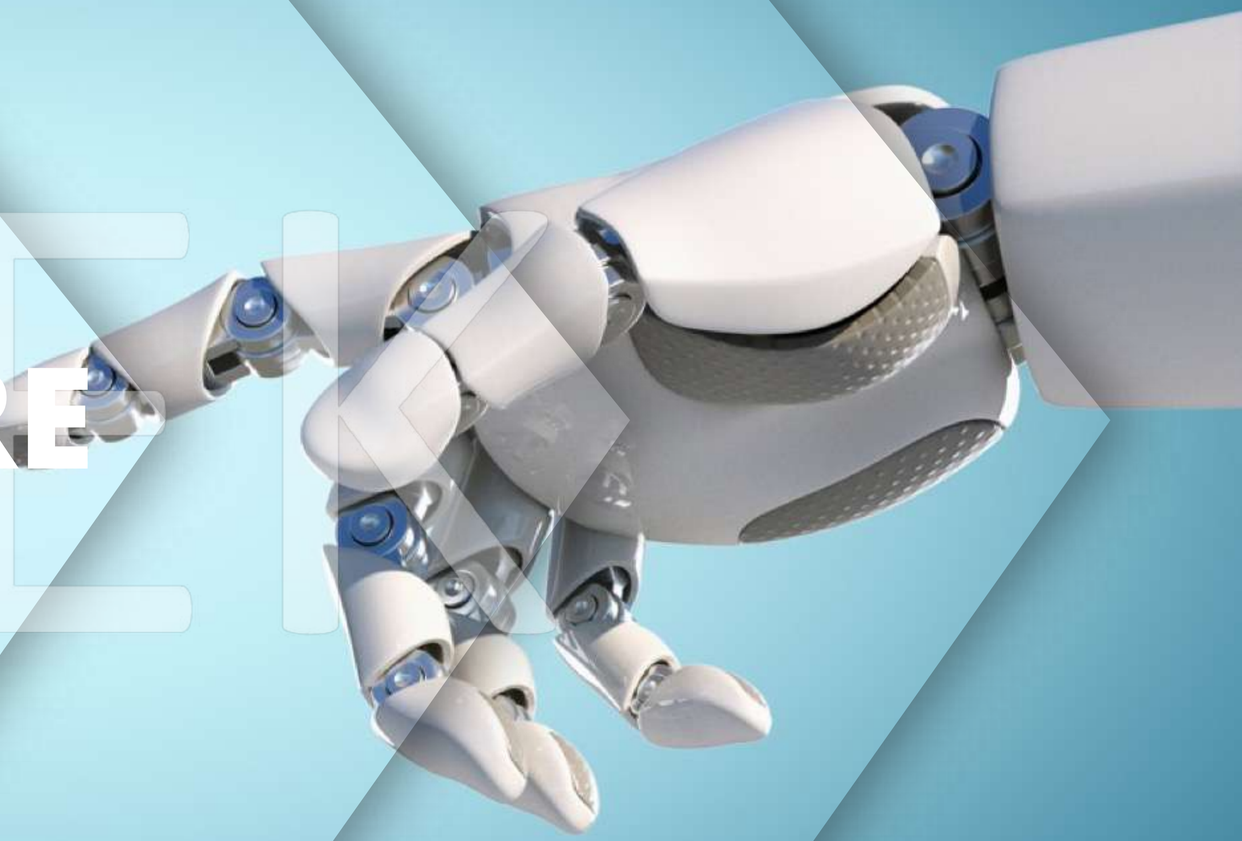
HydraGEN™

DRIVING CHANGE FOR

A GREENER FUTURE



H2Tek | AUTHORIZED DEALER OF dynaCERT

DynaCERT Overview

Reducing carbon emissions, improving diesel fuel economy

Validated > 3rd Party Testing Companies

Carbon Emission Reduction Tech

Reliable effective technology > pure hydrogen & oxygen

DynaCERT Inc., a publicly traded company

