

# CR&R AD Facility Development

Digesting Urban Organic Residuals Forum



May 30, 2012



the face of a greener generation 

# Drivers for AD Development in California

- AB 32
- Low Carbon Fuels Standard (LCFS AD Pathway)
- AQMD, zero carbon transportation fuels
- AB 341-path to 75% diversion goal
- Corporate zero waste initiatives
- Early local government AD implementers



# CR&R Incorporated

- Founded in 1963, privately held company serving more than 45 communities in L.A., Orange, Riverside, San Bernardino and Imperial Counties with a subsidiary, Haulaway Container, serving the Western U.S.



# CR&R Incorporated

Recycling infrastructure includes

- three material recovery facilities that handle mixed waste and commingled recyclables,
- two green waste composting facilities,
- a dedicated C&D facility,
- and a centralized e-waste collection facility.



# CR&R Recent Projects

- State of the art dedicated C&D facility, San Juan Capistrano, 2009.
- AD development, 2006 to present.



# CR&R's AD Project

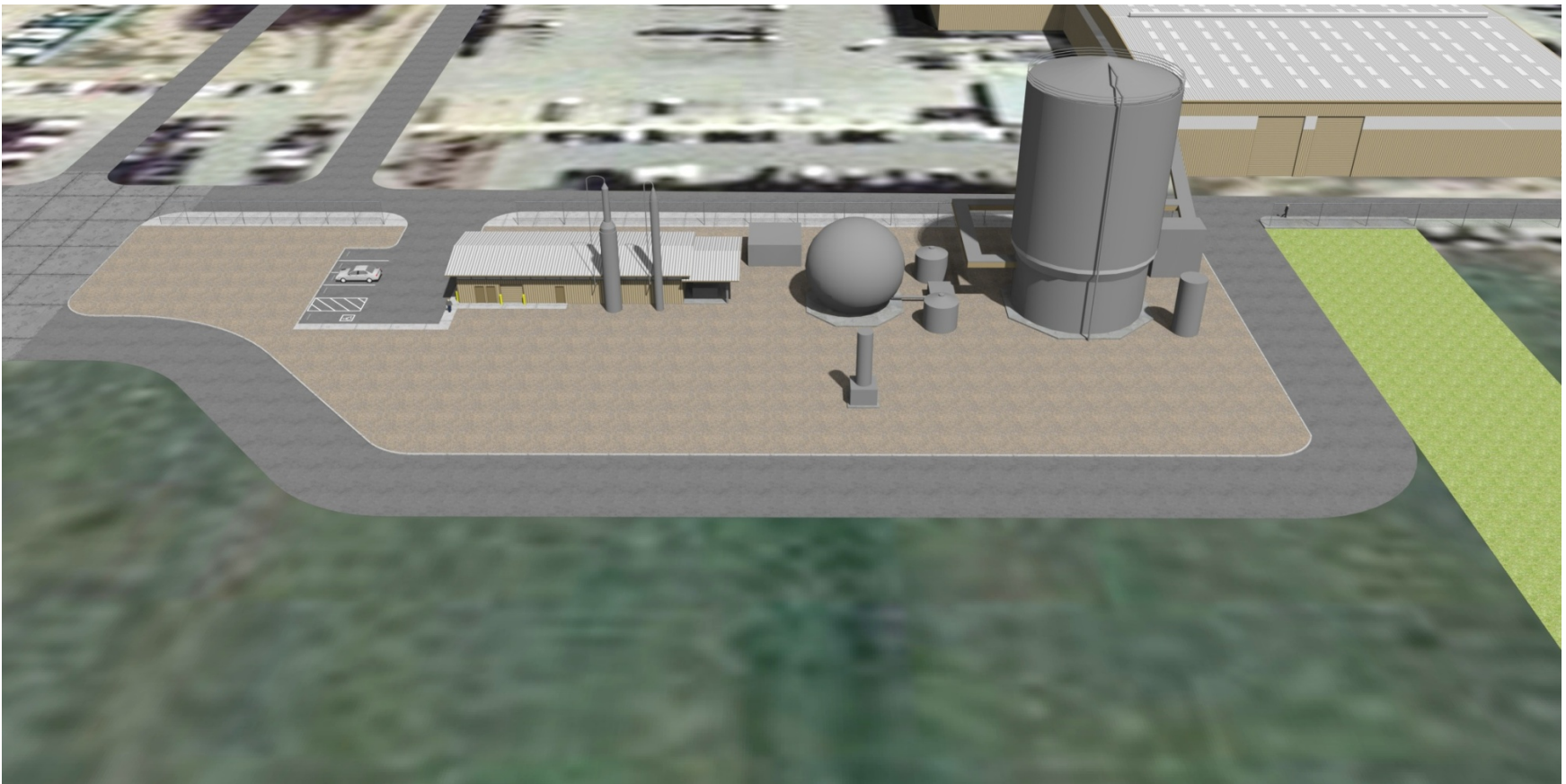
## Why AD?

