



Gas Flaring Elimination Utilizing Twister Technology

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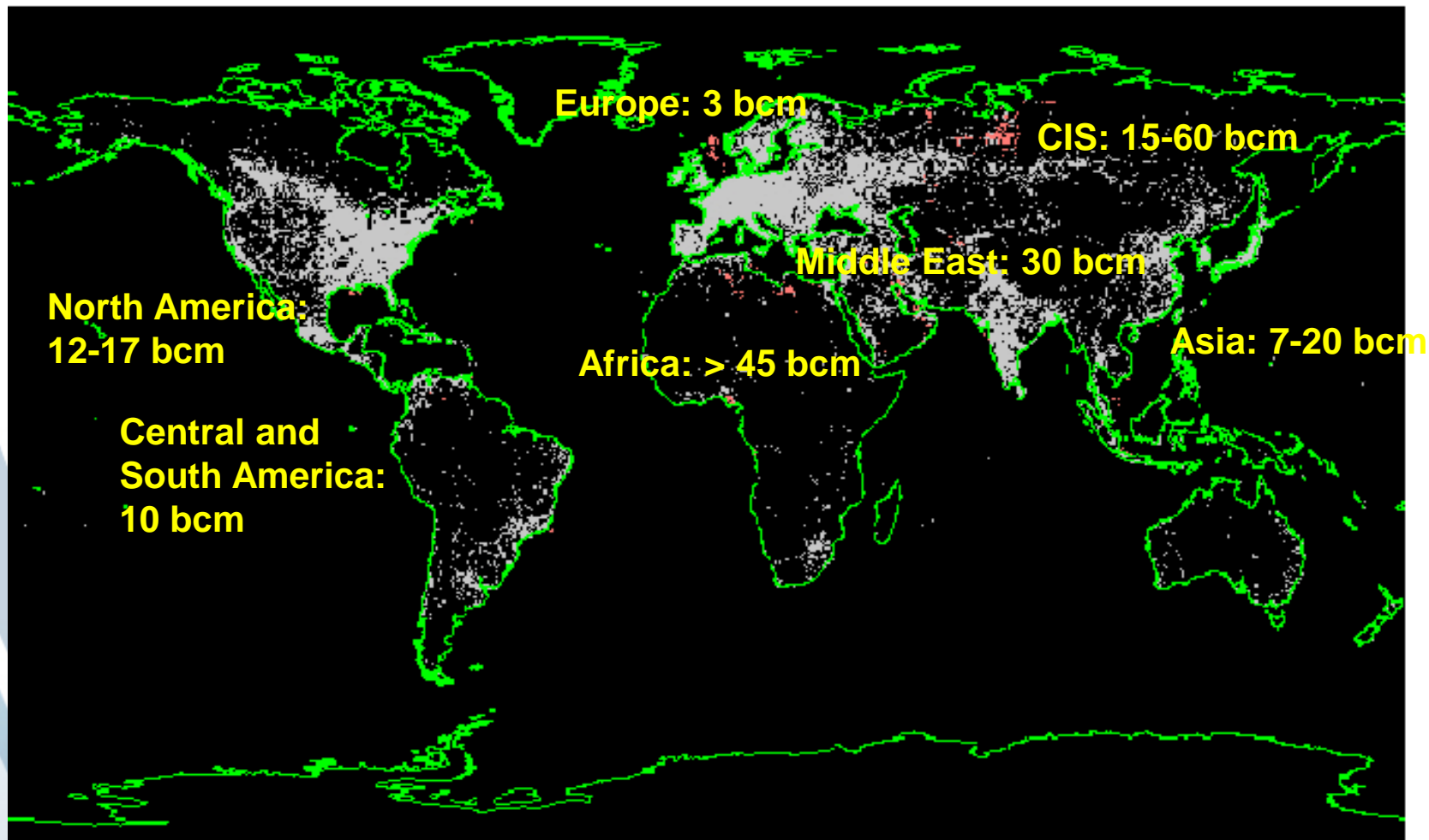
Middle East & Africa

Gas Flaring Elimination Utilizing Twister Technology



- Global Flaring
- What are the challenges ?
- Traditional approach
- Twister Technology
- Ejector Technology
- Twister Reflux Solution
- Why is it better ?
- What were the challenges again ?
- Conclusions
- More information

Global Flaring



Source: Worldbank

What are the challenges ?