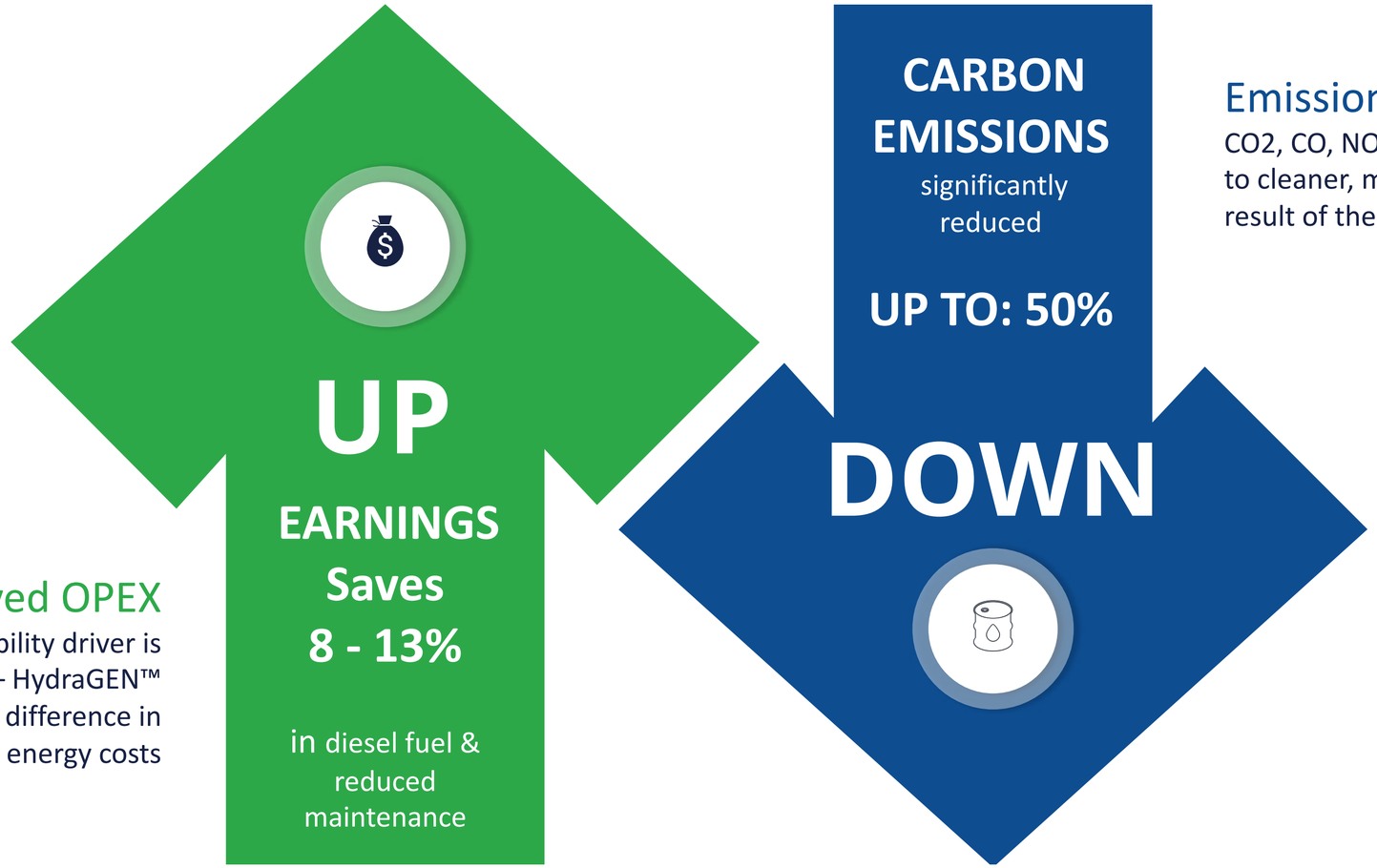
Reduce Carbon Emissions: Scope 1

Improve Fuel Economy

Mining Trials/Pilots

OPEX Savings, Emissions & Fuel Consumption Reduced

Our technology pays for itself – over and again



Improved OPEX

In mining, the key profitability driver is cost control and reduction – HydraGEN™ can make a significant difference in energy costs

