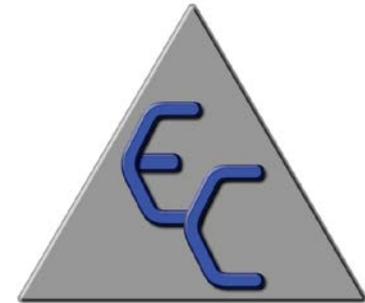


Commercializing Government Technologies: A View From Both Sides of the Table

2013 Cyber Security Division Transition to Practice (TTP)

Technology Demonstrations for Investors, Integrators, and IT Companies (I3) – West

August 22, 2013



Energy Commercialization Bio

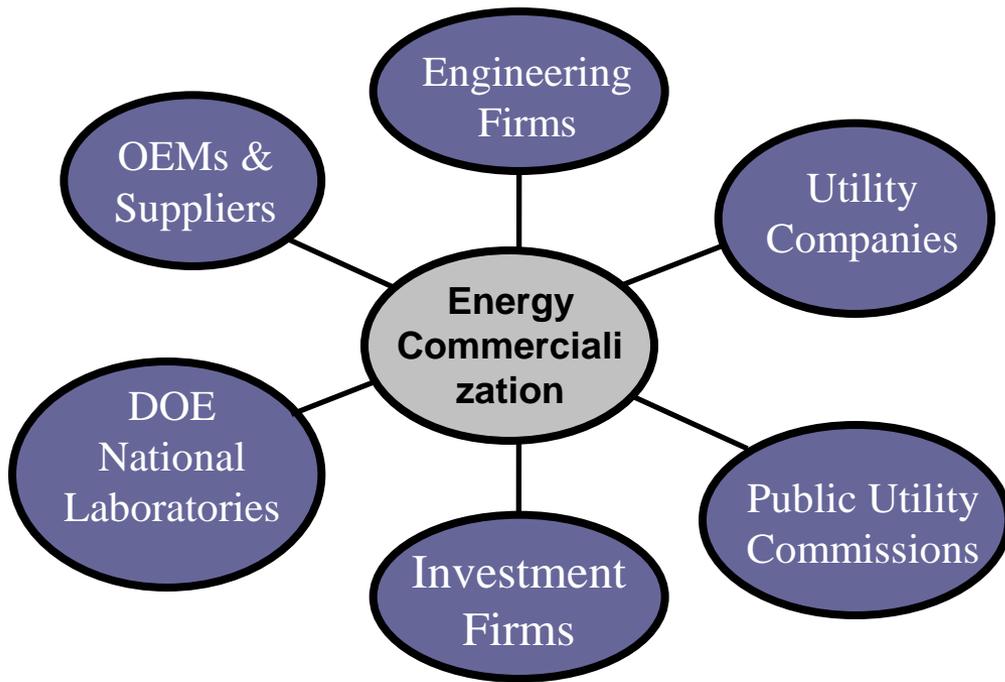
Why we are here

- Formerly with Industrial Partnerships at Lawrence Livermore National Laboratory
- Experienced at licensure of hardware and software from laboratory
- Previously assisted National Energy Technology Laboratory in portfolio analysis
- Experienced negotiating agreements from BOTH government and non-government side



