



# **THE FUTURE OF FUEL - HAS DIESEL HAD ITS DAYS?**

**Report by:**

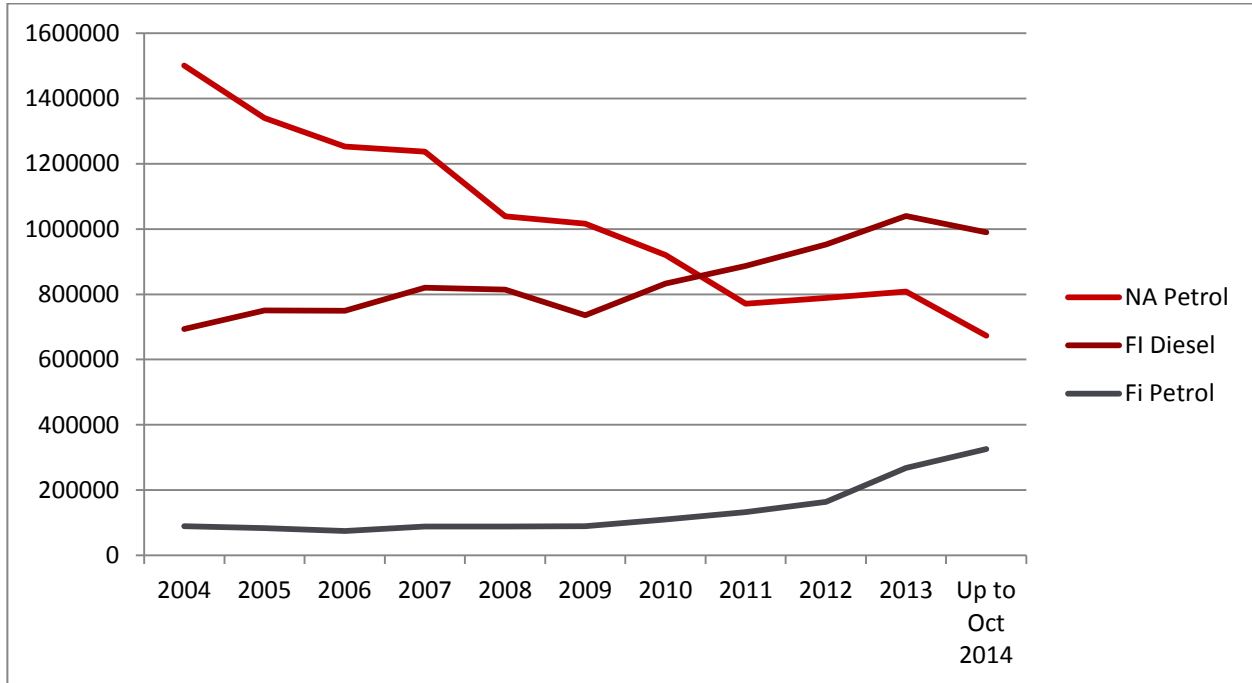
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OUR KNOWLEDGE IS YOUR **POWER**

# REPORTING & ANALYSIS

GB Regs over 10 years split by fuel type and compressor



## Key Points

- Petrol Turbo engines are more efficient
  - Higher KW & Low Co2
- Petrol Turbo cost less
  - For the average UK Motorist
- Development is currently in Petrol Turbo
  - Petrol Turbo is overtaking Non-Turbo