- Right technology for meeting California's organics recycling challenge.
- Produces zero carbon fuel
- Achieves air emissions reductions in the South Coast Air Basin
- Compatible with current and anticipated regulatory requirements
- A critical technology on the path to zero waste



# CR&R's AD Project

Approximately 50,000 tpy AD plant located in Perris. Fully permitted 3,000 tpy MRF/Transfer facility on a 52-acre site.



# Major Components

- MRF (CR Transfer, Stanton, CA)
- Receiving building
- Biofilter
- High Solids Digester
- Biogas upgrade system
- Renewable Natural Gas (RNG) fueling station
- Natural gas fleet
- Composting facility
- Compost markets





# CR Transfer Station





# CR&R Biofilter





# CR&R CNG Fleet and Fueling Station



# Components

- Biogas Upgrade System:
- Water scrubbing pressure treated absorption system expected to produce 427 scfm converted to 235 scfm of RNG at 97% purity.
- Diesel equivalent 2,700 gal./day or enough fuel to run about 60 front and side loaders.



# Components

- Renewable Natural Gas (RNG) will flow to an adjacent CNG fueling station that will be constructed this year at the Perris MRF/Transfer facility.
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- The station will initially slow-fuel about 50 trucks.
- Both the gas upgrade and fueling station are expandable.



