



CARBOVATE DEVELOPMENT CORP.
Carbon Materials Solutions Through Advanced Process Technologies

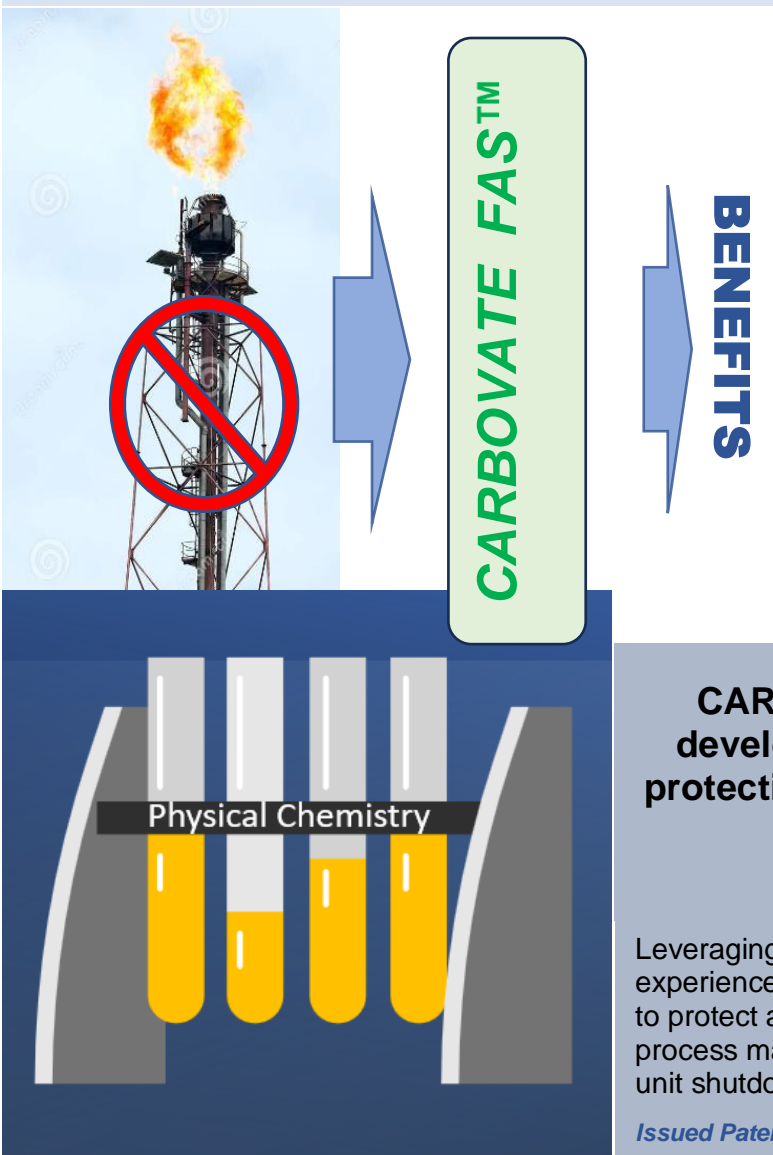
CARBOVATE FAS™

Flare Alternative System (FAS)

Overpressure Event Protection

Finally, an Alternative to Flaring

Eliminate Chronic as well as Acute Flare related Emissions



- Debottleneck Flare Limited Facilities
- Zero Scope 1 GHG Emissions
- Zero criteria air pollutant emissions
- Completely Passive when in Service
- Recover relieved material
- Simple Operation
- No Stray light emissions
- No Steam requirement
- No Igniters or flame front generator
- No alternate fuel supply required
- No flame monitoring
- No pilot flame
- No concern about extinguished pilot
- Stakeholder and Regulator friendly
- Reduced reporting of flaring events

CARBOVATE Development Corp. has developed a novel and secure means of protecting equipment against overpressure conditions.

Alternative to Flaring

Leveraging decades of petroleum/petrochemical sector experience, our engineers developed a 21st century process to protect against unplanned overpressure events. The process may also accommodate planned maintenance and unit shutdowns.

Issued Patents [US20230265974A1](#) [US20230264942A1](#) [US11852299B2](#)

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Rethinking Over Pressure Protection



Flare Systems; a Process Safety Paradigm?

Think about the last line of defense against over pressure events. The paradigm; vent the overpressure material to atmosphere. If the material is hazardous do so via a flare to combust the material. Combustion forms CO₂ and other air pollutants. The flare reduces hazardous air pollutants concentrations. Flaring forms GHGs and less toxic air pollutants releasing the mix for dilution in the atmosphere along with noise and light pollution.

Can the Paradigm be Broken? In Some Cases - Yes

CARBOVATE has developed a new process to prevent the release of combustion products via flaring. The passive *CARBOVATE FAS*™ captures released materials for reprocessing and sale. “Reportable flare” events due to emergencies, maintenance, shutdowns are avoided.

CARBOVATE FAS is well suited for process handling fluids with boiling points above ambient temperature (>30°C) at atmospheric pressure.

The *CARBOVATE FAS* process has limited capacity to support processes with a high content of non-condensable fluids having boiling points below ambient temperature and pressure.



Extraordinary Claims Require Extraordinary Evidence

(Carl Sagan)

This is an extraordinary claim. We have the extraordinary evidence to support our claim.

The US Patent Office granted 3 patents:

[US20230265974A1](#), [US20230264942A1](#), [US11852299B2](#)

Contact: Don Wood, CEO Carbovate Development Corp. at DWood@Carbovate.com to arrange a meeting.

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Rethinking Over Pressure Protection



Property	Flare System	CARBOVATE FAS™
Continuous GHG Emission	Yes	No
Emergency Relief Emissions	Yes	No
Critical Air Pollutant Emissions	Yes	No
Potential for Smoke Emissions	Yes	No
Active Systems required for reliability	Yes	No
Pilot flame	Yes	No
Pilot Ignitor System	Yes	No
Flame monitoring	Yes	N/A
Backup fuel supply	Yes	N/A
Flame Front Generator	Yes	No
Steam Supply during operation	Yes	No
Power Supply during operation	Yes	No
Exclusion / Radiant Zone	Yes	No
Relieved Material Recovery	No	Yes
Neighbor and Stakeholder friendly	No	Yes
Regulator Friendly	No	Yes
Passive Operation for reliability	No	Yes
Debottleneck Flare Limited Facilities	N/A	Yes
Reduce public reporting of flaring events	No	Yes

Emission free when armed, in service and in operation.
A fully passive system to protect people, the environment and equipment from overpressure events.