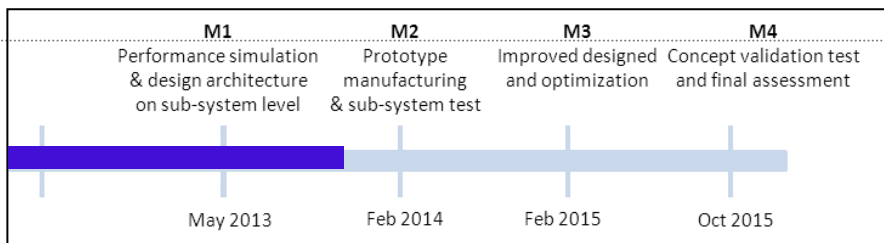


### Motivation and Objectives

Main objective for CORE is to demonstrate a substantial reduction of CO<sub>2</sub> emissions through improved powertrain efficiency with technologies having the potential to be implemented in production around 2020.

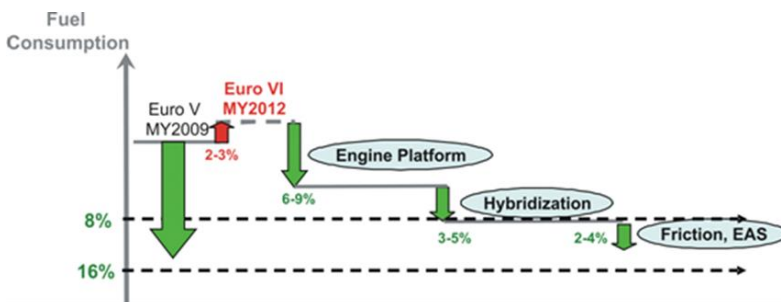
The target is 15% improved fuel efficiency compared to a EURO V engine and at the same time fulfilling EURO VI emission legislation. It is envisioned to achieve 6 to 9% in the sub-projects (see fig. below) with different engine, powertrain and fuel approaches. The hybridization of the powertrain will contribute with an estimated 3 to 5% fuel economy improvement dependent on the vehicle test cycle through usage of recuperation of deceleration events. Additional 2 to 4% of fuel economy improvement is attributed to optimized friction of the combustion engine and energy efficient exhaust gas aftertreatment systems and operation.

### Project Plan, Milestones and Deliverables



### Technical Approach & Expected results

Current status of achieved results shows a good potential towards the targets of improved fuel efficiency. Performed engine simulation and first engine tests in steady state operation indicate fuel improvements close to the target for the engine platform. Major contribution to obtain this improvement is derived from new matched high efficient turbosystem in combination with variable valves. For the aftertreatment system, low temperature performance of the SCR system has been improved by novel coating and, for the particulate filter, lower backpressure is obtained by new design. Nevertheless, challenging work remains in order to fully reach the targets in all steps, and to prove these figures in transient duty cycle operation on engine concept level.



### Organisational Information

Budget	17 M€	Funding	9 M€
Duration	48 months	Start	January 2012
DG / Unit	Research / H4 - SST	Contract n°	SCS1-GA-2012-284909
Coordinator	Johan Engström, Volvo	Contact	johan.je.engstrom@volvo.com
Main Partners:	16 partners among them Daimler, CRF, Volvo, Ricardo, IAV		
Website:	<a href="http://co2re.eu">http://co2re.eu</a>		