



# Comparison between LNG and other energies for terminal tractor operation.

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# Terminal tractors and the Power Pack™ concept

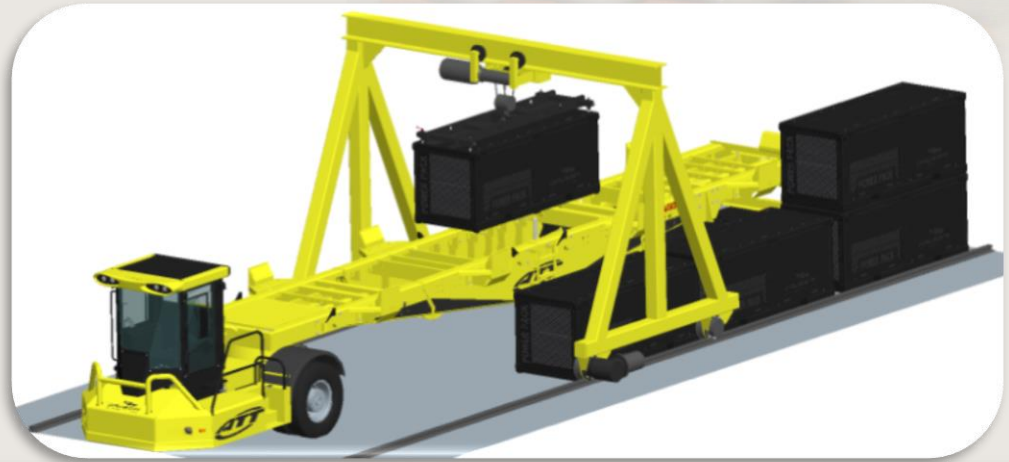


wikipedia.org



## Extended range of products:

- ▶ Manually driven vehicles
- ▶ Autonomous vehicles
- ▶ Diesel / Diesel-Electric
- ▶ Gas / Gas-Electric
- ▶ Full-Electric





# Which Power Pack™ should I use? (Which source of Energy?)



## Principal choices:

- ▶ Diesel
- ▶ LNG, CNG
- ▶ Electricity (grid/renewables)
- ▶ Hydrogen

## Decision criteria:

- ▶ Opex
- ▶ Capex
- ▶ Environmental criteria
- ▶ Available Infrastructure
- ▶ Maintenance
- ▶ Image
- ▶ ...



# Comparison – Hybrid & Full-Elec (Selection of choices)



	LNG-Elec	CNG-Elec	Diesel-Elec	Full-Elec	H <sub>2</sub>
Power Pack™ Cost (Capex)	☺	☺	☺☺	☺	–
Cost of Energy	☺	☺	–	☺	–
Efficiency	☺	☺	☺	☺☺	☺
CO2	☺	☺	–	☺☺	☺☺
Other atmosph. emissions	☺	☺	–	☺☺	☺☺
Noise	–	–	–	☺	☺
Charging time, refilling	☺	☺	☺	–	–
Maintenance	☺	☺	☺	☺	–
Autonomy	☺☺	☺	☺☺	–	☺

