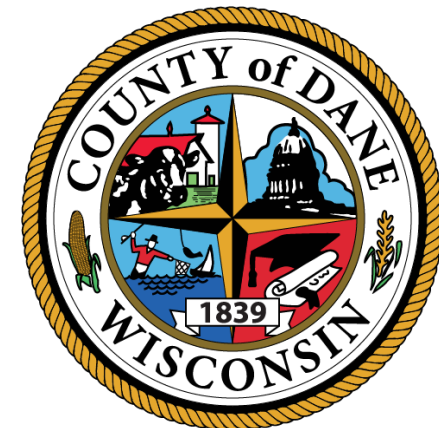


Waste As a Resource

An update from the
Department of Waste & Renewables
March 18, 2021





 [Explore the Dane County Landfill](#)

About W&R

Providing environmentally-sound and sustainable waste management and renewable energy solutions for current Dane County residents and future generations.



[Scale House](#)



[Hand Unloading & Bicycle Exchange](#)



[Shingle & Tire Recycling](#)



[Clean Sweep](#)



[C&D Recycling](#)



[Brush & Logs](#)



[Active Landfill](#)



[Groundwater Protection & Monitoring](#)



[Air Quality & Odor Control](#)



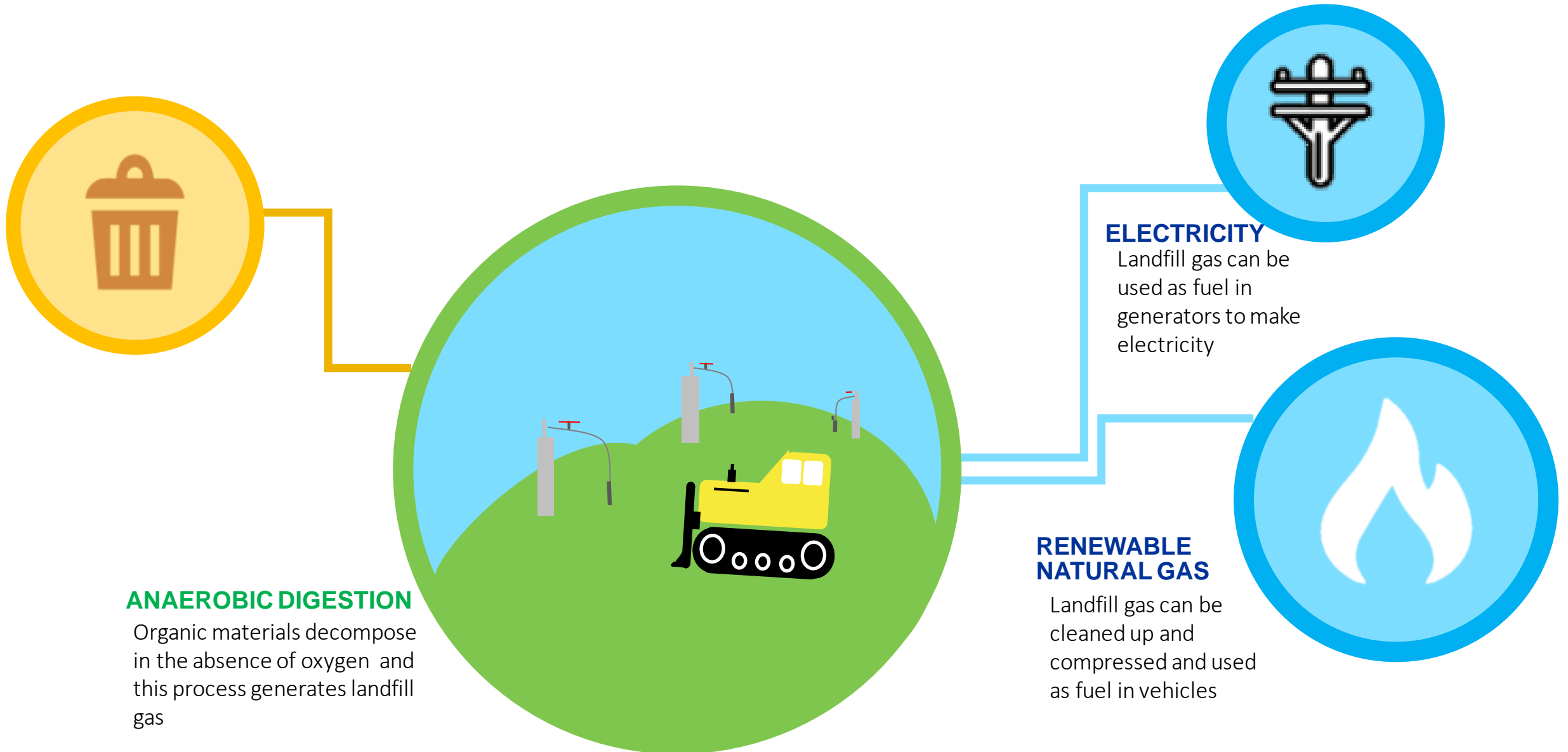
[Native Prairie Final Cover](#)