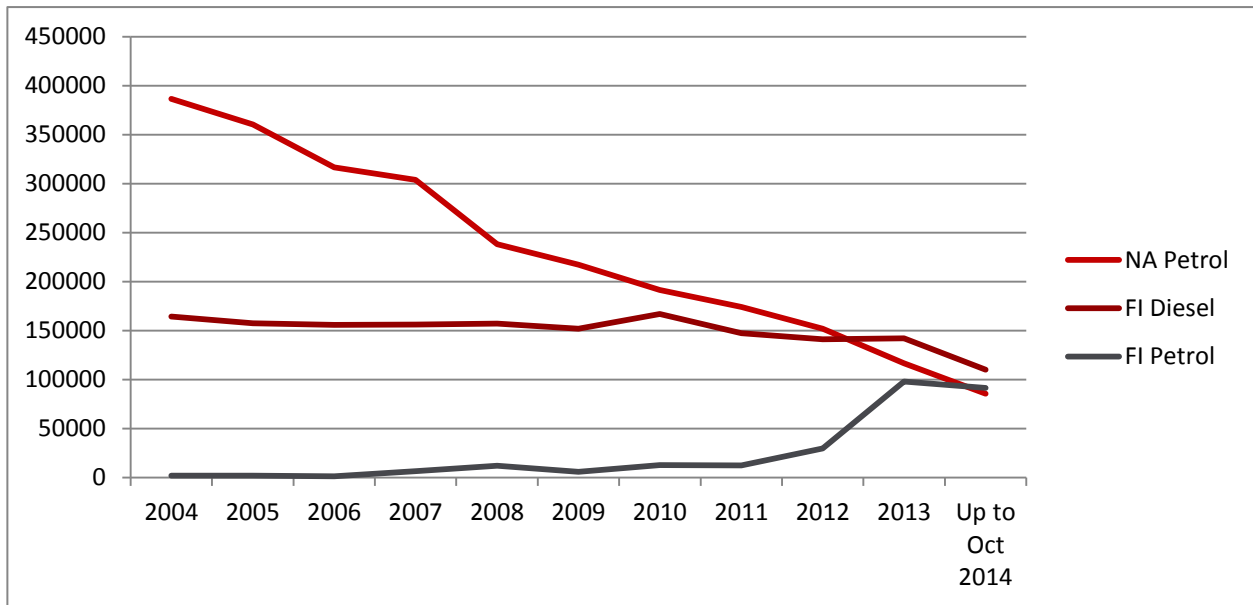
## Introduction

As we come out of the recession there has been a marked increase in the availability and sales of smaller petrol turbo vehicles. We believe this is because of a change in public (and government backed) opinion on perceived running costs, drivability and impact on the environment.

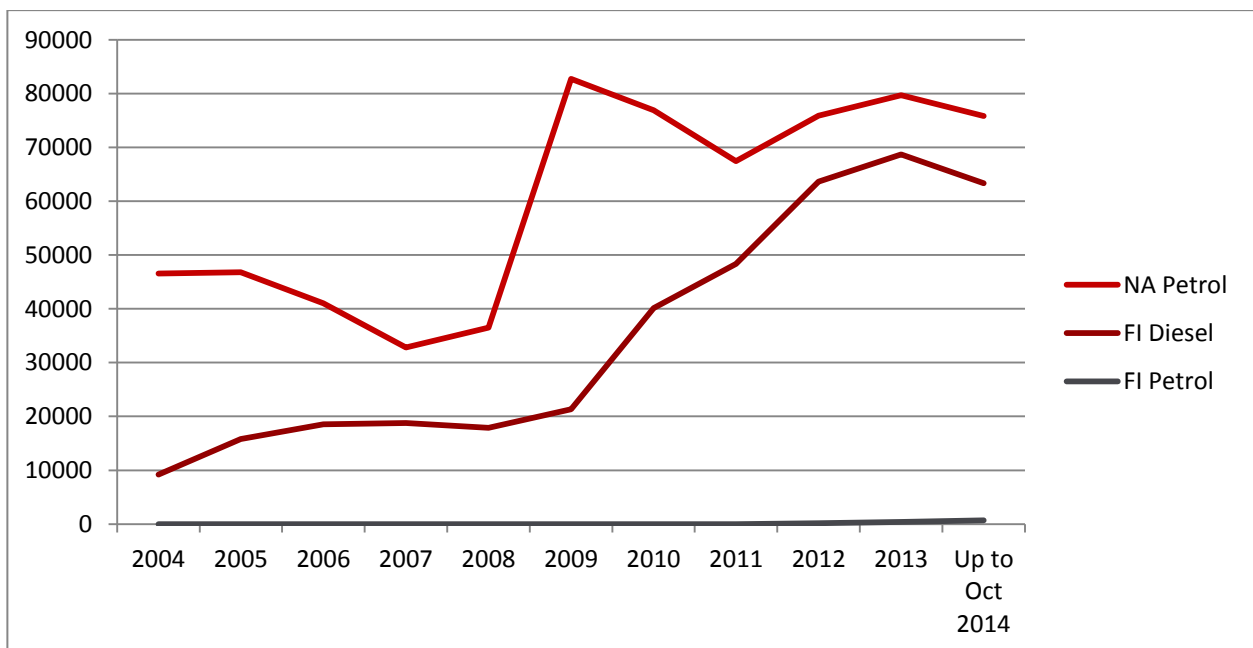
Using GB Car Registrations as a reference we will look at examples of 'typical' (under 2.5 litre) engines available to compare the raw data.

### Over the last few years sales are changing in favour of Petrol Turbo (FI)

#### Typical mid-market manufacturer volumes



#### Typical budget manufacturer volumes



- Ten years ago Petrol Non-Turbo (NA) was the leading choice in the market.
- Diesel Turbo continued to see a rise in popularity, replacing sales of Diesel Non-Turbo which was being completely phased out of the market, and converting some Petrol Non-Turbo sales.
- As we can see in graph 2, typical mid-market manufacturers reflect the overall market trend whereas graph 3 shows budget manufacturers have extremely low sales of Petrol Turbo only seeing a small rise from 2013.