– = benchmark, ☺ = better, ☺☺ = best



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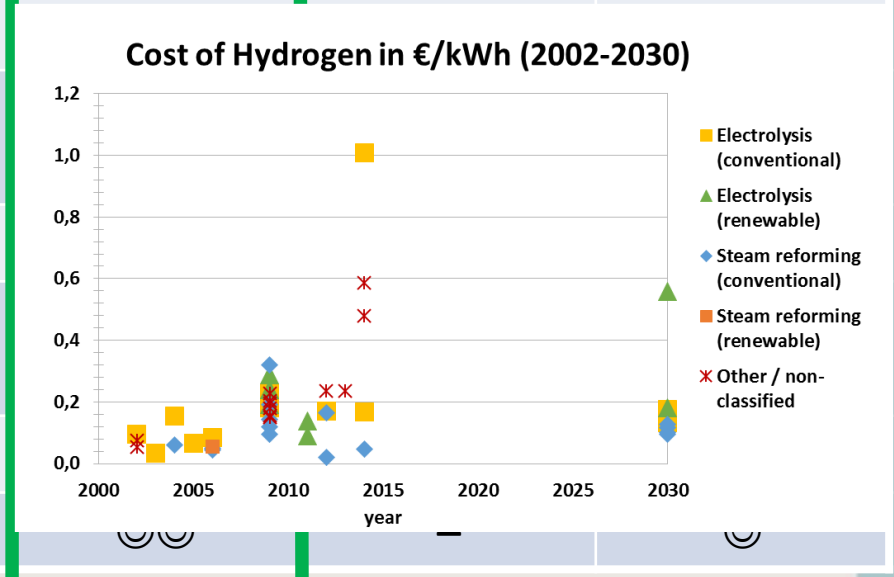
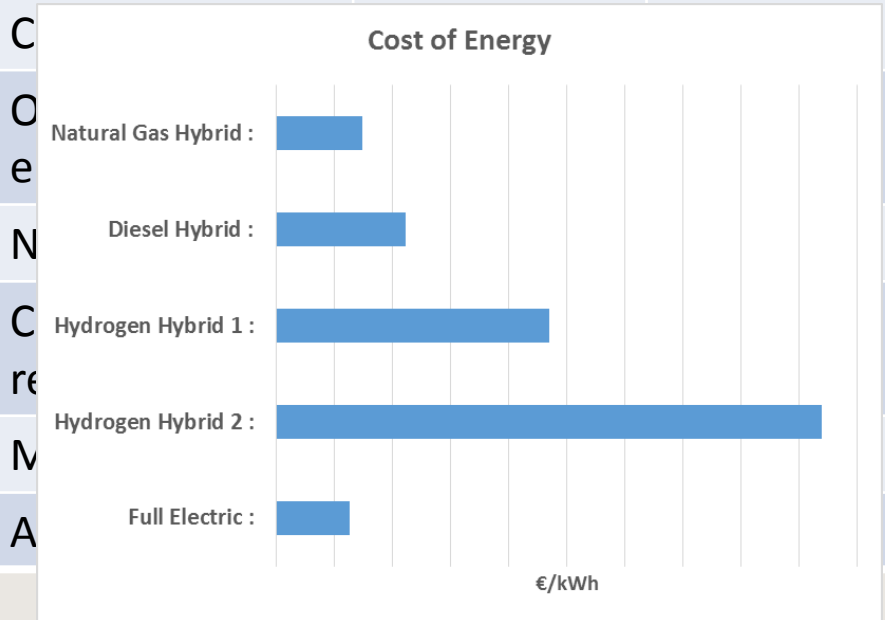
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Noise	–	–	–	☺	☺
Charging time, refilling	☺	☺	☺	–	–
Maintenance	☺	☺	☺	☺	–
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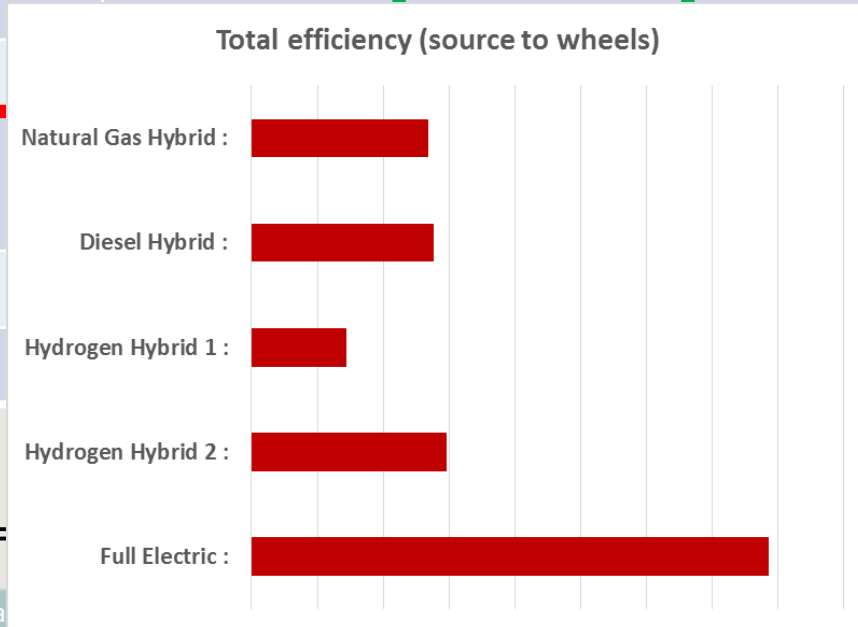
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- D **Choosing the type of energy resource for the vehicle is a complex task for the client**
  - We are there to assist
- D **LNG is an excellent alternative given that it combines a considerable number of positive aspects**
  - Financial
  - Environmental
  - Functional
- D **Keep in mind the challenges**
  - Investment – infrastructure
  - Standardisation
  - Safety

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The Power of your dreams...

Thank you for your attention!