Emissions Reduced

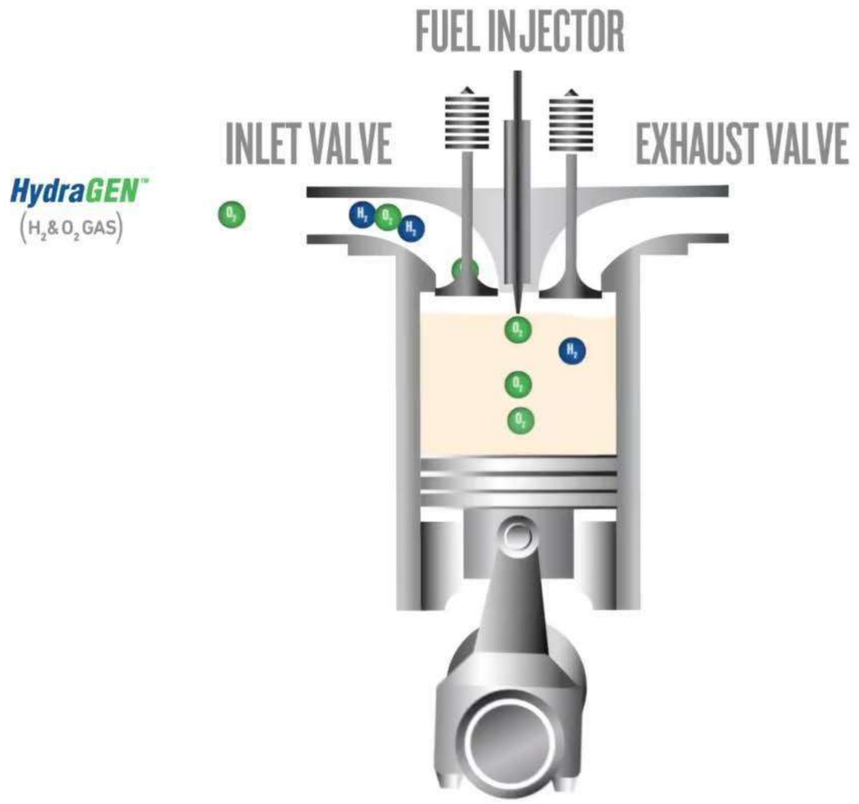
CO2, CO, NOx, THC are by nearly half due to cleaner, more fully combusted fuel—a result of the hydrogen acting as a catalyst

HydraGEN™

Watch HydraGEN™ Video by clicking the link below:

Click here to go to YouTube

This is a PDF enabled link that will open your browser to view video, or go to: shorturl.at/xDFL8



dynaCERT

HTek™
Driving Down Costs
Reducing Carbon Emissions

Off-Road | Pumps | Compressors

Optimal results achieved with large diesel engines operating with lower emission control technology and high fuel consumption – up to 100L engines

Trucks | Tractors | Buses

HydraGEN systems include models for 5 to 15 liter diesel engines

Generators

Diesel generators in the multiple megawatt range

Locomotives

Future HydraGEN models will address the rail diesel market segment

All Diesel Engines

HydraGEN™ improves fuel economy and reduces emissions for all diesel engines

Key markets first established in transportation, and now in mining and energy, market segments. Future markets are rail and shipping

ROI – Mining Haul Trucks

Reducing carbon emissions, improving diesel fuel economy

Example: Cat 793

170 L/Hour

Typical fuel consumption per hour-estimated average

$128 cost/hour

Cost per hour USD @ $0.75/L

$44,625 savings/yr – 5% improvement
$89,250 savings/yr – 10% improvement
$133,875 savings/yr – 15% improvement

Money saved, per year

Fuel at $0.75 / L USD **savings can be up to 15%*

ROI – 5 < 8 months

Based on 7,000 hours / year

**Payback model is only based on fuel savings. End users of HydraGEN™ Technology may also find cost savings from other areas such as reduction of DPF filters used, fewer oil changes and less engine maintenance.*

