

Energy and Environment

Ethanol - the Road to Energy Diversity

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GM ENERGY STRATEGY

Displace **petroleum** through
energy **efficiency** and **diversity**



Approach – Fuel Efficiency and Energy Divers

are committed to making motoring more affordable and better for environment

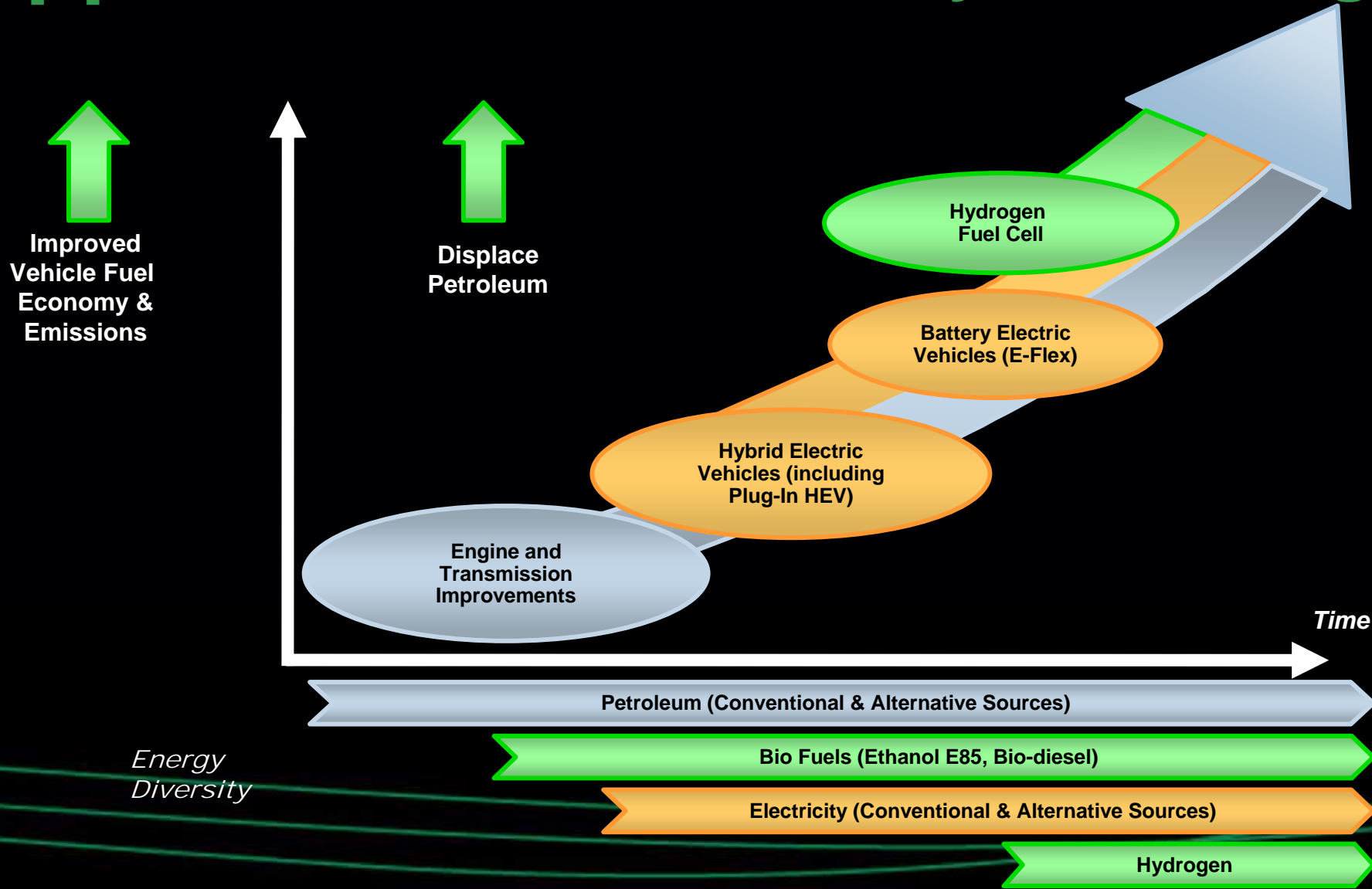
We must reduce our dependence on foreign oil

No silver bullet solution

The future will involve a range of alternative technologies



Approach – Fuel Efficiency and Energy Divers



el Efficiency

improve efficiency of the internal combustion engine



Energy Diversity

Develop alternative fuel technologies

LPG – Liquid Petroleum Gas

Diesel

E85 – Ethanol

CNG – Compressed Natural Gas



anol Potential

Clean-burning, renewable fuel

Minimal cost to modify the vehicle

Reduces green house gas CO₂ emissions

ould reduce petrol demand as much as 30% by 2030



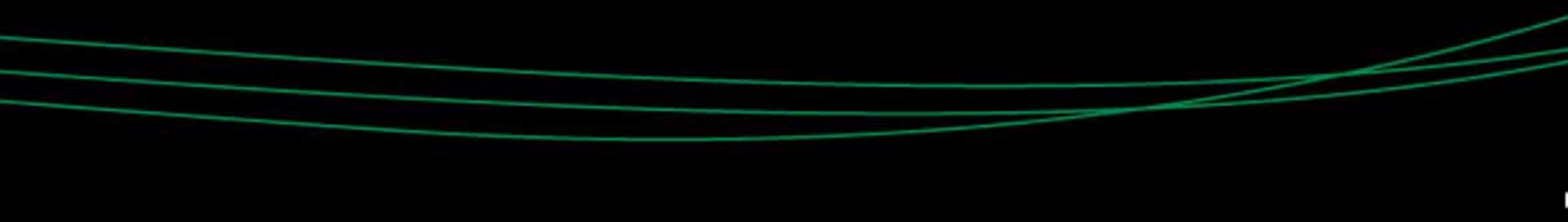
Policy & Education

Building the Foundations

Working to facilitate second generation ethanol plant in Victoria.

Working to facilitate E85 distribution network with local distributors.

Working with key stakeholders to raise awareness of the environmental



Energy Diversity – Electric Vehicles and Fuel Cells

Electric

Diverse energy pathways, low cost per kilometre

No tailpipe emissions

Up to 64km of emission free driving

Due in Australia in 2012

Hydrogen

Abundant and interchangeable with electricity

No tailpipe green house gas or noxious emissions



Strategy Enablers

Second carline, starting next year – the runway for future alternative fuel and hybrid technologies

Plant will be capable of introducing new technologies into our small car range

Presents us with great opportunity



Communication

What we are telling customers?

Better fuel efficiency today, next generation fuel advances tomorrow

Our approach is known as Holden EcoLine

Any car in our range that uses an alternative fuel or fuel-saving technology bears the EcoLine name

Our way of communicating a 'future friendly' approach to customers



Summary

No single solution

Cars must be flexible enough to accommodate different energy sources, budgets and driving conditions

Multipath approach

E85 is a vital part of Australia's transport energy future