[Renewable Natural Gas](#)



Waste As a Resource: Landfill Gas-to-Energy





History of Landfill Gas-to-Energy in Dane County

1995

Electrical production at Verona Landfill begins

1997

Electrical production at Rodefild Landfill begins

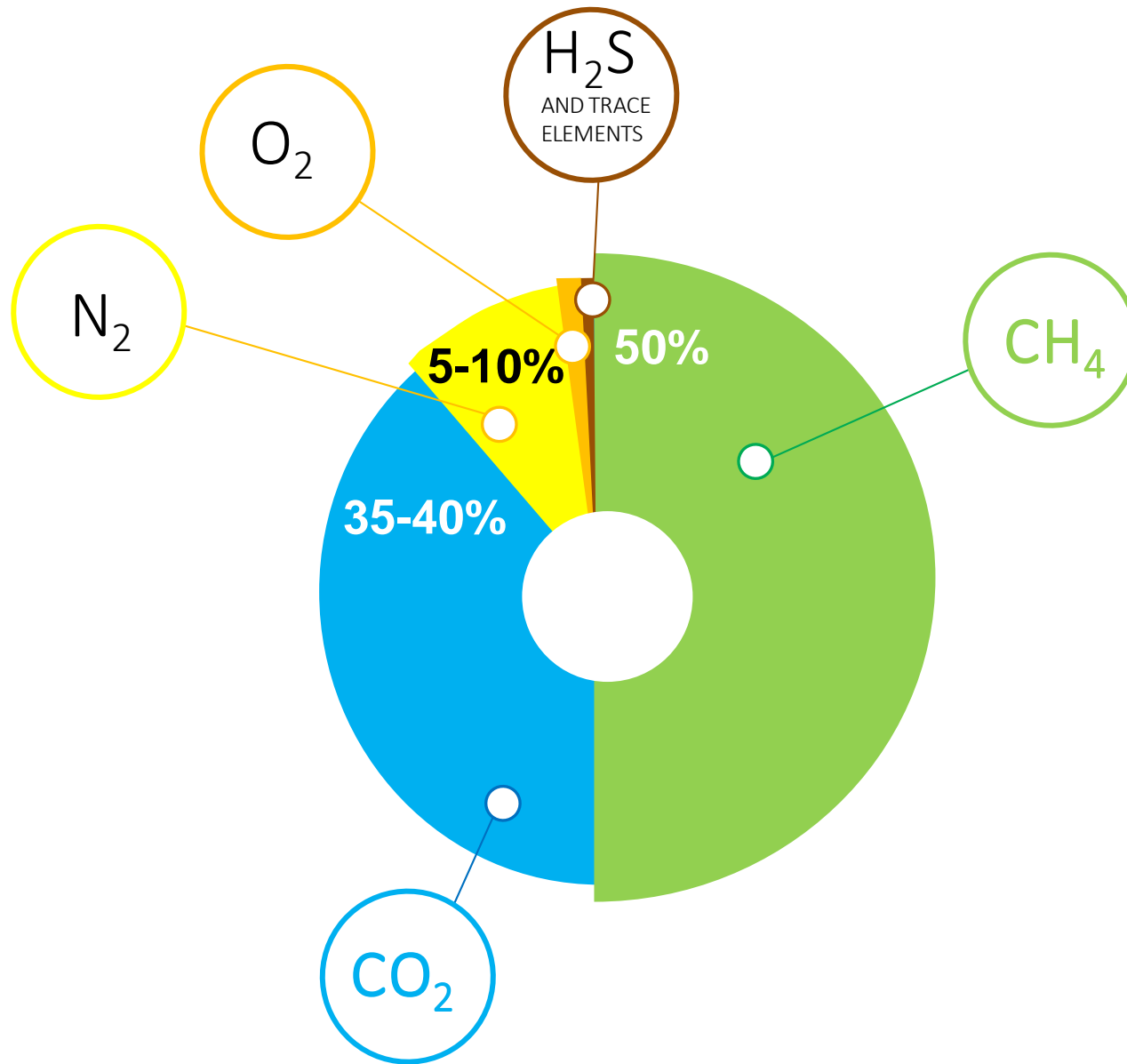
2010

Began diverting a portion of Rodefild's LFG for processing into compressed natural gas (CNG) for vehicle fuel

