

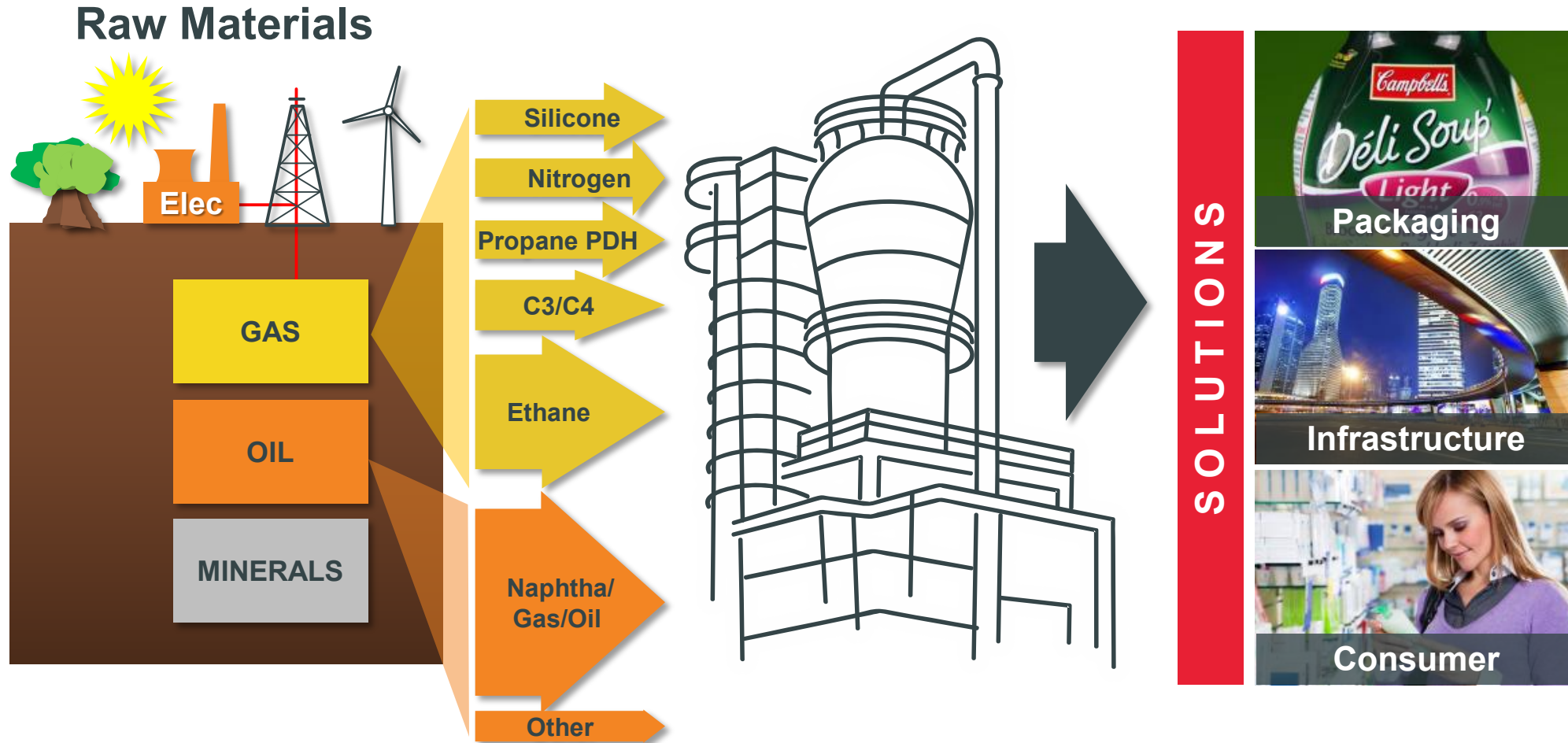


# Dow Energy Business

Edward Stones, Global Director Energy & Climate Change  
The Dow Chemical Company