ROI – Large Engine Applications

Reducing carbon emissions, improving diesel fuel economy

HydraGEN™

60L - >110L displacement

5% improvement: 1,388-2,100 tons/year
10% improvement: 1,542-2,336 tons/year
15% improvement: 1,700-2,570 tons/year

Emissions reduction/year

5% improvement: $ 43,000 -$ 93,000 savings/year
10% improvement: $87,000-$186,000 savings/year
15% improvement: $130,000-$280,000 savings/year

Money saved/year

Fuel at $0.90/ L USD **savings can be up to 19%*

ROI

2 < 9 months payback
42 - 92% annualized ROI

Based on 7,000 hours / year

**Payback model is only based on fuel savings. End users of HydraGEN™ Technology may also find cost savings from other areas such as reduction of DPF filters used, fewer oil changes and less engine maintenance. Greater savings are achieved in applications where the engine is under high loads for long durations (like generators).*

H2 Tek™ Driving Down Costs Reducing Carbon Emissions

ROI – Transport Trucks

Reducing carbon emissions, improving diesel fuel economy

Example: Semi Tractor

6.5 mpg

Typical fuel consumption per hour-estimated average

$5,300 cost/month

Cost per hour USD @ $4.00/gallon

$7,488 savings/yr – 8% improvement
$8,760 savings/yr – 10% improvement
$10,032 savings/yr – 12% improvement

Money saved, per year

Fuel at $3.18 / gallon USD, DEF @ $4.00/gal. (~80/20 Diesel/DEF)

ROI – 10 < 13 months

Based on 130,000 miles / year

**Payback model is only based on fuel savings. End users of HydraGEN™ Technology may also find cost savings from other areas such as reduction of DPF filters used, fewer oil changes and less engine maintenance.*

Results – Mining Pilots

Reducing carbon emissions, improving diesel fuel economy

CAT797
1.3MM Tonnes Hauled
3,300 Cycles

13.4%
Fuel Efficiency

Komatsu 930E
380,000 Tonnes Hauled
700 Hours

11.8%
Fuel Efficiency

TRIALS Achieved 8%-13% Diesel Fuel Efficiency Gain

Highway Transport
1,280 Hours

12.6%
Fuel Efficiency

8.9%
Fuel Efficiency

Dynamometer 14L MAN Truck
3rd Party Testing
>Emitec/Contential

2022 Trials

CODELCO

CHINALCO

nexa

HydraGEN™
Fleet ROI Analysis–
Mining Haul Trucks
Example Komatsu HD1500

Reducing carbon emissions, improving diesel fuel economy

Your Mine Site Analysis

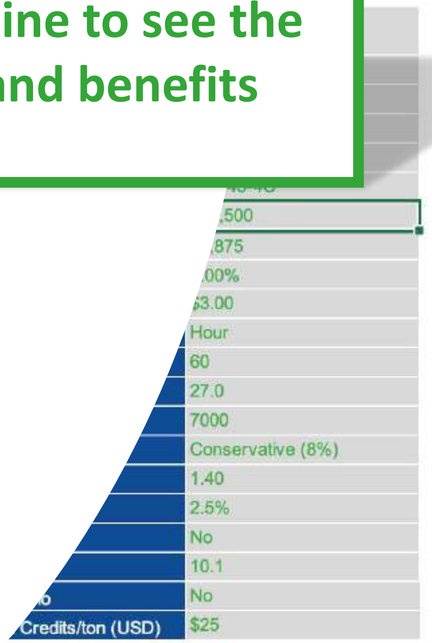
H2 Tek will complete a full fleet analysis for your mine to see the ROI and benefits

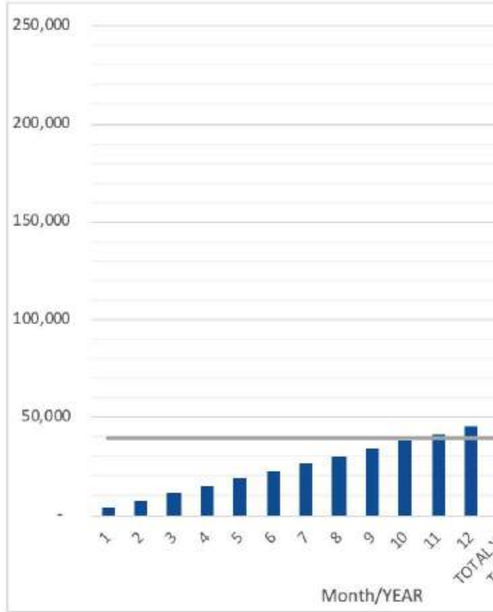
Your Mine: Komatsu HD1500, Estimated @ Conservative (8%) Fuel Savings @ $3 Diesel Cost (U

