

Executive Summary

Catalyst ageing and performance analysis is a critical component of Aftertreatment systems development. Conventional industry methods are highly inefficient, environmentally insensitive and expensive. CATAGEN's unique technology and toolset delivers game changing improvement across all three areas.

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Challenge

Manufacturers are required to meet increasingly stringent levels of legislation with regard to aftertreatment performance for the full life of their vehicles. Performance emulation historically takes the form of a combustion process to deliver an accelerated ageing profile. Some of the challenges include:

Fossil Fuel

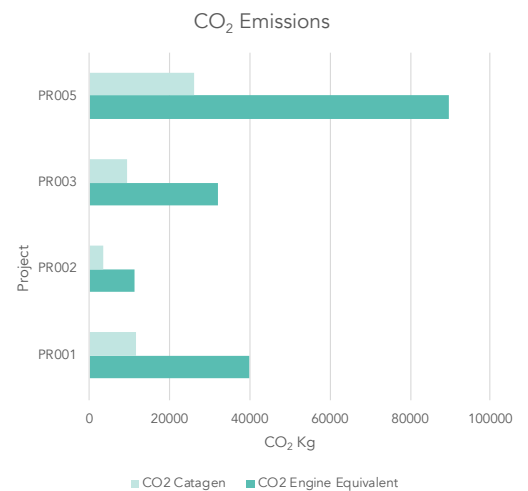
Large amounts of fossil fuel (thousands of litres) is used to age a single aftertreatment system. A costly, inefficient and material handling concern.

CO₂

The total CO₂ footprint when using fossil fuel and the combustion process is substantial. With increasing global focus on overall emissions this is and will continue to be a key driver for every company.

Energy Efficiency

Overall efficiency of the combustion process is relatively low. Multiple opportunities for energy loss exist resulting in escalating costs and timelines across the project.



Solution

Catagen's services utilise the OMEGA patented technology during the ageing and analysis to process to deliver step change gains in these key areas.

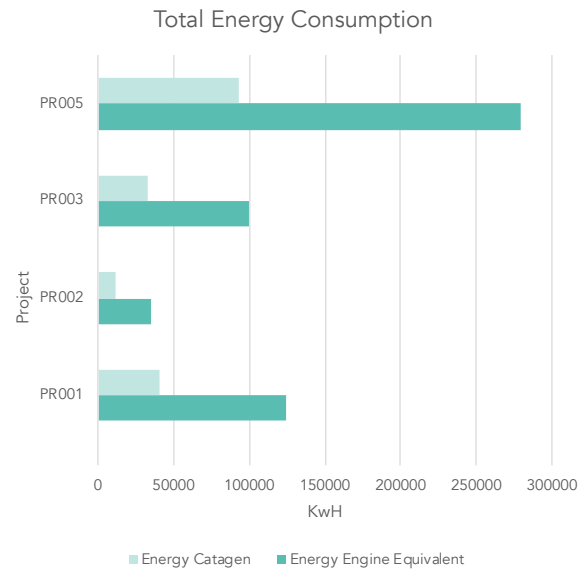
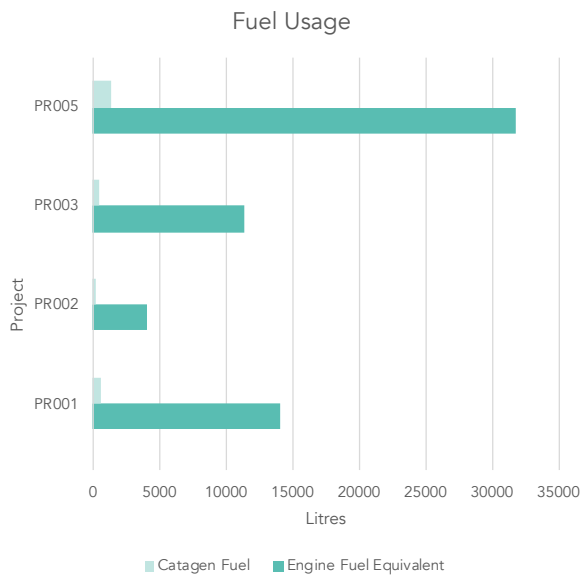
Recirculating Reactor

There are no engines (or burners) here. Catagen's patented recirculating reactor (the OMEGA) offers a fuel-efficient alternative to conventional methods. We don't use a combustion process. [Watch this short film to find out more](#)

Emissions Reduction

The fuel and energy efficient methodology means that overall net emissions can be dramatically reduced.

This is shown in the process diagram on the following page. As the CATAGEN Ageing Metric evaluation is embedded into the in-house OMEGA control software, the catalyst ageing experience is monitored on a second-by-second basis, allowing certainty to be placed on the extent of the catalyst ageing.



Results

Catagen has consistently delivered projects to customers that have demonstrated significant reduction in fuel usage, delivering up to a 98% improvement on CO₂ emissions footprint with over 70% less energy used overall. Fuel and energy efficiencies also deliver a significant difference to the bottom line of project costs.

Why Catagen?

98%
CO₂ emissions saving
Energy efficient and renewable energy source

Sub **2%**
Test to test variability
Industry leading levels of reproducibility

Up to **40%**
Cost savings
Energy efficiency (fuel) and right first time

4-6 Weeks
Planned availability
Time saving vs internal solution. Start within 4 wks of PO + test within 6 wks.

CATAGEN is certified by VCA and Applus IDIADA