Building & Managing Multi-Organizational Teams

Insuring input from stakeholders at early stage of development

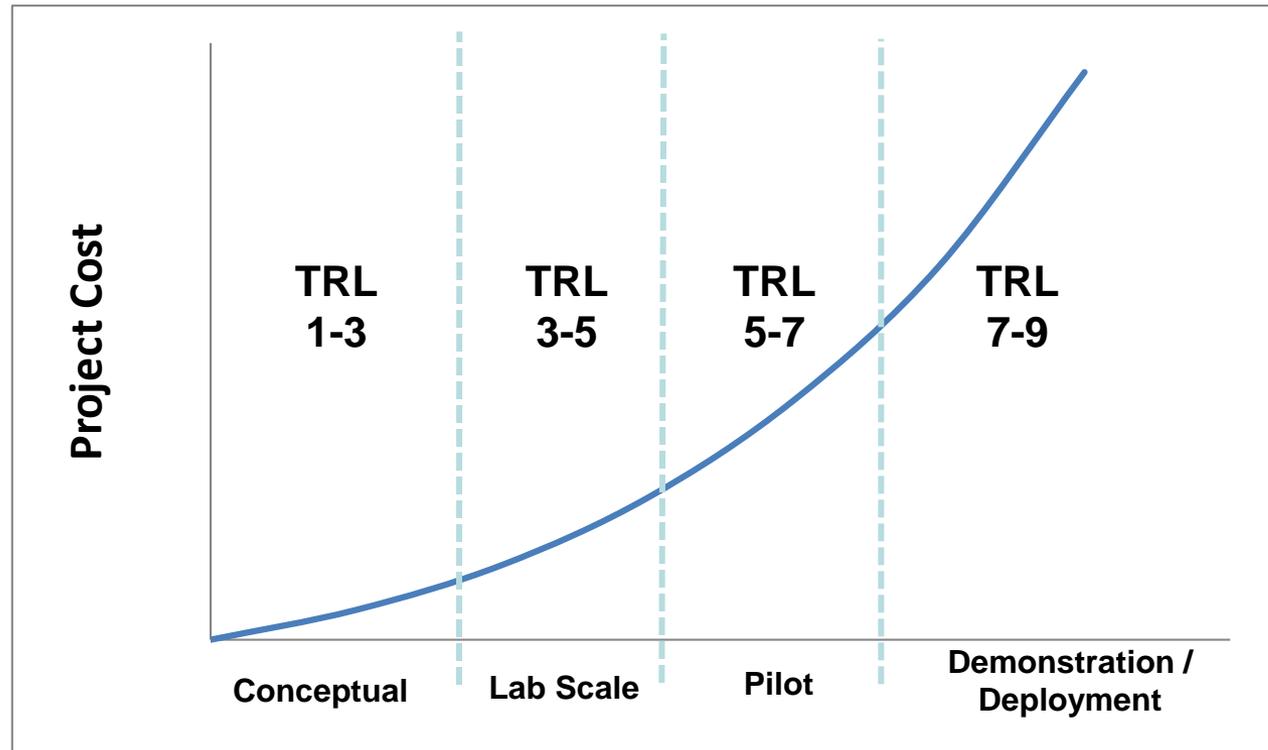


- Decrease time to deployment by EARLY dialogue with ecosystem
- “Internet” of developers, deployers, regulators, and stakeholders leverages Federal, State, Private efforts
- “Internet” of investors facilitates syndicated funding
- Common language enables dialogue between all members of network
- Ensures multi-institutional, multi-national teams remain on-track



