maturities of up to 10 years or more
  3. Direct EIB participation of up to EUR 300m per transaction (depending on rating)
  4. Strong technology/industry expertise
  5. EIB does not sell assets on the secondary market (buy and hold strategy)
  6. No cross selling (just long-term lender)
  7. Signalling Effect: EIB as a quality stamp
  8. Debt and Mezzanine Debt Product



- ❖ Battery-electric technologies – strong competitors
  - Competition from more mature automotive propulsion technologies: current focus on battery-electric automotive technology diverts attention from fuel cells;
  - Success of FCs (partly) dependent on battery-electric technologies;
  - Automotive: fuel cells will have to compete with at least two alternative technologies.
  
- ❖ Need to invest in separate hydrogen infrastructure - expensive
  - Production & distribution: use of existing infrastructure a « sine qua non » for a fast FC penetration;
  - Service/maintenance – leverage the first-mover experience of battery-electric technology.
  
- ❖ Delays in implementation
  - Economies of scale will determine crucial;
  - Automotive/transportation the only mass market.

**A ramp-up delay by a decade results in an estimated fall in returns of 50% to 75%\* !**

\*: mass commercialisation postponed from 2016 to 2026; cost of capital between 10% and 15% p.a.





- ❖ Technical investment risks – diversification & blending with more mature technologies
  - Bundling - ... the larger the portfolio, the better ...
  - Infrastructure investments carry high risks;
- ❖ Financial risk-sharing
  - Public support programmes;
  - Industrial partnerships along the value chain, involving large, medium and small players;
  - Involvement of users (e.g. bus operators);
  - PPPs.
- ❖ « Critical mass » & commercialisation
  - Bundled investments;
  - Years to market launch need to be reduced.

**Present risks of stand-alone FC technology investments are too high for simple debt financing !**



# THANK YOU !!

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