TDI: U.S. Market Success

March 2015
Our corporate objective is to drive toward a CO2 neutral/sustainable mobility

Volkswagen powertrain strategy

CO2-neutral fuels (liquid, gaseous)

CO2-neutral Electricity

Conventional Electricity

Fossil Fuels

CO2-Neutral and Sustainable Mobility

Fuel Cell

Battery Electric

Plug-In Hybrid

Hybrid

Combustion Engine

March 2015

VWoA- Product Strategy
VW is a leader in clean diesel technology
TDI – Turbocharged Direct Injection Diesel

<table>
<thead>
<tr>
<th>Year</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>2009</td>
<td>Market introduction of our 50 state compliant clean diesel engine</td>
</tr>
<tr>
<td>2010</td>
<td>SCR technology, balancing shafts, improved turbo</td>
</tr>
<tr>
<td>2011</td>
<td>Low pressure EGR, VVT, more powerful, greater fuel efficient, 40% low emissions</td>
</tr>
</tbody>
</table>

March 2015 VWoA- Product Strategy
Diesel is an important differentiator for the VW Group

TDI – Turbocharged Direct Injection Diesel

VW Group US Diesel market share PC ~ 70%

Strong growth since introduction

VW Group Clean Diesel Sales Volume

Source for competitor sales: Polk
# VW Diesel Product Offerings

TDI – Turbocharged Direct Injection Diesel

<table>
<thead>
<tr>
<th></th>
<th>Golf TDI</th>
<th>Jetta TDI</th>
<th>Sportwagen TDI</th>
<th>Passat TDI</th>
<th>Beetle TDI</th>
<th>Beetle Cabrio TDI</th>
<th>Touareg TDI</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Range:</strong></td>
<td>594</td>
<td>667</td>
<td>567</td>
<td>814</td>
<td>594</td>
<td>594</td>
<td>766</td>
</tr>
<tr>
<td><strong>MPG Hwy:</strong></td>
<td>45</td>
<td>46</td>
<td>45</td>
<td>44</td>
<td>41</td>
<td>41</td>
<td>29</td>
</tr>
<tr>
<td><strong>Horsepower:</strong></td>
<td>150</td>
<td>150</td>
<td>150</td>
<td>150</td>
<td>150</td>
<td>150</td>
<td>225</td>
</tr>
<tr>
<td><strong>Torque:</strong></td>
<td>236</td>
<td>236</td>
<td>236</td>
<td>236</td>
<td>236</td>
<td>236</td>
<td>406</td>
</tr>
</tbody>
</table>

March 2015

VWoA- Product Strategy
The TDI Advantage
TDI – Turbocharged Direct Injection Diesel

- Lower CO2 Emissions
  - CO2 g/mile
  - MY15 Passat Gasoline Manual: 237
  - MY15 Passat TDI Manual: 217
  - 9% reduction

- Higher Fuel Economy
  - Highway Fuel Economy (mpg)
  - MY15 Passat Gasoline Manual: 35
  - MY15 Passat TDI Manual: 44
  - 26% increase

- Better Drivability
  - Torque (lb-ft)
  - MY15 Passat Gasoline Manual: 184
  - MY15 Passat TDI Manual: 236
  - 28% increase
21% of Volkswagen sales are diesel
TDI – Turbocharged Direct Injection Diesel

TDI Installation Rates by Model

Source: CY2012 YTD sales data; Beetle and Beetle Convertible TDI sales March 2013
Consumer Reports testing shows real world MPG advantage for TDIs

TDI – Turbocharged Direct Injection Diesel

### MPG Difference between EPA test values and Consumer Reports real world test figures

<table>
<thead>
<tr>
<th>Make</th>
<th>2012 Passat TDI</th>
<th>Competitor F</th>
<th>Competitor M</th>
<th>Competitor A</th>
<th>Competitor O</th>
</tr>
</thead>
<tbody>
<tr>
<td>MPG (comb city/hwy) Difference</td>
<td>-3</td>
<td>-1</td>
<td>-2</td>
<td>-2</td>
<td>-2</td>
</tr>
</tbody>
</table>

Can you name a fun-to-drive sedan with a manual transmission that can transport five adults and their luggage comfortably while sipping fuel at the rate of 50 mpg?

The answer is the Volkswagen Passat TDI – a German antonym for "range anxiety."

- Michael Harley, AutoBlog

March 2015 VWoA- Product Strategy
Diesel owners achieve better fuel economy than window sticker

TDI – Turbocharged Direct Injection Diesel

Gasoline

Above line: Real world fuel economy better than EPA

Below line: Real world fuel economy worse than EPA

Hybrid

• Comparison between user reported fuel economy and EPA test figures
• TDI drivers report better fuel economy than EPA window sticker

Diesel

Majority of data points are above line

Source: Fueleconomy.gov

March 2015

VWoA- Product Strategy
VW’s limited production XL1 shows a glimpse of VWs future technology innovations
TDI – Turbocharged Direct Injection Diesel + PHEV

Zero emissions mode, 100% emotion, pure efficiency: electric mobility – XL1

- The most efficient car of the world: 261 miles per gallon
- Powertrain: 47-hp, two-cylinder 800cc TDI engine with a compact 27-hp electric motor sandwiched between it and a seven-speed DSG automated transmission
- With its plug-in hybrid powertrain, this two-seater can cover up to 31 miles in all-electric mode with zero local emissions
- Acceleration 60 miles per hour in 12.5 seconds
- Curb weight: 1,953 lbs.
• Improved fuel efficiency without sacrificing performance
• Lower CO2 emissions, supporting environment and GHG compliance
• Real-world fuel economy exceeds EPA figures