

# Installing & Maintaining

Natural Refrigeration Systems



### Illusions of knowledge...

"The greatest obstacle to discovering the shape of the earth, the continents and the ocean was not ignorance but the illusion of knowledge."

~Daniel J. Boorstin



I believe the same can be said for rapid adoption of Natural Refrigerant Technologies:



If the Technology is *NEW* then Ignorance of Installation & Maintenance is a Given. Any illusion of knowledge without proper training and experience is just that...an illusion.



### Minimizing the Unknowns...

Collaboration Between ALL Stakeholders is Critical for Success

"If you cannot describe what you are doing in terms of process, you do not know what you're doing."

- W. E. Deming

- Define Theory of Operation
- Provide Sequence of Operation
- Provide Set-points and Safeties
- Provide Start-up and FPT
- Provide
   Maintenance
   Requirements

Technology OFM

#### Refrigeration EOR

- Verify System Design & Application
- Develop System Installation SOW
- Develop System Start-up Procedure
- Define Systems Integration requirements
- Code Requirements

- New Skills Assessment
- Special Tools & Equipment
- Objectives-based Training Development
- Develop Best Practices
- Provide Feedback

Refrigeration Contractor



"Learning is not compulsory, neither is success."

- W. E. Deming



## Installation of New Technologies...

One-offs vs. Sustainable Business Development









Understand the Design, Installation, and Operation Requirements



**Develop Required Skills** 



**Develop Best Practices** 









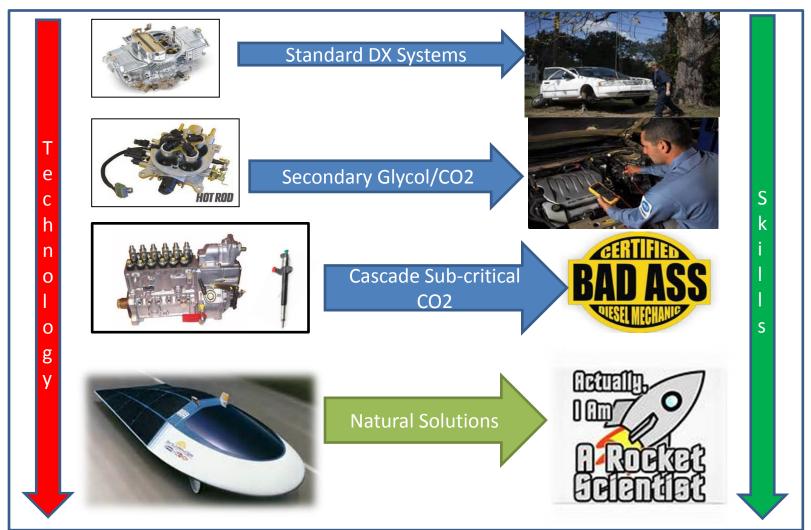






## Operating & Servicing New Technologies...

Requires New Contractor & Technician Skills





"It is necessary for us to learn from others' mistakes. You will not live long enough to make them all yourself."

- Hyman G. Rickover



"The only source of knowledge is experience."

- Albert Einstein