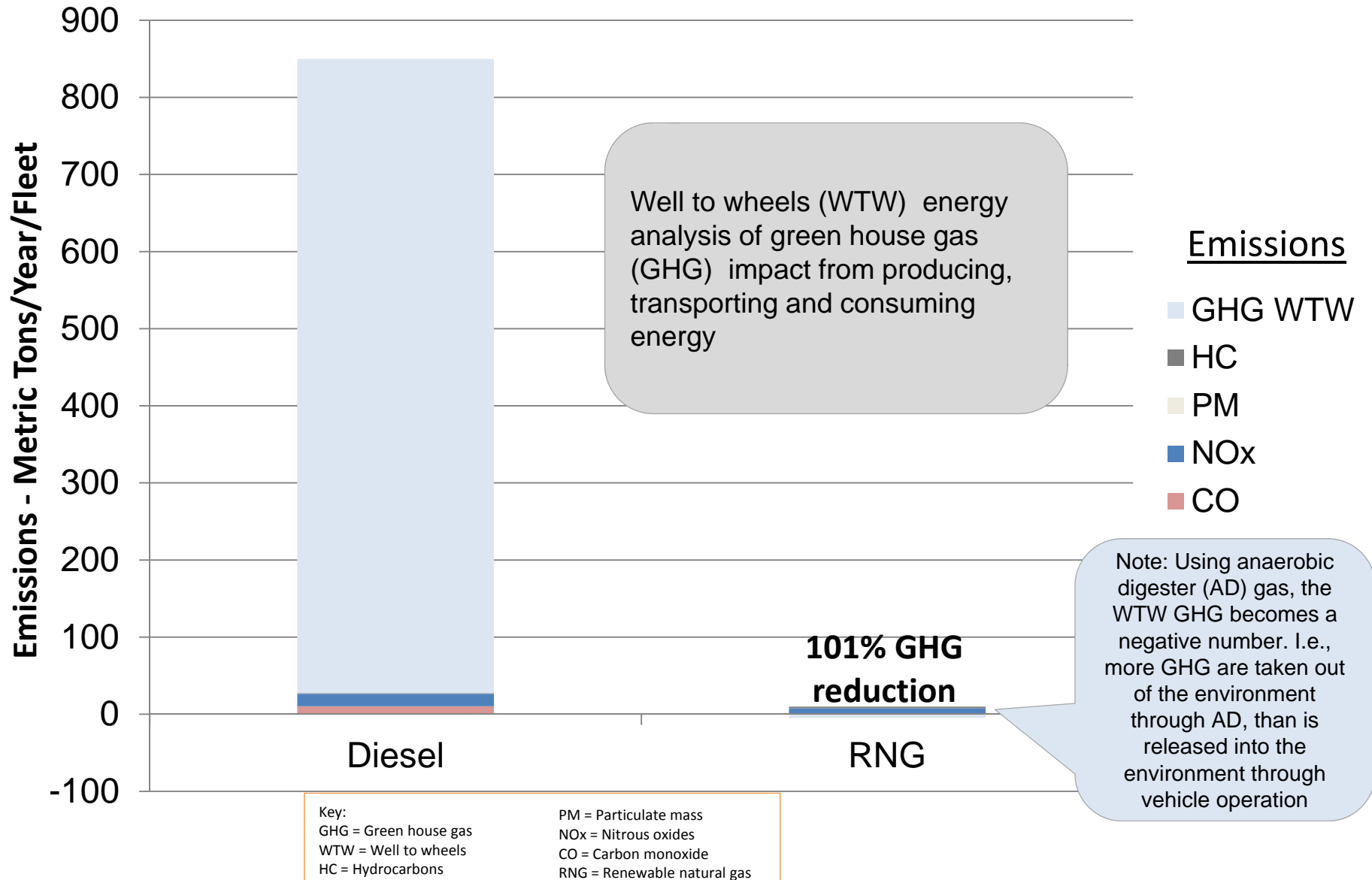
# Components

- The RNG produced from the biogas remains the cleanest transportation fuel available in California generating considerable GHG emissions reductions and reductions in criteria air pollutants.
- As a zero carbon fuel RNG should meet long term ARB and AQMD emissions standards.