# Hydrocarbons & Energy

*Low-Cost Integration that Fuels Dow's Competitive Advantage*



# Fuel, Steam, Power & CO<sub>2</sub> Inextricably Linked

## *Must Consider Each Factor to Optimize*

### Color Key for Graphic

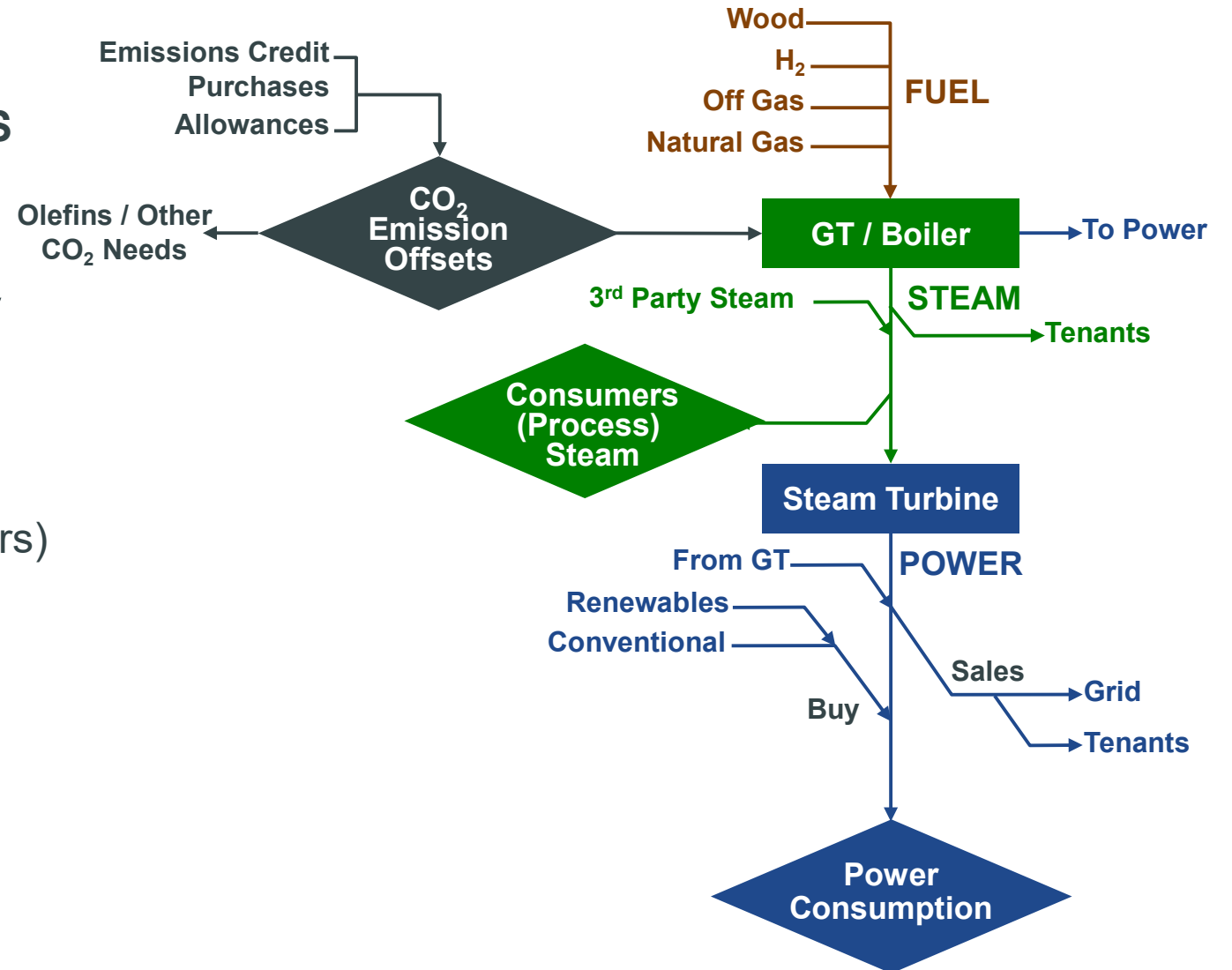
**FUEL** ♦ **STEAM** ♦ **POWER** ♦ **EMISSIONS**