**For the average UK motorist over the course of 2 years, the Petrol Turbo will cost less money**

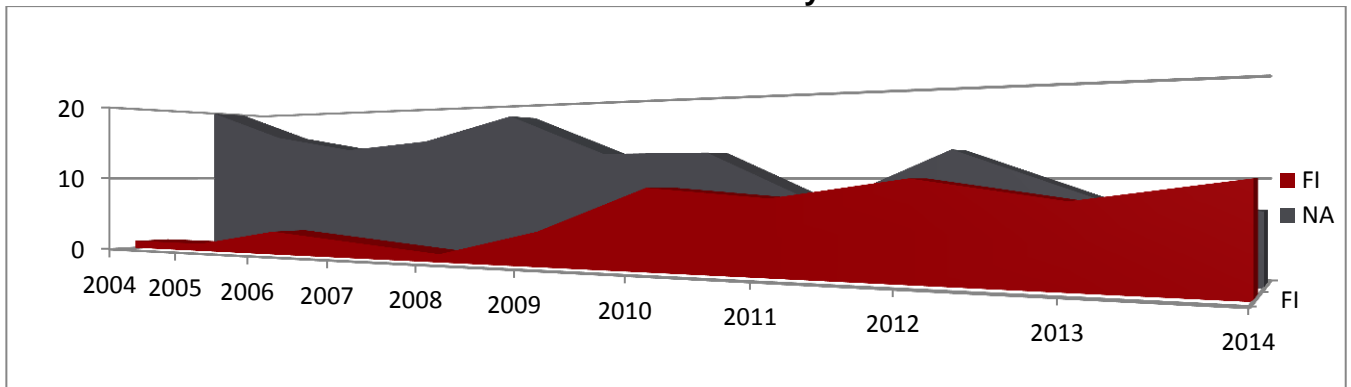
### Typical Small Diesel Turbo v Small Petrol Turbo

| Ford Fiesta Titanium X 3dr Hatchback (Nov '14) |               |                       | Ford Fiesta Zetec S 3dr Hatchback (Nov '14) |               |                       |
|--|---------------|-----------------------|---|---------------|-----------------------|
|  | 1.6 TDCI 95PS | 1.0 Ecoboost S/S100PS |   | 1.6 TDCI 95PS | 1.0 Ecoboost S/S125PS |
| List Price                                     | £17,065.00    | £16,665.00            | List Price                                  | £15,915.00    | £15,415.00            |
| Annual RFL                                     | £0.00         | £0.00                 | Annual RFL                                  | £0.00         | £0.00                 |
| Co2 g/km                                       | 95            | 99                    | Co2 g/km                                    | 95            | 99                    |
| l/100km Urban                                  | 4.4           | 5.3                   | l/100km Urban                               | 4.4           | 5.3                   |
| l/100km extra-urban                            | 3.2           | 3.7                   | l/100km extra-urban                         | 3.2           | 3.7                   |
| l/100km combined                               | 3.6           | 4.3                   | l/100km combined                            | 3.6           | 4.3                   |
| 0-100km  | 11.7          | 11.2                  | 0-100km                                     | 11.7          | 9.4                   |
| KW   | 70            | 74                    | KW  | 70            | 92                    |
| 12714 avg KM, L per year                       | 457.704       | 546.702               | 12714 avg KM, L per year                    | 457.704       | 546.702               |
| Cost per Litre (p)                             | 127.40        | 122.82                | Cost per Litre (p)                          | 122.82        | 127.40                |
| Total cost of Fuel                             | £583.11       | £671.46               | Total cost of Fuel                          | £562.15       | £696.50               |
| 2 years Fuel                                   | £1,166.23     | £1,342.92             | 2 years Fuel                                | £1,124.30     | £1,393.00             |
| Plus Cost                                      | £18,231.23    | £18,007.92            | Plus Cost                                   | £17,039.30    | £16,808.00            |

- Diesel has 4% less Co2
- Petrol is around £4-500 less to purchase
- Diesel is 0.7 l/100km more fuel efficient
- Petrol produces around 32% more power & acceleration is improved dramatically
- Diesel requires a DPF to reduce emissions

