

The Why and the How of FBEG

(Fusion Based Electricity
Generation)

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- Clean Electricity is Key to Zero Carbon

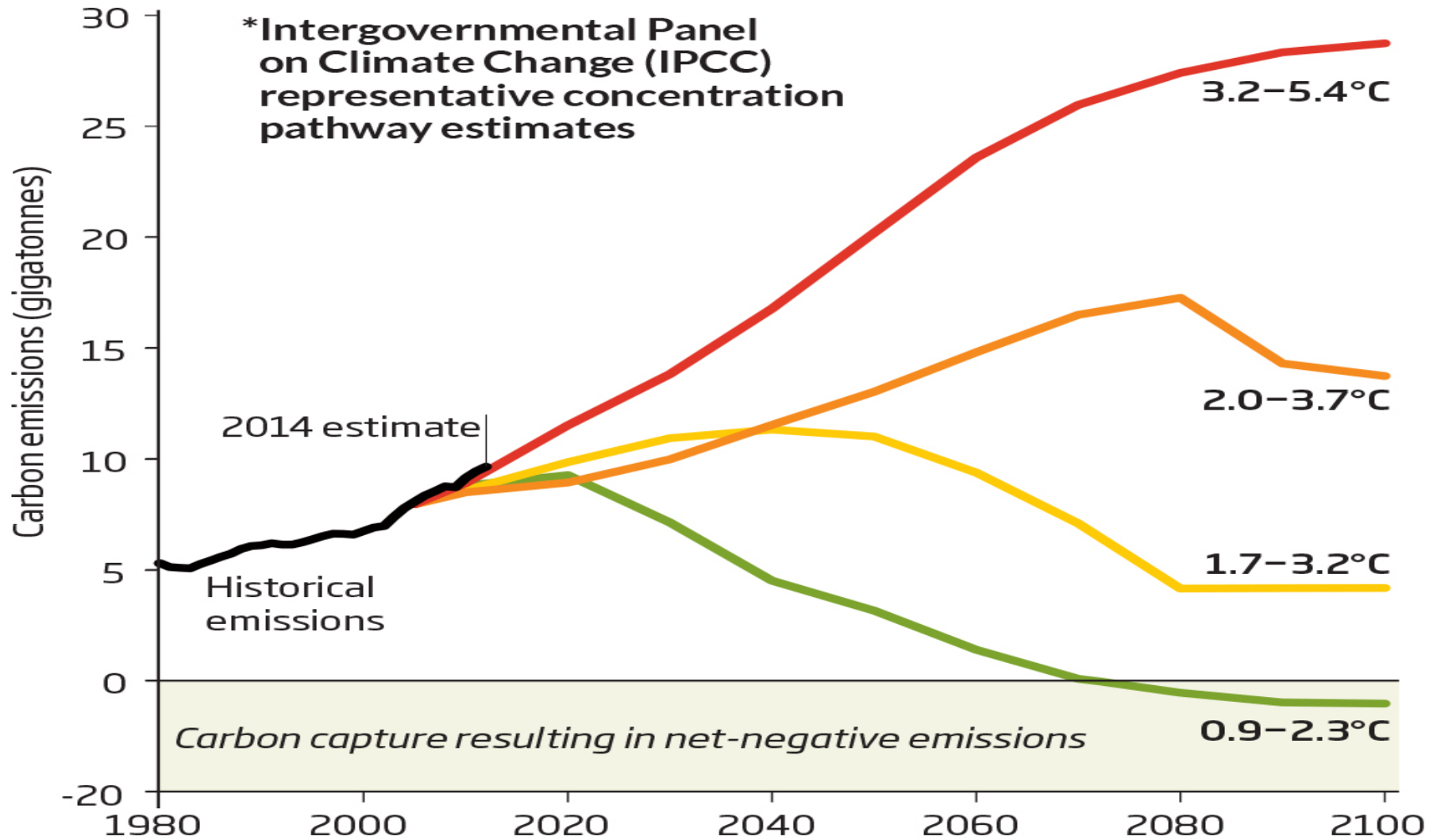
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Water desalination, Hospital services, air traffic control, EVs of all kinds, street lights, etc.