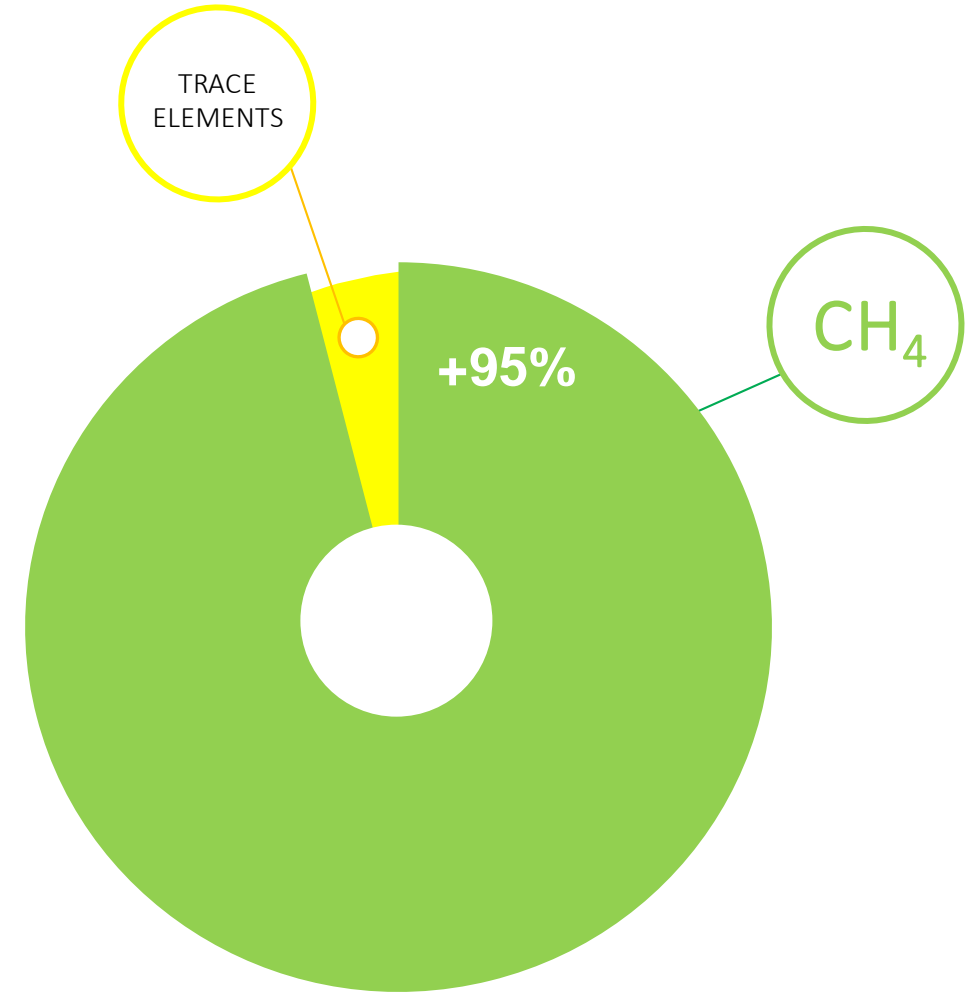
2019

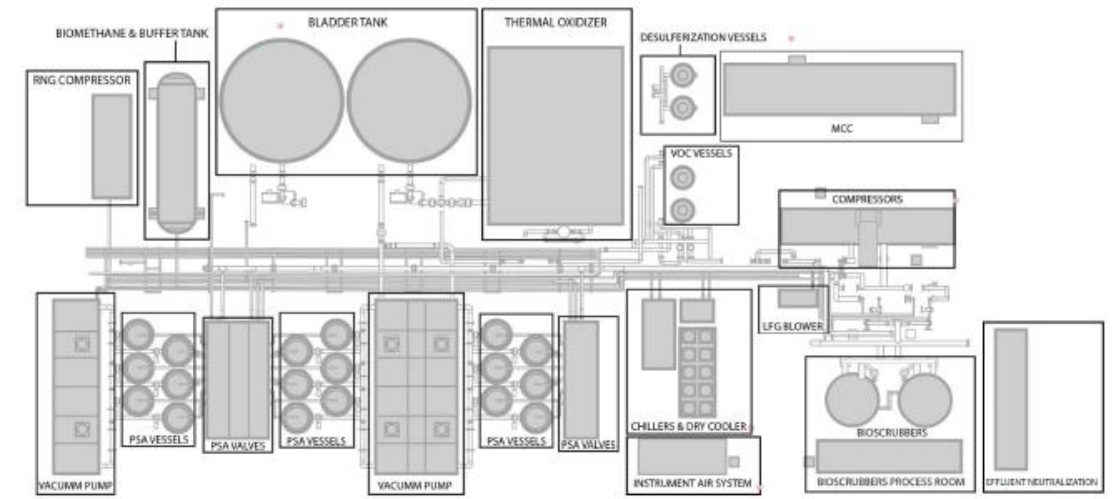
Full scale renewable natural gas (RNG) plant brought online at Rodefild