No DEF Savings Included & No Level of Emissions Reduction for Carbon Credits

ROI:	Based on: 1 unit(s) of Komatsu HD1500s	
ROI (5 YEARS)		476%
Annualized ROI		42%
Payback Period (Months)		10
Savings (USD)	1 Year	$ 45,360
	5 Years	$ 226,800

The analysis is primarily determined by fuel cost savings against the capital cost. Consumables (water) and maintenance cost are negligible against the capital cost and savings proportions and is reasonably more than offset by additional savings achieved in maintenance of a cleaner engine (e.g. fewer oil changes etc.) If DPF, a significant cost item and savings opportunity, is used, this may be factored in the financial analysis. Similarly, once carbon credits are transactable, this too may be factored in. Includes any applicable country specific duties. Commissioning/Installation is dependent on the actual equipment and enviroment for installation and for general purposes is conservatively estimated at 5% of the CAPEX.





Independent Testing

TüV/EMITEC GmbH – 3rd Party Testing

TECHNOLOGY INDEPENDENTLY VERIFIED

8.9%

Fuel Consumption

Controlled testing on a dynamometer resulted in 8.9% improvement in fuel economy and nearly 20% in road testing

88%

NOx

Nitrogen dioxide has a global warming potential (GWP) of 298 – that's of 298 times that of CO2 and is very toxic to humans

57%

THC

HydraGEN™ testing was 57% total hydrocarbon reduction and 55% in Particulate Matter (PM)

9.6%

CO2

Carbon dioxide and carbon monoxide (CO) were meaningfully reduced (27% for CO)

Scope 1, Emissions Reduction

Reducing carbon emissions, improving diesel fuel economy

Verra - Carbon Credit Platform – Working Towards Certification (VCS) ~ Estimate: 4-6 mo's

1. Methodology summited ✓
2. Verra reviewed ✓
3. Stakeholder consultation Competed (public) ✓
4. Verra contracted Validator, in process ☐

