

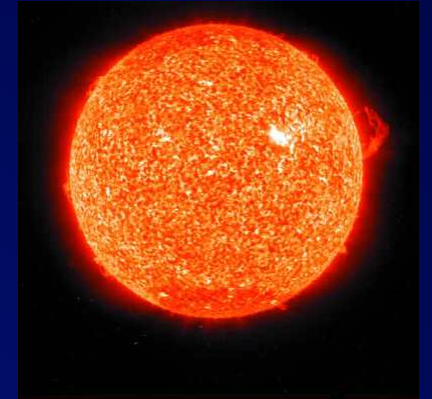
Fusion Energy...

How can we do more, sooner?

John Sethian

Fusion Energy promises good things

Harnesses the power of the sun



Plentiful fuel



No Greenhouse gas emissions



But.....

Fusion is getting a bit of a reputation

**“Fusion is the *Energy of the Future...*
.....and always will be”**

A photograph of a white street signpost against a blue sky with light clouds. The signpost has two signs. The top sign is rectangular and reads "PROMISES AVE" in large, bold, blue capital letters. The bottom sign is smaller, rectangular, and reads "REALITY WAY" in blue capital letters, tilted downwards. The signpost is made of white metal with decorative finials.

PROMISES AVE

**“Past performance is no guarantee
of future success”**

**“You ever make that energy
from stars/seawater thing?”**

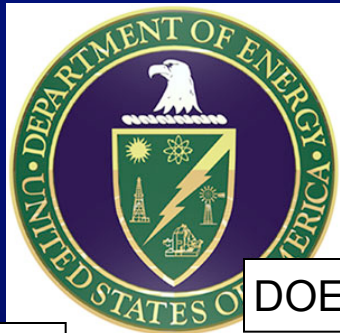
Rusty the Barber

WE CAN FIX THIS

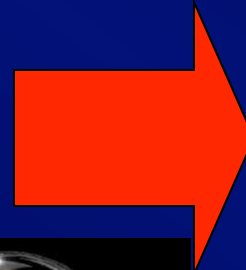
We need to make fusion energy attractive to investors



Congress



DOE



Big Business



Venture Capital

Proper Risk/Reward

Low Uncertainties

Best use of limited dollars

Easier to justify/defend

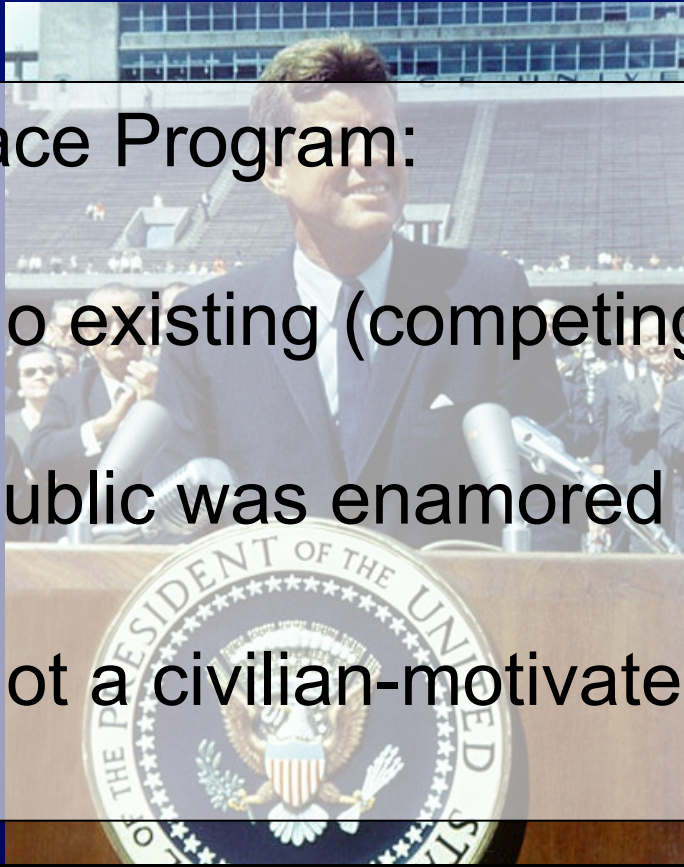
POC

Following are 7 ways to do this

7. Realize fusion is NOT the space program

Space Program:

- No existing (competing) technology
- Public was enamored with big science and technology
- Not a civilian-motivated program



John F. Kennedy:
“We choose to go to the moon”
Rice University
September 12, 1962



First Lunar Landing
July 20, 1969

6. Develop fusion as an *integrated* system.

Pursue science and technology development simultaneously

Always fix on the goal of an attractive power plant

Foster competition between approaches

Develop each approach in phases



Increasing size
Increasing performance
Decreasing scientific risk

Graduation to next phase determined by progress /attractiveness

How do we pick the right approaches?

5. Avoid Complex Approaches

Form 1040	Department of the Treasury—Internal Revenue Service		2009	(99) IRS Use Only—Do not write or staple in this space.			
	U.S. Individual Income Tax Return				OMB No. 1545-0074		
Label (See instructions on page 14.) Use the IRS label. Otherwise, please print or type.	L A B E L H E R E	For the year Jan. 1–Dec. 31, 2009, or other tax year beginning _____, 2009, ending _____, 20		Your social security number			
		Your first name and initial	Last name		Spouse's social security number		
		If a joint return, spouse's first name and initial		Last name		You must enter your SSN(s) above. ▲	
		Home address (number and street). If you have a P.O. box, see page 14.		Apt. no.		Checking a box below will not change your tax or refund.	
City, town or post office, state, and ZIP code. If you have a foreign address, see page 14.		Presidential Election Campaign <input type="checkbox"/> Check here if you, or your spouse if filing jointly, want \$3 to go to this fund (see page 14) <input type="checkbox"/> You <input type="checkbox"/> Spouse					
Filing Status	1 <input type="checkbox"/> Single	2 <input type="checkbox"/> Married filing jointly (even if only one had income)		4 <input type="checkbox"/> Head of household (with qualifying person). (See page 15.) If the qualifying person is a child but not your dependent, enter this child's name here. ▶ _____			
Check only one box.	3 <input type="checkbox"/> Married filing separately. Enter spouse's SSN above and full name here. ▶ _____		5 <input type="checkbox"/> Qualifying widow(er) with dependent child (see page 16)				

4. Avoid High Cost....including development costs!!



HK-1 Flying Boat, aka "Spruce Goose"

3. Have a credible, sensible approach



....and an equally credible development path

2. Start small, but start viable



1908 Ford Model T

1. If we want to be treated as a solution to the worlds energy problems...

..... *then we need to act like one*