- Big contributor:
 - Flash gas from condensate stabilization
- Problem:
 - low pressure
 - low volume
 - low value
- Economics:
 - cost for (re)-compression



So killing a flare is
killing economics ?!

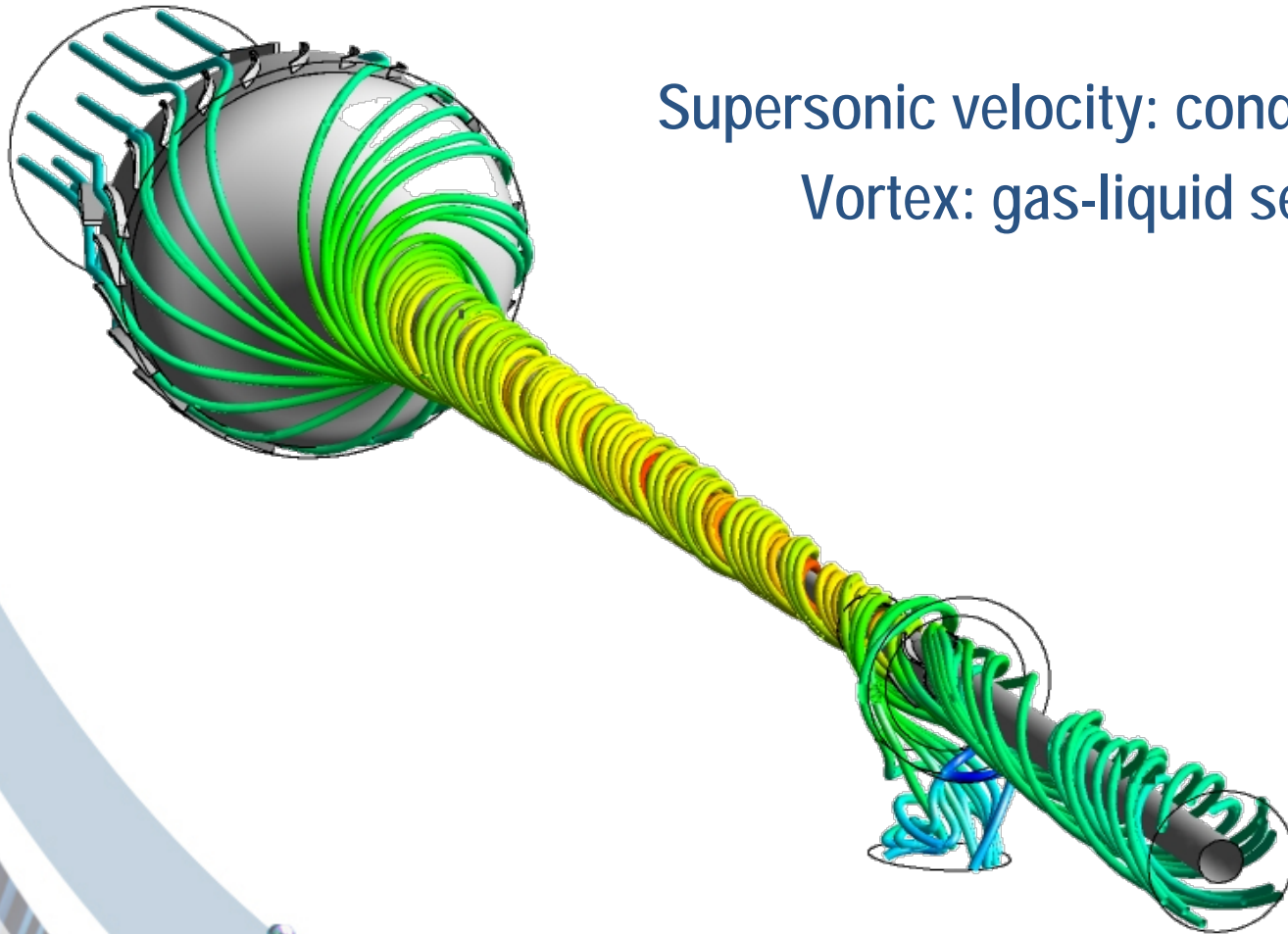
Traditional Approach

Low pressure → Compress

- CAPEX increase
 - > \$1M / MW
 - Installation
- OPEX increase
 - Rotating equipment
 - Maintenance
 - Training
- No short term ROI