# CR&R Vehicle Fleet: City “X” scenario

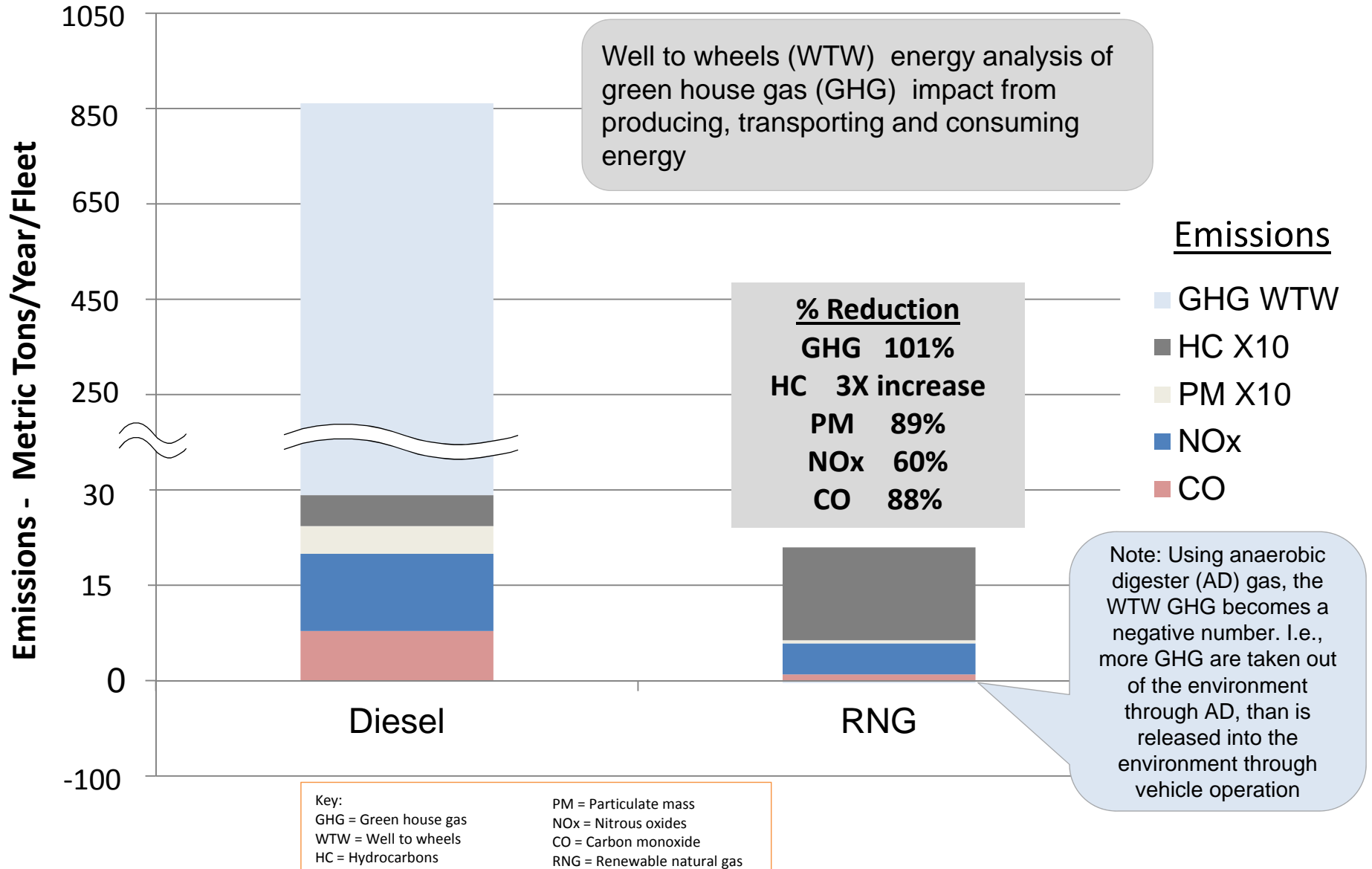
Baseline of 8 trucks w/ diesel fuel; converted to operate on renewable natural gas



Source: Ricardo analysis. Note: Diesel engine is representative of a 1993 diesel engine fleet configuration.