### Traded markets have volatility

**Fuels**, **Power**, and **Emissions**

### Companies have choices

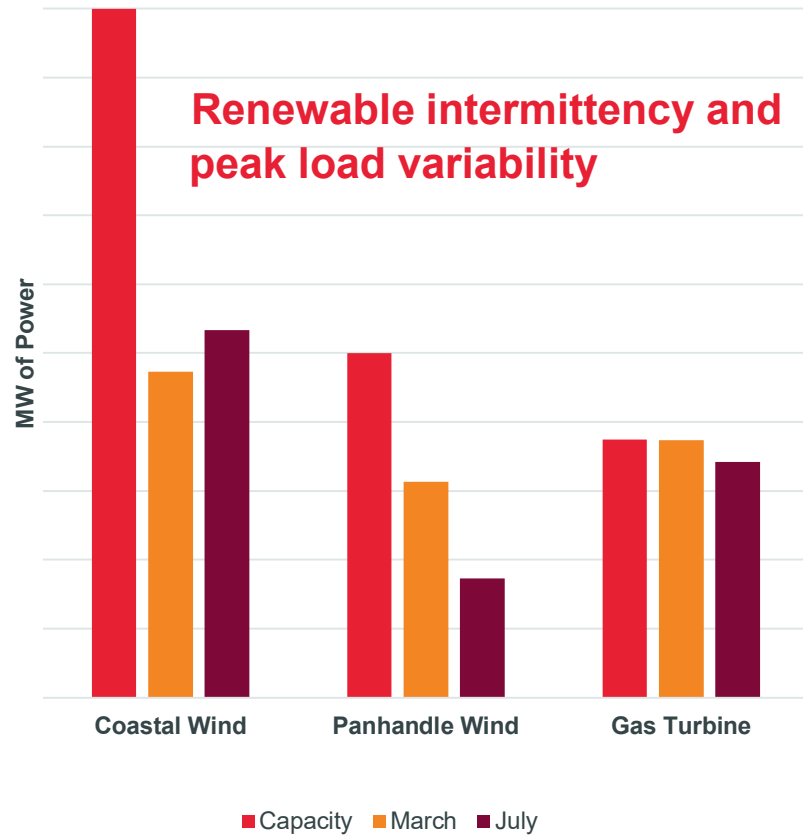
- Operate assets (i.e. Gas Turbines, boilers)
- Purchase
  - Grid
  - PPA's (Power Purchase Agreements)
  - Third party providers