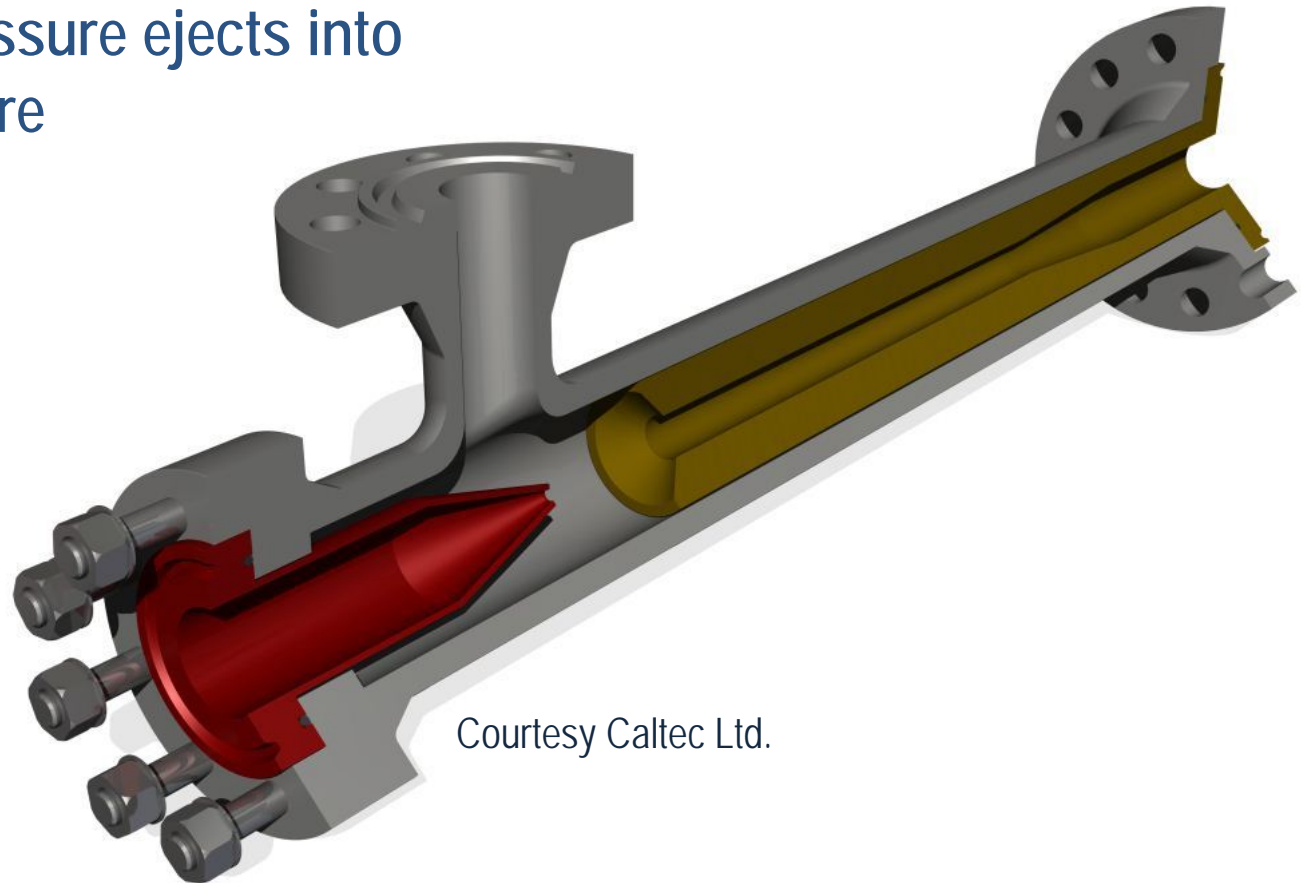
Twister Technology



Supersonic velocity: condensation
Vortex: gas-liquid separation

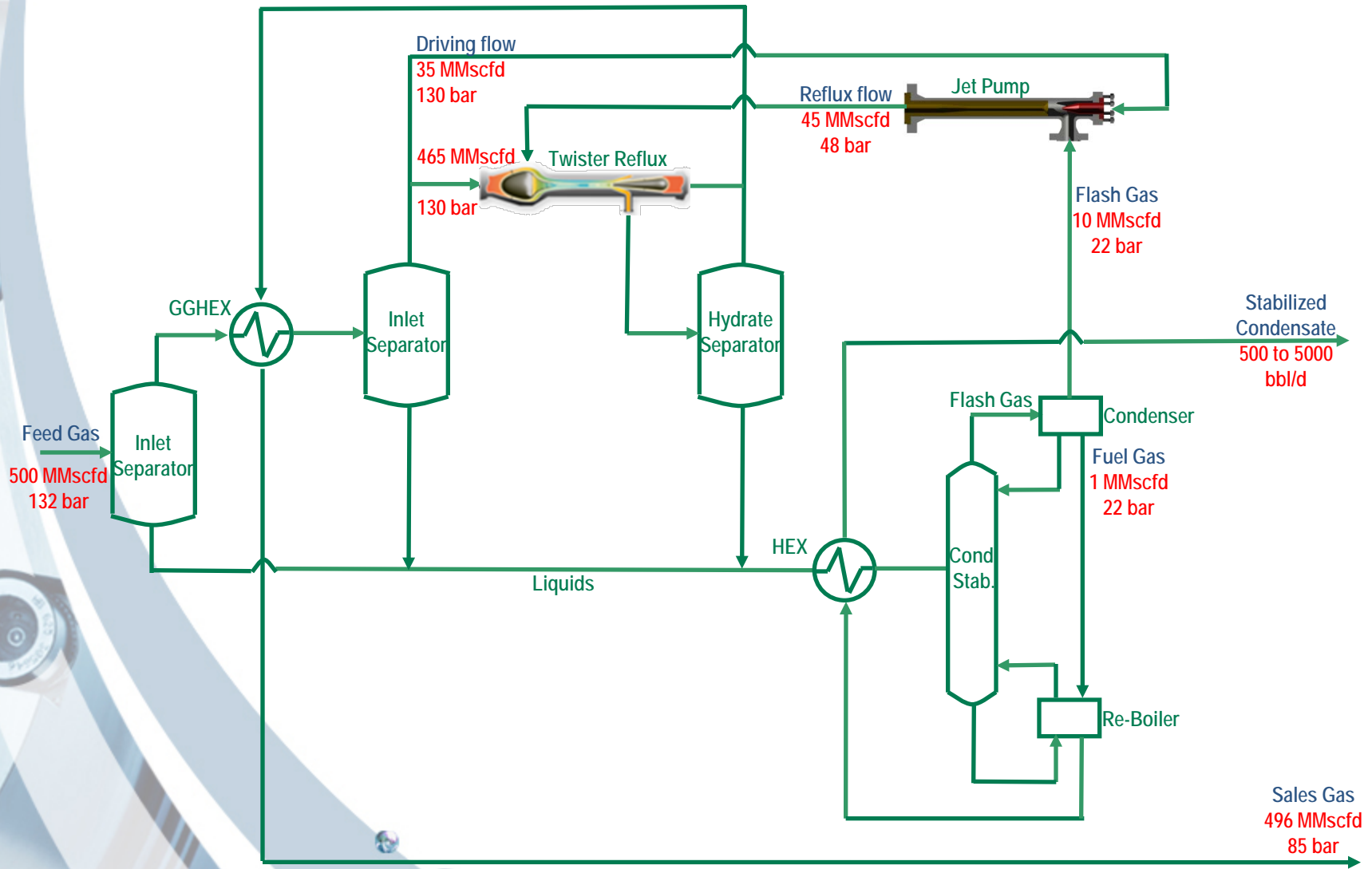
Ejector Technology

High driving pressure mixed with
low flash pressure ejects into
reflux pressure



Courtesy Caltec Ltd.

Twister Reflux Solution



Why is it better ?

CAPEX	No compressor
OPEX, key components are	Maintenance free
Increase revenue	More condensate
No rotating equipment	Higher availability
Less complexity	Less intervention

And before we forget it: **no flare**

What were the challenges again ?

- Bigger contributor:
 - Flash gas from Condensate Stabilization
- Problem:
 - Low pressure
 - Low volume
 - Low value
- Economics: cost for (re)-compression for flare

Flash gas is converted into valuable Sales Gas and condensate

SOLVED

SOLVED

SOLVED

SOLVED

Conclusions

Twister Reflux:

- Converts flaring into revenue stream:
 - Increases revenue due to more stabilized condensate
 - Increased revenue due to more gas
- Lower CAPEX to traditional approach
- Lower OPEX to traditional approach
- Fully static components, no rotating equipment
- Less than 1 year payback

More information



www.twisterbv.com