Challenge for Maturing Energy Technologies

Significant capital, talent, and knowledge of stakeholder needs to commercialize

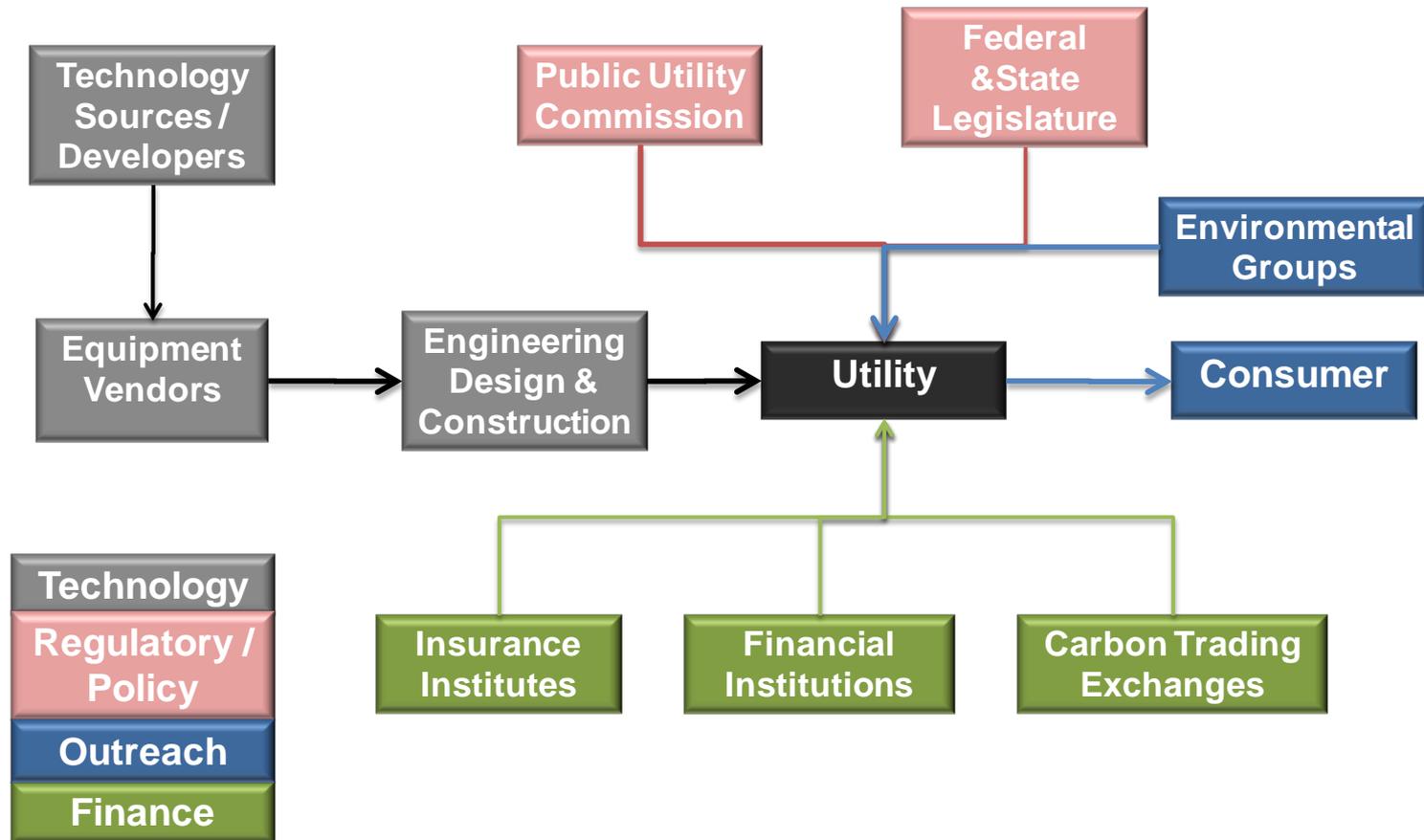


- Drives type of investor relative to technology maturity
- Challenge is that often easier to get large funds for TRL 7-9 than small funds for TRL 1-3
- Traditional R&D funding “gap” is the TRL 5-7