## Availability of Petrol Turbo is rising, Non-Turbo is declining

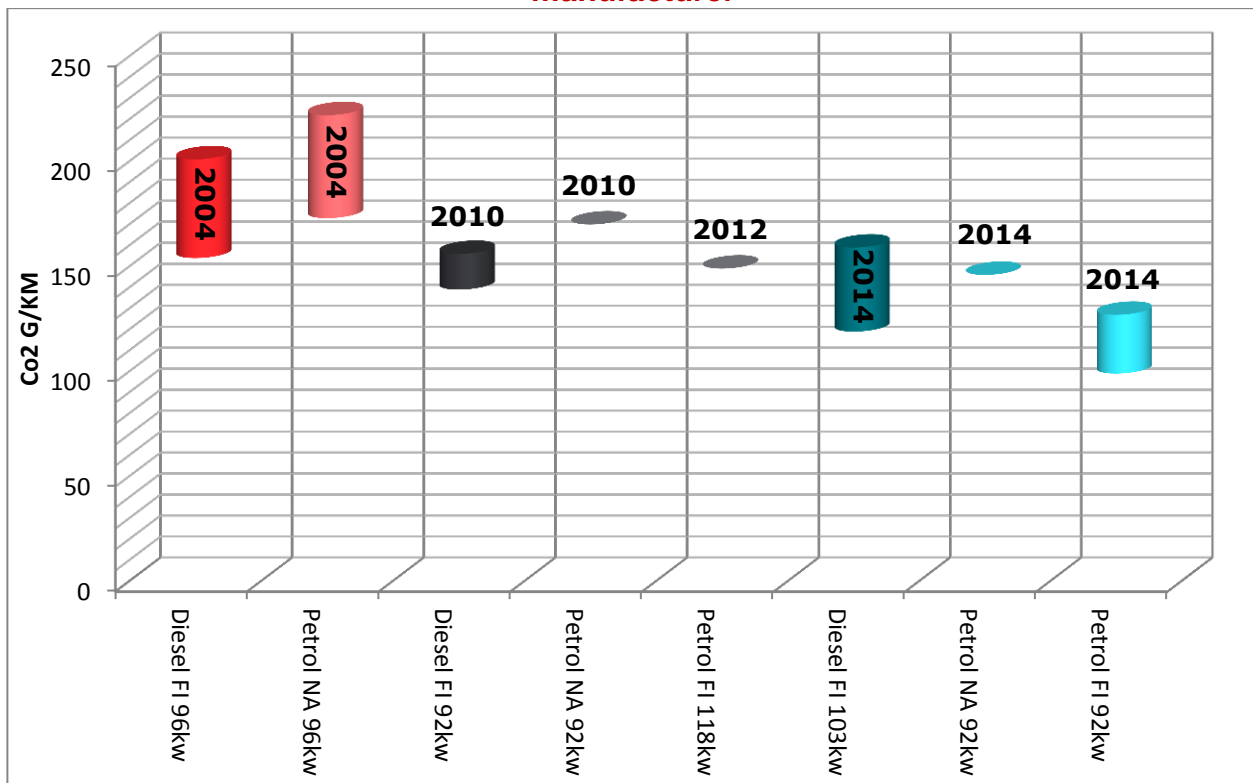
Number of small (< 2.5) Petrol Engine variations available for a typical mid-market manufacturer over 10 years



- 2012 sees an abnormal spike in NA sales due to the introduction of the B-Max

## All engines are becoming more efficient – Petrol Turbo is the most efficient per KW

Evolution of Diesel and Petrol emission ranges through the years for mid-market manufacturer



- In 2004 Diesel Turbo is more efficient than Petrol Non-Turbo with the same power output. Petrol Turbo had no mainstream market presence.
- By 2010 Diesel is still improving in efficiency and by 2012 we can see the emergence of Petrol Turbo, delivering 22% more power with comparable maximum emissions to Diesel (and already lower than Petrol Non-Turbo).
- In 2014 we can see that it is impossible to get a direct kw comparison, but Petrol Turbo offers 90% of the power and comparable if not lower emissions

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## Analysis & Conclusion

As we have seen over the past 10 years development in Petrol-Turbo engines has been increasing in both versions available and efficiency of technology. This has meant that by today's standards a Turbo Diesel offers no tax benefit over a small petrol turbo and the initial purchase cost and ongoing fuel costs outweighs any savings made by a slight increase in fuel efficiency.

Government opinion on emissions sets the taxation points on vehicles and is a strong driver in public opinion, and through taxation the largest driver in business and fleet purchasing. In recent years the government has heavily incentivised and driven low Co2 targets, driving development in Diesel Turbo engines.

However, there has been a shift in environmental opinion recently, and an acknowledgement that the particulates produced by a diesel engine may be just as damaging as Co2 – this is seen by the fact diesel emissions have recently been classified as carcinogenic and all modern diesels must be fitted with a Diesel Particulate Filter to meet 'Euro' standards (Petrol produces 0 Particulates). These filters are dependent on long journeys to reach optimum operating temperature and reduce particulates, something which the average motorists fail to achieve – and they are then forced onto long journey's to 'recharge' the DPF. This may mean that we see tax based on not just Co2 but other emissions such as Particulates – something already proposed in Central London in the next 5 years.

All of the above, combined with the power advantages offered by Petrol-Turbo show that these are the right choice for the average UK motorist, offering cheaper motoring & a more pleasurable drive.

**If the trends continue as shown, diesel has had its day.**



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