LANDFILL GAS

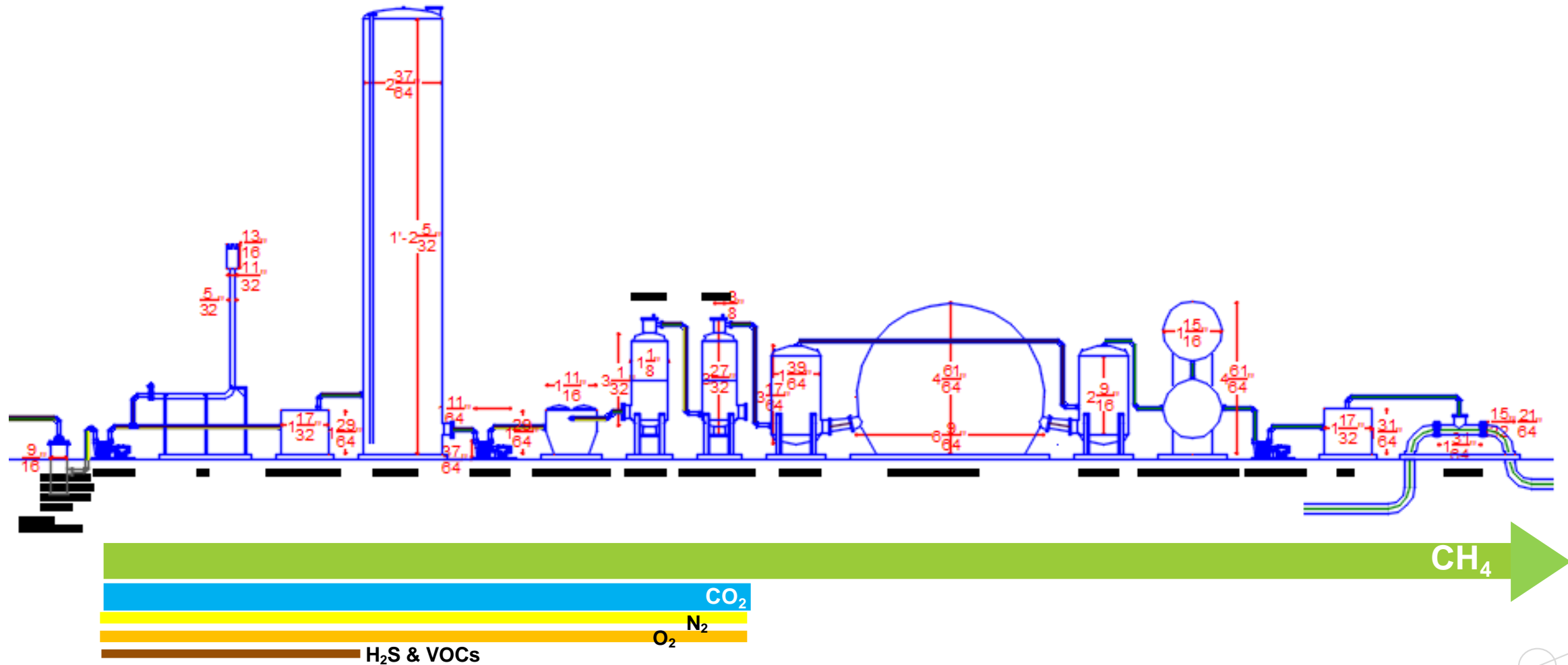


RENEWABLE NATURAL GAS





Landfill Gas Processing and Compression



Economics of RNG



↓\$0.04/kWh PURCHASE POWER AGREEMENT

Prices for electricity generated by landfill gas dropped to \$0.04/kWh from \$0.12/kWh

\$1.8/MSCF of gas resulting in: a net loss for county

+\$3.0/dth SALE OF GAS

Actual gas generates approximately \$3-\$4 per dekatherm (dth)

\$14.4/MSCF of gas resulting in:

+\$2.0/RIN EPA'S RENEWABLE FUELS STANDARDS

RNG Plant generates approximately 800-1000 dth per day. Each dth of gas generates about 10 RINs. RIN prices vary but have been as high as \$3.0/RIN in 2021.

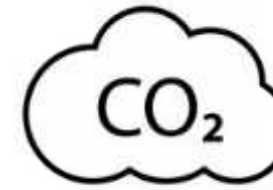
\$10 MIL revenue budgeted for 2021

REVENUE FROM OFFLOAD STATION

Contracts are secured with multiple dairies to offload biogas at our facility. Digesters are charged by the dth to use the station.

\$2.8 MIL estimated to general fund for 2021

Other Impacts of RNG



OFFSETS CO2 EMISSIONS
EQUIVALENT TO
24,000,000
POUNDS OF COAL



CREATES **FIVE** NEW COUNTY
POSITIONS AND OTHER LOCAL JOBS
FOR SERVICES AND EQUIPMENT



CREATES ACCESS TO PIPELINE
FOR DIGESTERS AND HELPS
GROW THE INDUSTRY



LOWER OFFLOAD FEES
FOR DIGESTERS WITH
ADVANCED PHOSPHORUS
REMOVAL TO HELP KEEP
OUR LAKES CLEAN



Dane County Landfill's Timeline

2021

Planning for the future has begun. Permitting a new landfill can take up to 10 years or more.

2023

If a new site was secured, waste diversion could begin with organics, mattresses and other waste streams.

2027

Rodefild site closes without a vertical expansion.

2030

Estimated maximum site life of Rodefild Landfill.



Waste as a Resource: Moving Towards a Circular Economy

Our vision for a hub for recreation,
environmental education, renewable energy,
sustainable resource management, and
innovation of circular economies.