The HydraGEN™ Family

Reducing carbon emissions, improving diesel fuel economy

Validated by 3rd party testing companies

HG6C

Large diesel engines + powergen 60 < 100 L engines

HG4C

MW diesel power generators & large diesel engines 30 < 60 L

HG1R

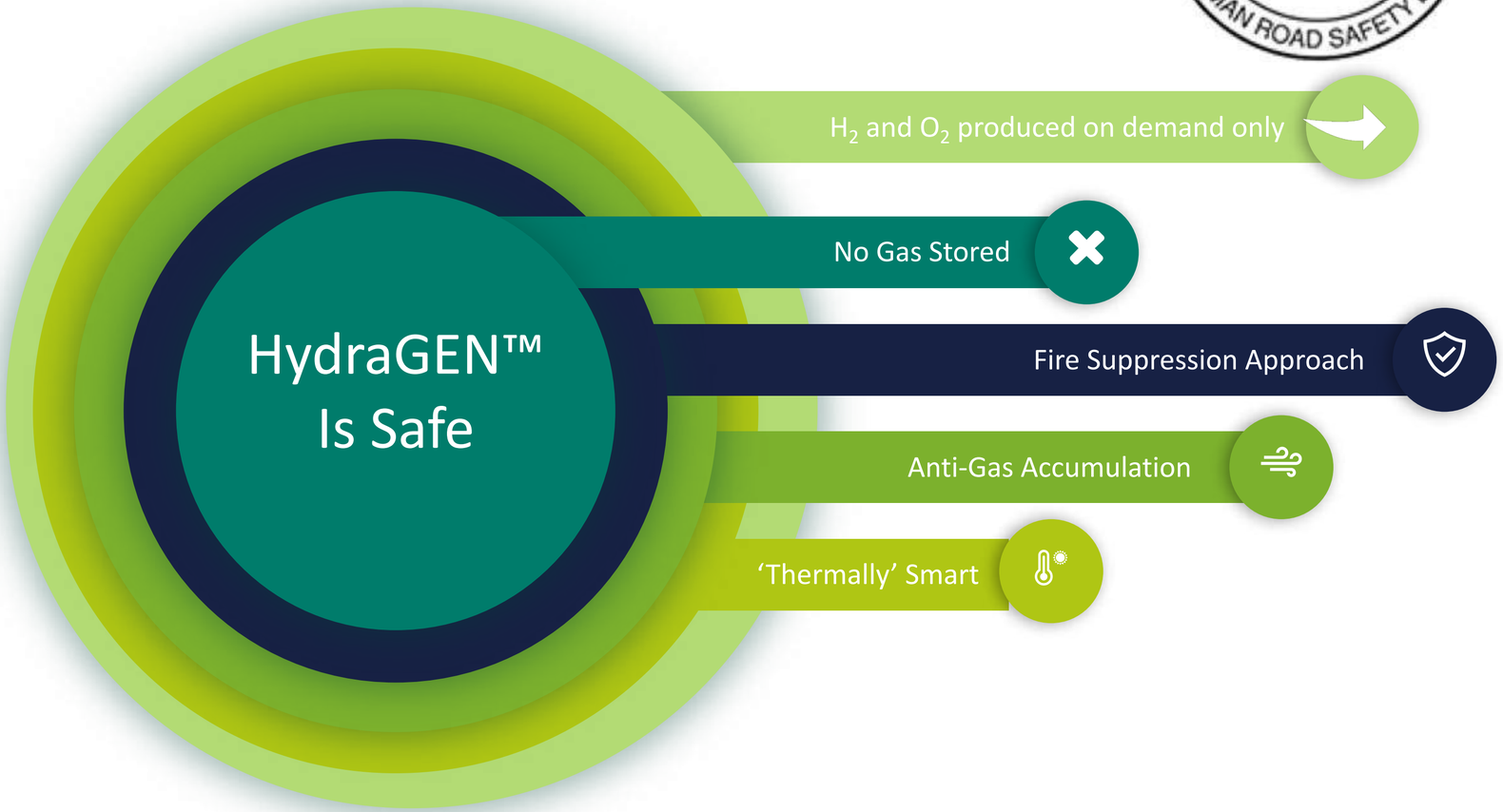
Class 6-8 vehicles + powergen <16 L engines

HG2

Class 2–5 vehicles | reefers | smaller powergen

HydraGEN™ Is Safe

Reducing carbon emissions, improving diesel fuel economy



No Hydrogen Gas Stored

The unit does not store any volume of gas therefore it is not an explosion hazard.

Fire Suppression Approach

HydraGEN™ is powered off a circuit controlled by the existing fire suppression system, should a fire start, the fire suppression system will cut the supply current to the unit stopping hydrogen production.

The supply line and electrical wiring loomed and routed at installation along the path of the fire suppression system to allow it to be protected in the event of a fire.

Anti-Gas Accumulation

In generator application, the unit would be mounted in the path of air flow so in the unlikely event of a leak, the hydrogen produced would be drawn into the engine by the large volume of air being drawn through the air filters limiting the possibility of hydrogen gas accumulating in the airspace.

'Thermally’ Smart

The unit is thermally protected internally and will shut down in high temperature situations to prevent it producing hydrogen should a generator fail and cause a fire or arc blast.

