

Saab BioPower

Benefitting from GM's global expertise and using bioethanol to improve environmental impact and engine power.

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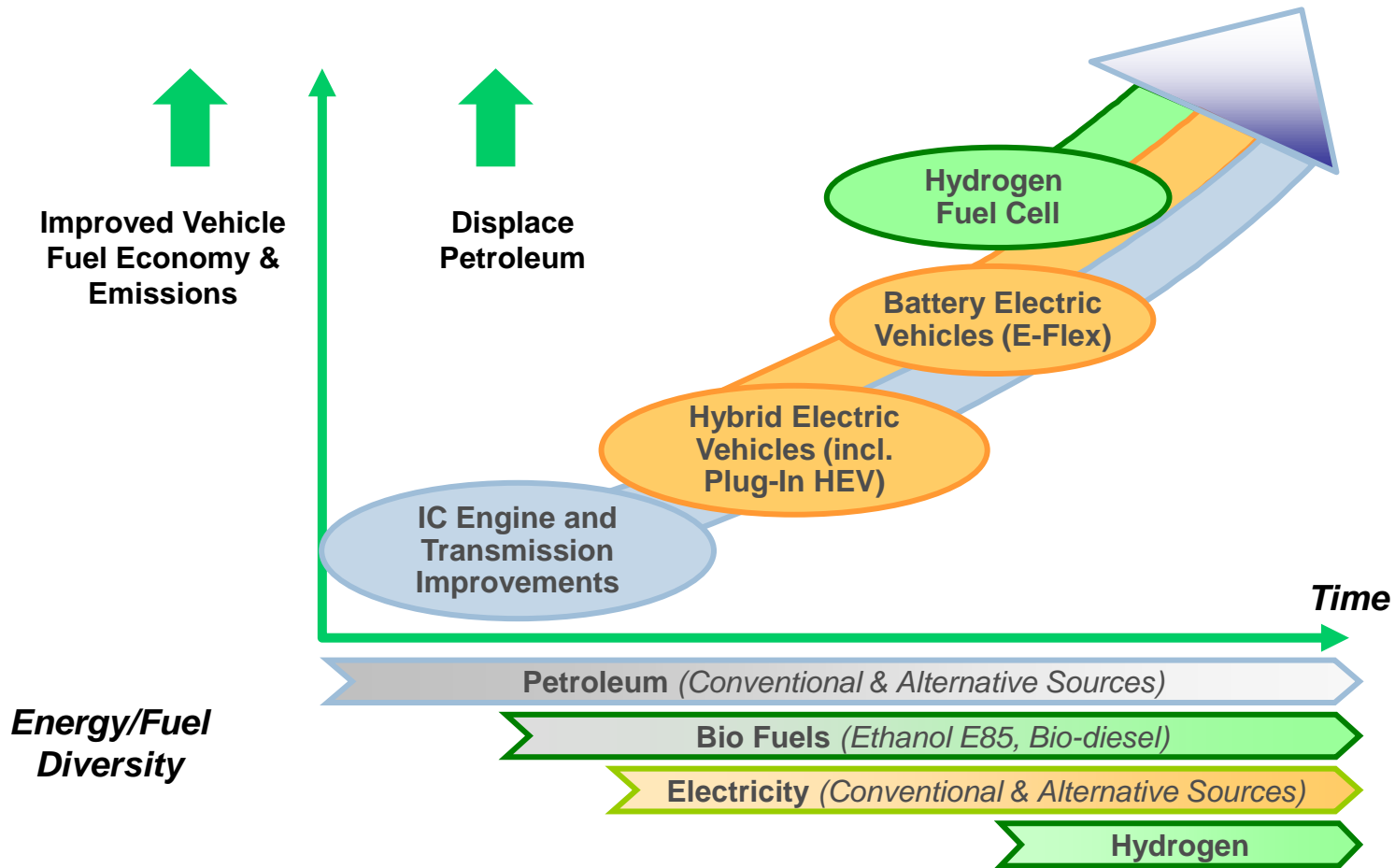


The need for a change in propulsion strategy is evident

- Size of future car park
- Increasing mobility of population
- Putting a strain on climate, health and oil supply



GM alternative propulsion strategy



Saab BioPower – drawing on experiences and expertise from both GM and Saab

- Benefitting from the long-term experience of E85 within GM
 - To date more than 2 million E85 cars sold by GM in the US
 - GM market leader in world's most-established bioethanol market of Brazil
- Saab has been experimenting with flexfuel cars since the early 1990'ies
 - Saab 9000 multi flexfuel car presented 1992 – market not ready at this point
- Saab Variable Compression Concept engine presented in 2000 – new knowledge about the steering algorithms in the engine management system
- Furthermore, Saab has added brand unique technology and tuning in order to create the perfect environmental car for our audience
 - Turbo technology
 - Trionic engine management system



Saab BioPower – the journey so far...