# Technical Aspects of Grid Design Matter to Industrials

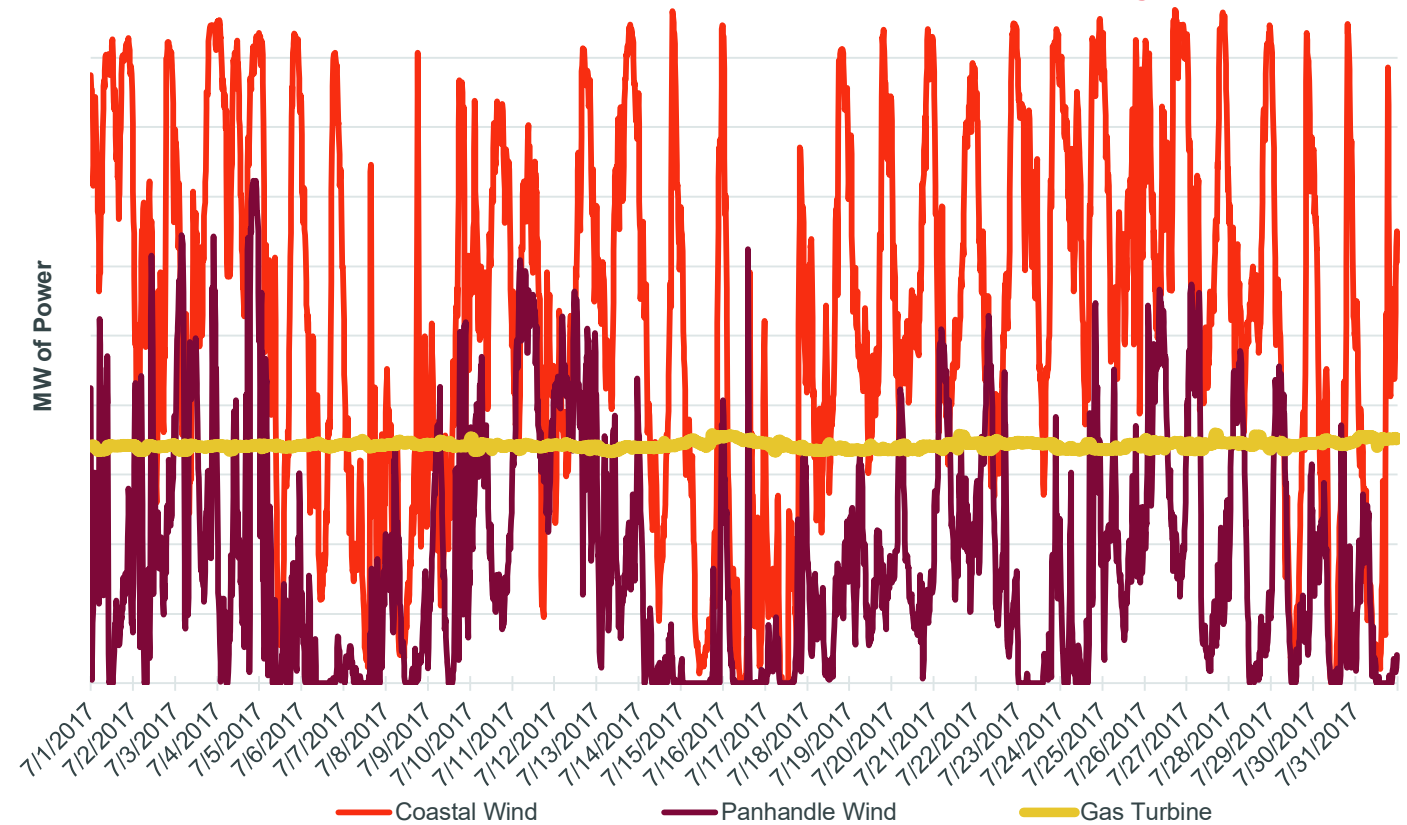
*Renewables + Co-Gen = Steady Power*

Key Statistics for Dow Assets in Texas



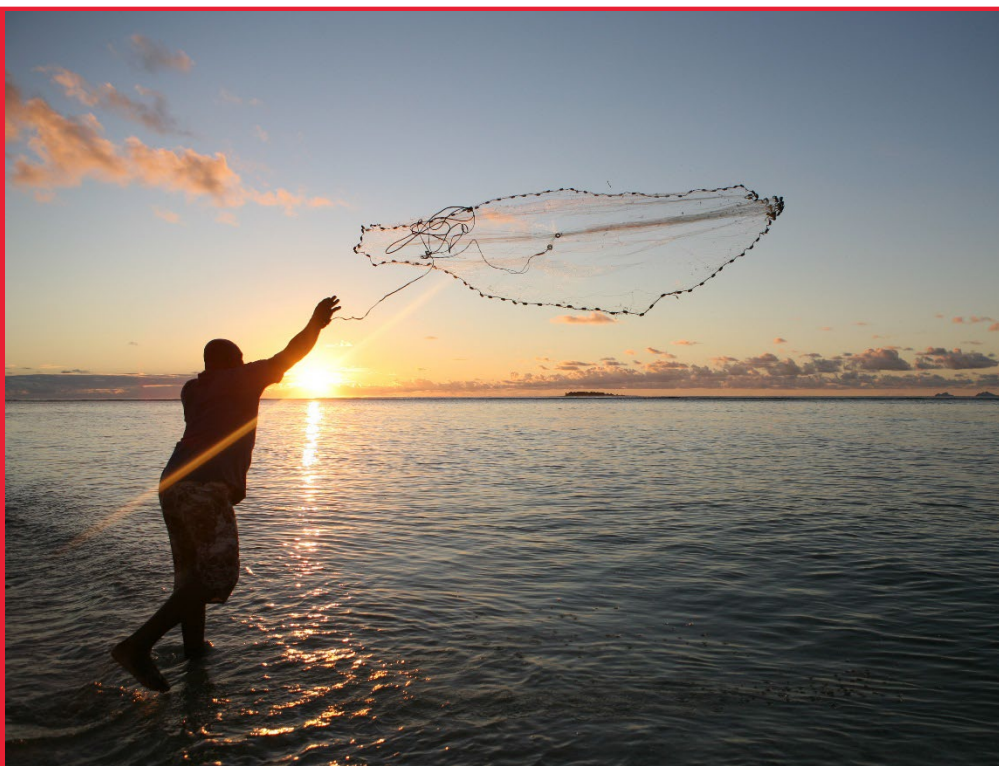
July 2017 Delivered MW to Dow Users in Texas

*Industrial Processes Operate Continuously*



# Petrochemicals Rely on Advantaged Feedstocks

*Optimizing Cost Fuels Profitability*



Dow skillfully casts its net to capture low cost ...