Realtime data

Reducing carbon emissions, improving diesel fuel economy

HydraLytica™ App

System information

Know your metrics

Remote access > emissions and fuel data

Track and monitor > individual engine data

Track and report > Carbon Credits

Data & notifications > real-time dashboards

Service notifications

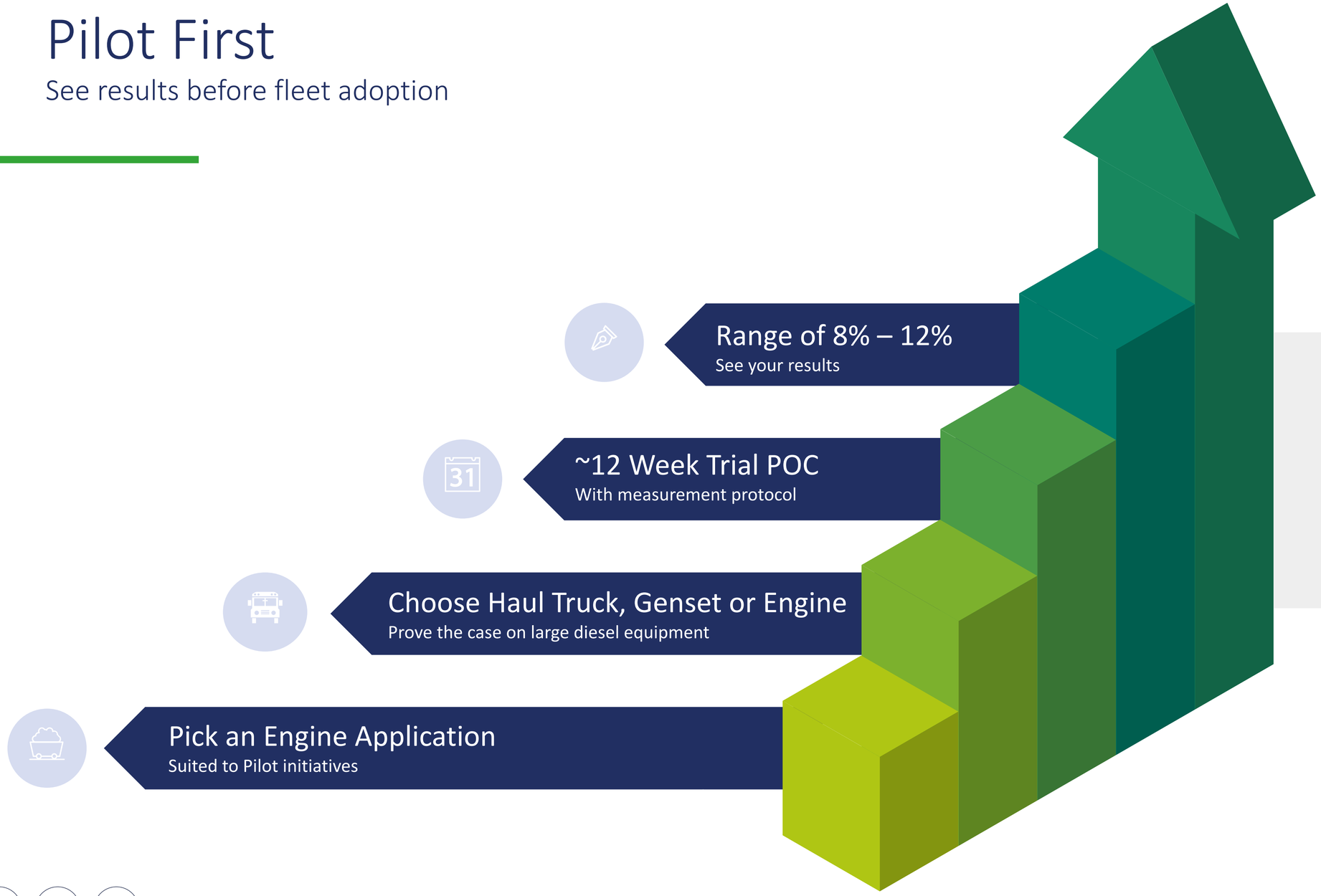
H2Tek™ Driving Down Costs Reducing Carbon Emissions

H2 Tek‘s Global Reach

Global reach, local partners

Pilot First

See results before fleet adoption



Low Risk

Path to energy savings & decarbonization

Seeing is Believing

Especially with innovative new technologies. H2 Tek will work with you to develop a pilot project that will prove the kind or results you want.

Contact

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