2004		2005		2006		2007
Jan-June	July-Dec	Jan-June	July-Dec	Jan-June	July-Dec	Jan-.June



- 2.0t World premiere Paris
- International PR events



- 2.0t SoS Sweden



- 2.0t roll-out Europe..



- Aero X – the eco-friendly sports car



- BioPower Hybrid - zero fossil CO2 emission



- 2.3t premiere London
- 2.3t SoS Sweden



- Cont'd BioPower roll out Europe



- 9-3 BioPower
- E100 concept



Saab BioPower – our current offers...



Saab 9-5 BioPower

- 2.0t 150 ⇨ 180hp
- 2.3t 175 ⇨ 210hp



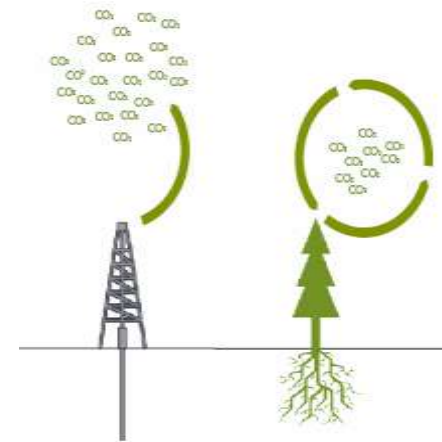
Saab 9-3 BioPower – SportWagon, Sport Saloon, Convertible

- 1.8t 150 ⇨ 175hp



Saab BioPower – why is Saab focussed on bioethanol?

- Ecological impact – recycling CO₂
- Bioethanol is available today – production is growing
- Simplicity for customer – liquid fuel, same tank, full flexibility and seamless transition
- Convenience and relatively low investments for distributors
- Using and adapting existing automotive technology
- Higher octane rating allows smaller engine to produce more power – downsizing
- Compatibility with other technologies



Saab BioPower – our experiences so far

- Environmental alternatives have to be:
 - Attractive – same level of safety, comfort, capability and performance
 - Convenient and simple to use
- Consumers are willing to make the "right choice" when provided the right tools
- All parts of the "bioethanol chain" has to pull in the same direction



- Change in consumer behaviour can be quick when all parts of the "chain" act together
 - Sweden – from 0-85% of Saab 9-5 sales in <12 months
 - Ireland – from 0-85% of Saab 9-5 sales in 5 months
- Bioethanol customers are pleased with their choice (research: Sweden)
 - 94% of customers would re-purchase and recommend to others





Infrastructure for E85 in Sweden

End of 2004	– 140 E85 Filling Stations
End of 2005	– 300 E85 Filling Stations
End of 2006	– 600 E85 Filling Stations
Today	– 700+ E85 Filling Stations
End of 2009	– 2300 E85 Filling Stations (estimated)

Approximately 50% of the network. (pushed by legislation)



Market situation environmental vehicles - Sweden

- Total of 36 617 cars, representing 13% market share
- Top 5 environmental cars in Sweden in 2006:

1.	Saab 9-5 BioPower	10.941 cars	30% segment share
2.	Ford Focus Flexifuel	7.239 cars	20% segment share
3.	Volvo S40/V50 Flexifuel	6.624 cars	18% segment share
4.	Volvo V70 Bi-fuel	2.234 cars	6% segment share
5.	Toyota Prius (Hybrid)	2,058 cars	5,5% segment share

SOURCE: BIL Sweden



Saab BioPower – the future

- Further roll out – geographically and within product range
- Engines optimised for bioethanol
- Downsizing of engines enabled by higher octane rate
- Great potential for E100
- Combination with Hybrid technology



Saab Aero X Concept

- 400 bhp, 2.8-litre V6 BioPower flex-fuel engine
- 100% bioethanol for zero fossil CO2 emissions
- 400 bhp maximum power at 5,000 rpm and 500 Nm torque between 2,000 and 5,000 rpm
- 0 to 62 mph acceleration in just 4.9 seconds and a 155 mph (limited) top speed
- Aero X showed that even an extreme sports car can be environmentally sound
- **Voted best concept car of Geneva 2006 show**



Saab BioPower Hybrid Concept

- 260 bhp Saab BioPower engine running on E100 fuel
- Increased performance with threefold torque boost from electric motors
- Fuel saving 'Zero Mode' for city driving on electric power only
- Energy saving features including regenerative braking
- Shows the future potential of bioethano in combination with other environmental technologies



Saab BioPower 100 Concept

- First production-based turbo engine optimised for pure bioethanol (E100)
- 2.0-litre turbo producing 300 hp with greatly reduced CO2 impact
- Scope for future 'rightsizing' with turbocharging to give 'large' engine power
- Shows that it is possible to create the technical solutions to drive on pure bioethanol



Welcome onboard!