Energy Ecosystem : Complex & Dynamic

Requires understanding relationships & navigating dynamic landscape



Negotiating with Government Laboratories

Can be very cooperative in nature

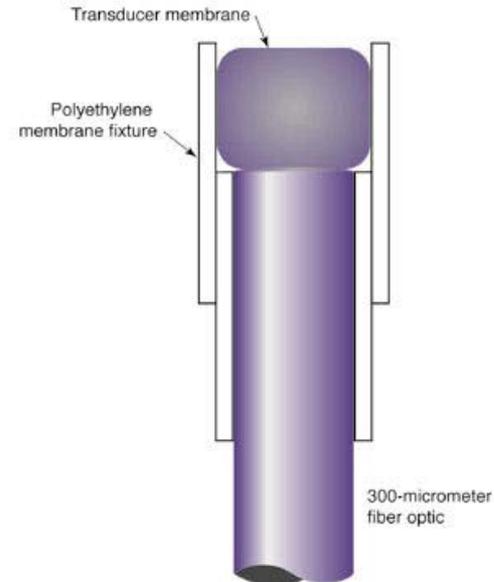


Non-Invasive Glucose Monitoring

Cooperative R&D coupled with licensing



**Subcutaneous Polymeric
Sensor**



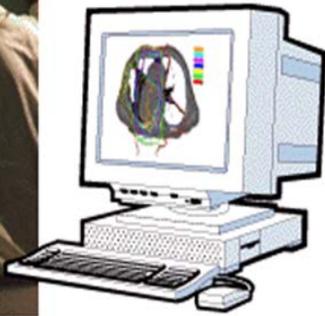
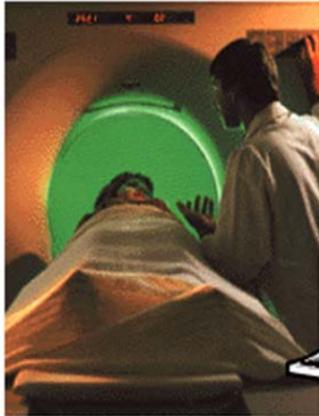
**External device used to
interrogate sensor**

- Lawrence Livermore National Laboratory and Minimed
- Won Federal Laboratory Consortium Award



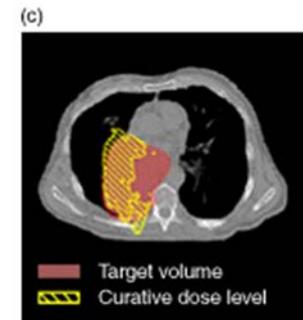
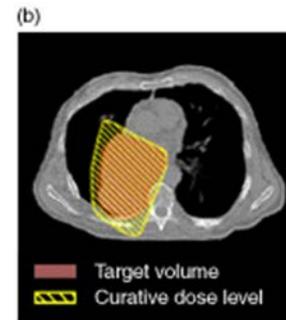
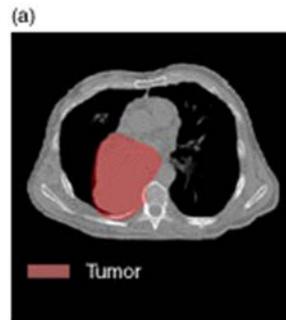
PEREGRINE: Cancer Radiation Therapy

Hardware and software licensed



Software provided a major advantage in dosage calculation

Better radiation dosage patterns with less damage to surrounding tissue

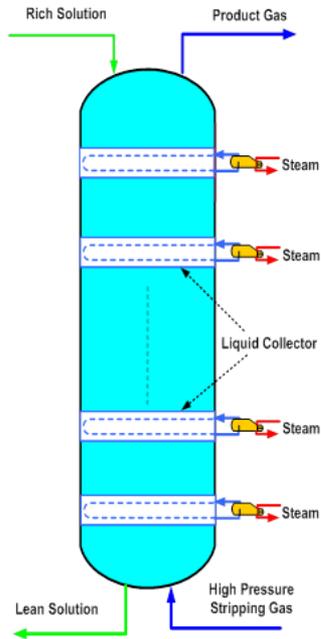


- Lawrence Livermore National Laboratory and NOMOS



Capturing Carbon from Industrial Processes

Supporting the formation of a start-up



Designing a process to capture CO₂ emissions using advanced simulation models and methods

Company formed, technology evaluated in lab scale setting within 2 years, preparing for field testing



- National Energy Technology Laboratory and Carbon Capture Scientific**



Reducing Energy Consumption in Buildings

Includes software



**Training methodology and software
to reduce energy usage in buildings
from 5% to 25%**

**40 hours of training and use of
software to analyze utility data**



- **Pacific Northwest National Laboratory thru NIST/DOE to three partnerships**



Keys to Success

Dealing with government laboratories is different

- Understand the time frames
- Certain terms are non-negotiable
- There are constraints outside the control of the laboratories
- Despite these factors, the laboratories DO want to commercialize their technologies
- There are major advantages of working with the government as proposed to private investors

