



Transport Pillar

Topics in the 2017 call

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- **Main focus**

- Continue support large demonstrations in various road transport applications with a focus on large fleets and new transport modes (urban garbage trucks).
- Complementary research activities in key technologies for the cost reduction of fuel cell vehicles

- **What is New**

- TRL 2 research on platinum group metals-free catalyst PEMFC
- New large demonstrations of MHV
- Validation of trucks for urban application
- Strengthening the European nature of the **FCH Technologies Supply Chain**

Topic	Type of Action	Ind. Budget M EUR
FCH-01-1-2017: Development of fuel cell system technologies for achieving competitive solutions for aeronautical applications	RIA	5
FCH-01-2-2017: Towards next generation of PEMFC: Non-PGM catalysts	RIA	2.75
FCH-01-3-2017: Improvement of compressed storage systems in the perspective of high volume automotive application	RIA	4
FCH-01-4-2017: Demonstration of FC material handling and industrial vehicles	IA	42.5
FCH-01-5-2017: Large scale demonstration in preparation for a wider roll-out of fuel cell bus fleets (FCB) including new cities – Phase two		
FCH-01-6-2017: Large scale demonstration of Hydrogen Refueling Stations and Fuel Cell Electric Vehicle (FCEV) road vehicles operated in fleet(s)		
FCH-01-7-2017: Validation of Fuel Cell Trucks for the Collect of Urban Wastes		

FCH-01-1-2017: Development of fuel cell system technologies for achieving competitive solutions for aeronautical applications.

 **Design, develop and test an autonomous electric power generation system for non-intrusive applications.**

- **At least 10 kW, pure hydrogen fuel cell with >100W/kg and <2000€/kW**
- **Demonstrate 4000h during the project**
- **At least one aircraft OEM or one Tier 1 aircraft industry OEM**

FCH-01-2-2017: Towards next generation of PEMFC: Non-PGM catalysts.

 **Develop and test at single cell scale Non-PGM catalysts on the cathode side.**

- **Membrane, bipolar plate or gas diffusion layer development is not within the scope**
- **A go-no go decision at mid-term is compulsory**

FCH-01-3-2017: Improvement of compressed storage systems in the perspective of high volume automotive application

 Develop new or optimized COPV to meet automotive application needs.

- Include at least one vessel supplier, one pressure component developer and an OEM
- KPIs to be met: 0.023kg/l, 5% gravimetric capacity and <500€/kg (@ 30,000 parts/year)
- The project should strengthen the European industry


FCH-01-4-2017: Demonstration of FC material handling and industrial vehicles.

 Deployment and evaluation of an European FC system in at least 400 MHV and industrial vehicles and the relevant infrastructure.

- There is a maximum funding per fuel cell based on the kW
- The European value change should be demonstrated by the consortium composition and the minimum commitment of end-users at the beginning of the project should be 200 vehicles
- Only one project will be funded with a maximum 7.5M€ FCH 2 JU contribution


FCH-01-5-2017: Large scale demonstration in preparation for a wider roll-out of fuel cell bus fleets (FCB) including new cities - Phase two.

 **Demonstrate 125 fuel cell buses mainly in large fleets reducing TCO showing the distinct operating advantages over battery electric buses.**

-  • **The FCB can be from 9 to 24 meter buses and up to 5 cities can demonstrate 5 FCB fleets**
- **At least 60% of the hydrogen must come from renewable energy**
- **Only one project will be funded with maximum 25 M€ FCH 2 JU contribution**
- **Secured co-funding and political support should be demonstrated**

FCH-01-6-2017: Large scale demonstration of Hydrogen Refuelling Stations and Fuel Cell Electric Vehicle (FCEV) road vehicles operated in fleet(s).

 **Deploy 180 FCEV in at least 3 fleets with minimum 60 vehicles per fleet to test a number of HRS in pre-commercial conditions.**

-  • **At least 80% of the vehicles should be part of fleets**
- **Minimum capacity of the HRS should be 200kgH₂/day refueling capacity**
- **Only one project will be funded with maximum 5 M€ FCH 2 JU contribution**

FCH-01-7-2017: Validation of Fuel Cell Trucks for the Collect of Urban Wastes.



Deploy and validate at least 10 fuel cell urban garbage trucks in at least 3 sites with minimum fleets of 2 vehicles per site.



- **FC trucks should derive from a hybrid or electric platform with the fuel cell providing at least 50% of the energy required in the daily operation**
- **Professional dissemination of information on the activities of the project to the broad public is seen as a key part of the demonstration project with regional authorities involvement in this aspect needed**
- **Only one project will be funded with maximum 5 M€ FCH 2 JU contribution**
- **Political support should be demonstrated and a comprehensive exploitation plan included**