2020 IMPACTS

How W&R is already
closing the loop



46,656 TONS

OF CONSTRUCTION & DEMOLITION
MATERIAL PROCESSED FOR
RECYCLING

657 TONS

OF TIRES
RECYCLED INTO
PLAYGROUND
TILE OR
INCINERATED
FOR ENERGY



39 TONS

OF CHEMICALS
EXCHANGED AND
USED AGAIN
THROUGH CLEAN
SWEEP'S PRODUCT
EXCHANGE ROOM

2,383 TONS

TONS OF
SHINGLES
RECYCLED INTO
ASPHALT



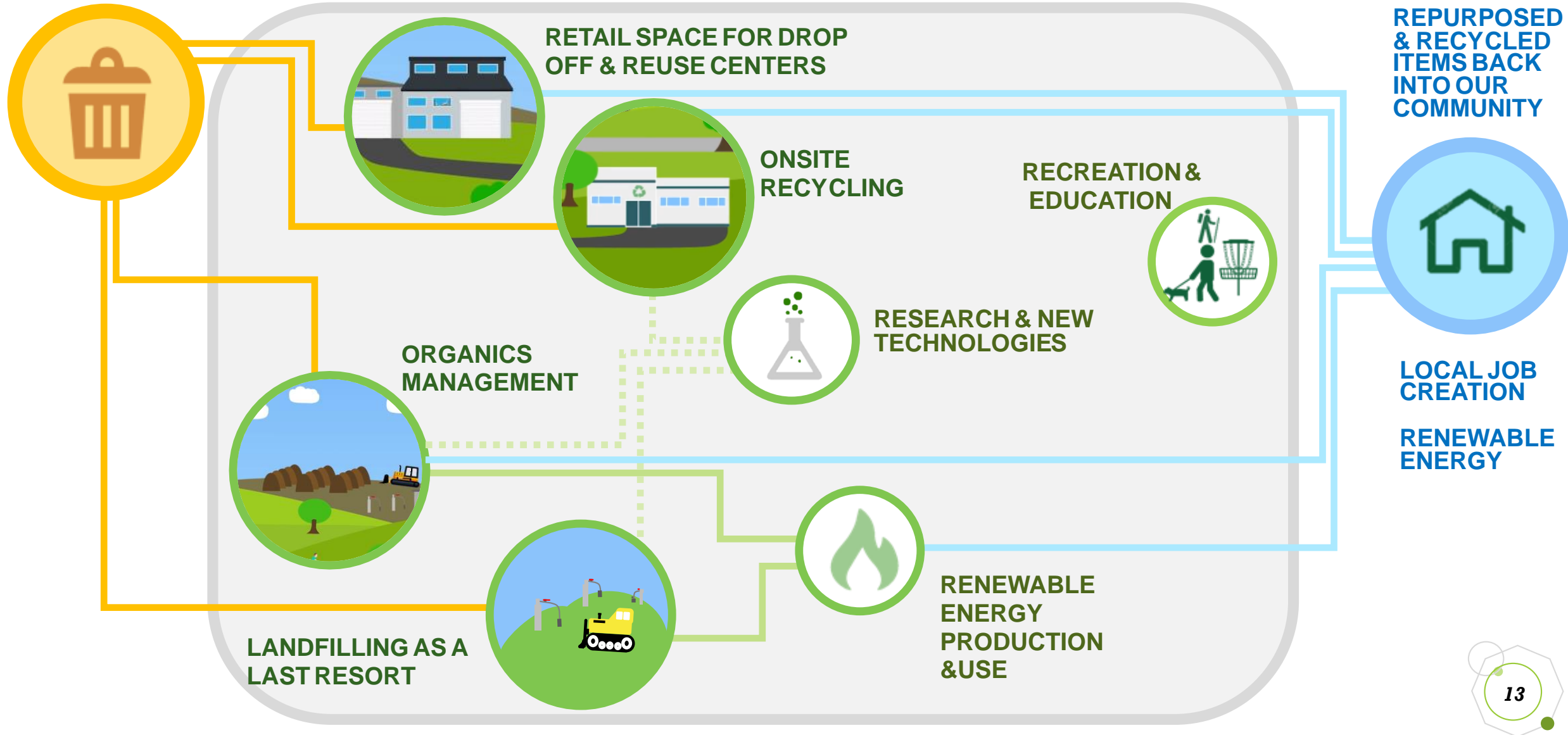
PRODUCED RENEWABLE NATURAL
GAS EQUIVALENT TO
2,568,140
GALLONS OF GASOLINE

870 TONS

OF BRUSH &
LOGS GROUND
INTO WOOD CHIP
TO BE USED AS
ANIMAL BEDDING
AND MULCH



Waste As a Resource: A Sustainability Campus





A Site with Potential: Yahara Hills

- Continue to manage City of Madison's & Dane County's waste locally – in a socially responsible way
- Local job growth
- Transportation
 - Access to major highways
 - Close to City of Madison to minimize hauling costs
- Close to existing landfill site to utilize existing infrastructure
 - C&D Recycling & Clean Sweep can continue at current site
 - RNG Pipeline Access
- Large enough to secure waste management needs for decades

Questions? Contact us at



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