## Feedstocks Realities

- Chemical companies convert low-cost feedstocks into valuable materials
- Assets are built in the best (affordable, abundant) resource locations
- Feedstock flexibility is deployed to optimize economics
- Feedstocks can be bio-based, gas-based, oil-based or brine/rock, plus power
- It's hard to capture value for “green” attributes – today



Dow is inspiring hope with

# innovative solutions

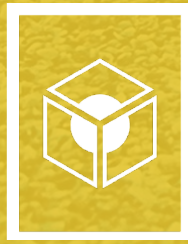
for smart and responsible plastics use,  
reuse, repurposing and recycling



No plastics in the  
environment



Drive a circular  
economy



Increase impact  
through partnerships





Helping to Start a Movement for Change

# Part of the Solution – Examples

## #PullingOurWeight

- 55 clean-ups in 2018
- 5,600 people
- 52,500 pounds less waste

## Repurposing Used Plastics

Transforming flexible plastic waste into longer lasting roads with environmental benefits – and durable bricks/building materials

## Dow's RecycleReady Technology

A way to create flexible packaging that can be easily recycled through existing PE film recycle streams

## Hefty® EnergyBag® Program & Grants

- Innovative curbside energy recovery program for hard-to-recycle plastics
- 3 Metropolitan areas & growing
- 283 Tons of plastics diverted from landfills for energy recovery since 2014



# Collaborating for End-of-Life Solutions for Plastics



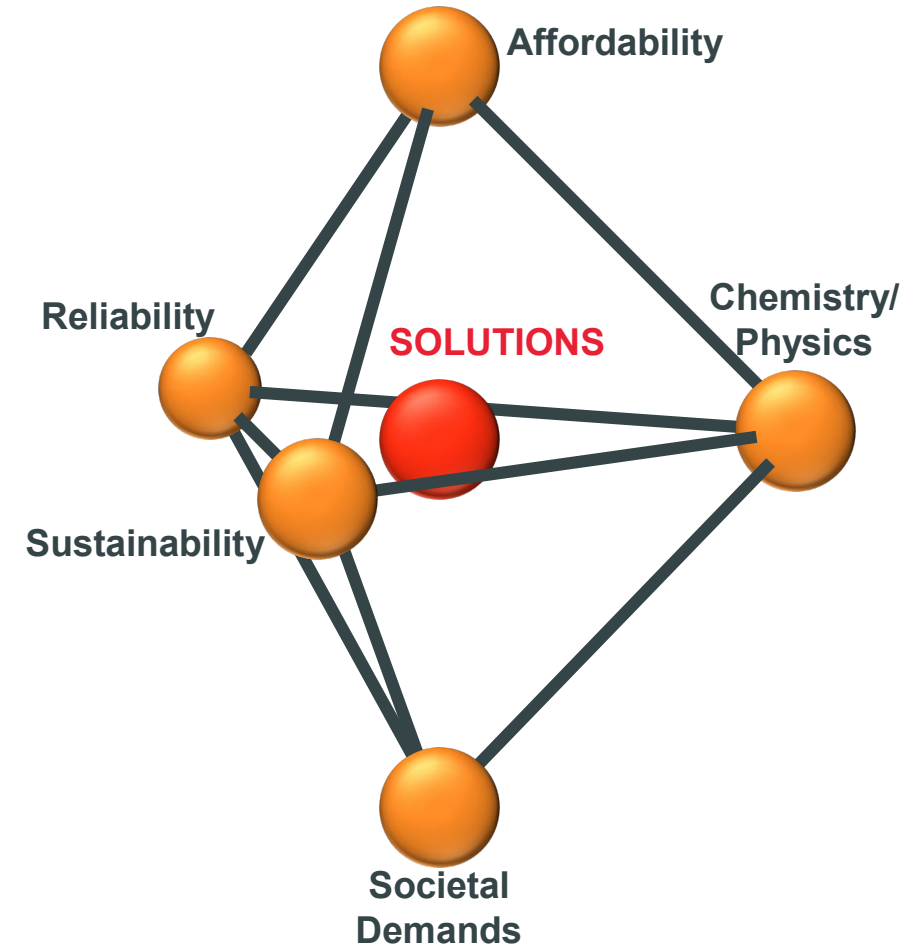
The Association of Plastic Recyclers





# Collaboration, Transparency and Knowledge Needed

- Energy and Sustainability are fundamental to the wealth, health and happiness of humanity
- Plastics and chemicals provide essential solutions for packaging, infrastructure and consumer needs
- Dow is an Industrial leader in value-driven energy management and cleaner energy use
- We drive vital engagement aimed at lower carbon solutions
- Urgent need for technically trained, creative and collaborative talent





— **Thank**  
**You**