# CR&R Vehicle Fleet: City “X” scenario

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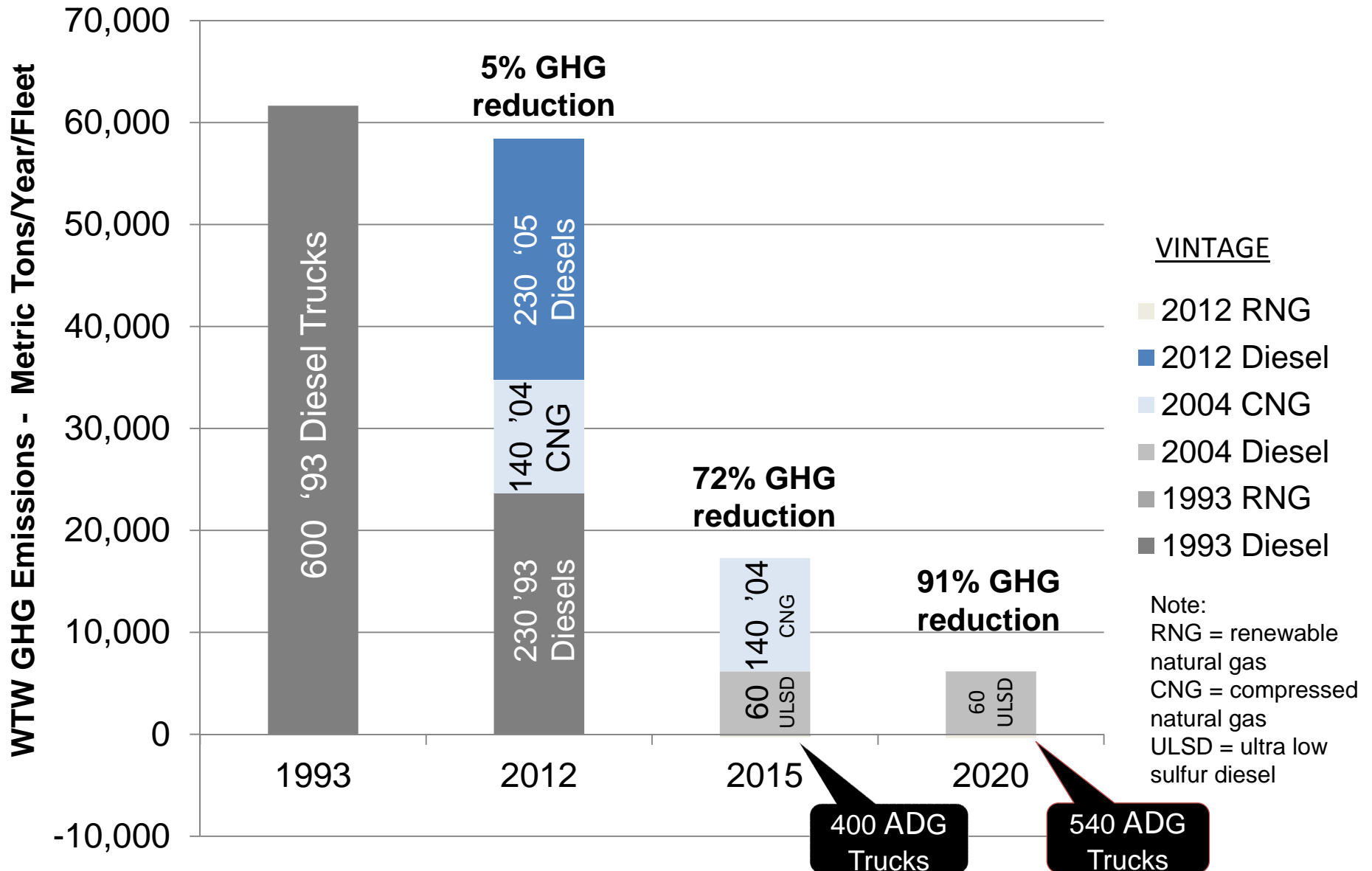


Source: Ricardo analysis. Note: Diesel engine is representative of a 1993 diesel engine fleet configuration.



# CR&R Vehicle Fleet Conversion: 600 vehicle fleet

Fleet converted from diesel to renewable natural gas



Source: Ricardo analysis. Note: RNG is representative of anaerobic digester gas

# AD Project Benefits

- CR&R's AD project provides a new compliance pathway for green waste and food waste diversion.
- This pathway has certain benefits over the direct composting of organics including removal of energy content (methane) before composting creating two significant products, renewable fuel and soil product.



# AD Project Benefits

- Renewable fuel is an important commodity from the project-locally supplied, produced and used.
- Soil Products



# Project Milestones

Perris on site and off site approval conditions completed including a massive perimeter wall, new landscaped boulevard, new entrance, on site parking and landscaping, utilities.

- NDFE approved
- CEQA Certified
- CUP Approved



# Grant Rewards

- California Energy Commission grant contract for \$4.52 million.
- CEC grant award of \$300,000 for fueling station.
- MSRC grant award of \$100,000 for fueling station.



# Remaining Permits

- CalRecycle Solid Waste Facility Permit Modification
- AQMD permits to construct



# Project Timetable

- AD facility groundbreaking (1<sup>st</sup> quarter 2013)
- AD facility completed (2<sup>nd</sup> quarter 2014)
- Commissioning completed (4<sup>th</sup> quarter 2014)



# Thank You

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