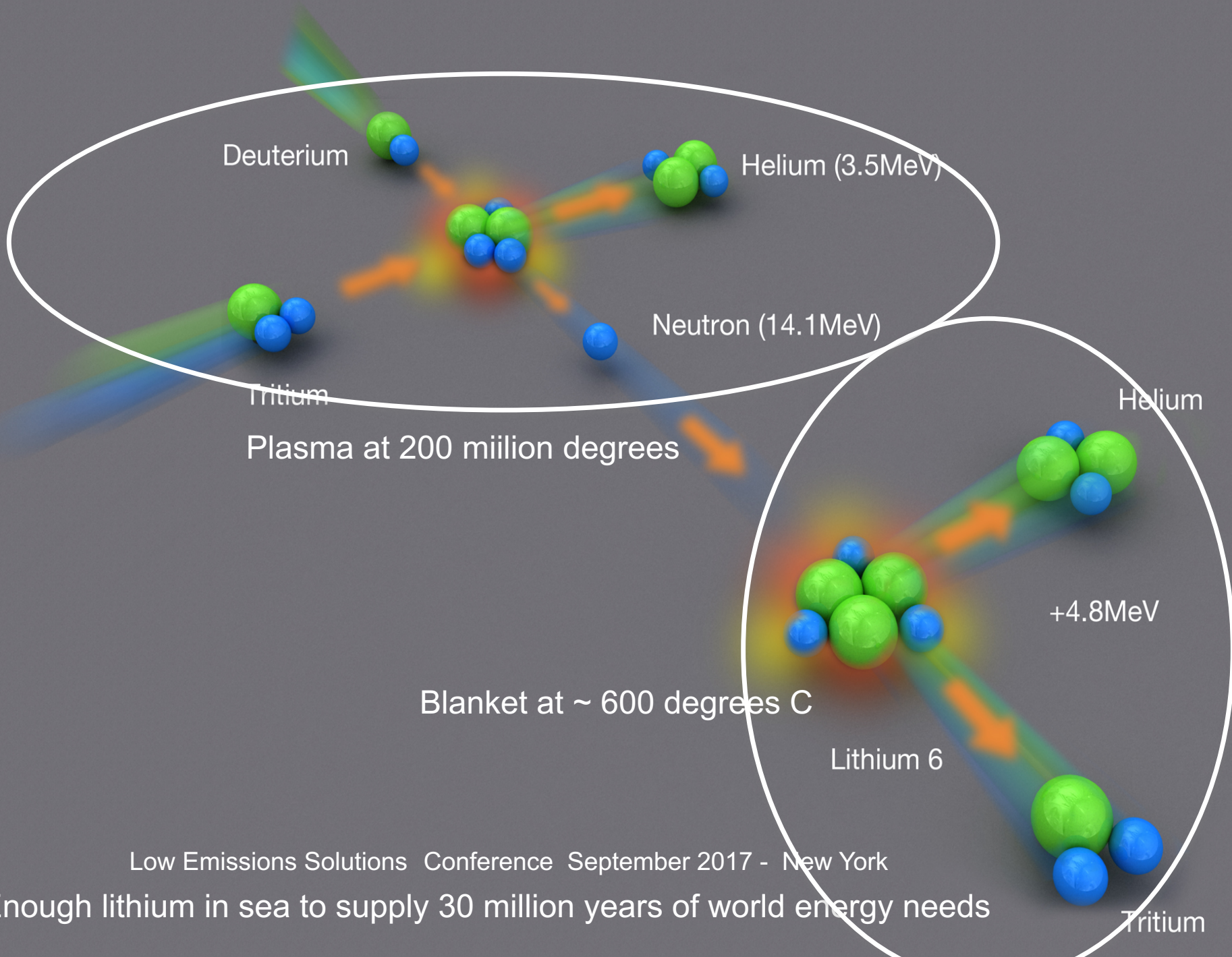
Emissions go from bad to worse

The new report from the Global Carbon Project shows global emissions are following the course of the worst of four scenarios*. This suggests warming of at least 3°C by 2100, relative to 1850-1900



- What is FUSION?

YES, fusion makes the Sun hot and the Stars shine, but how does that help me understand it?



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Enough lithium in sea to supply 30 million years of world energy needs

- Three Einstein points:
 - The 3 universal forces
 - $E = mc^2$
 - “Nothing happens until something moves”

- Speed of light
("c")

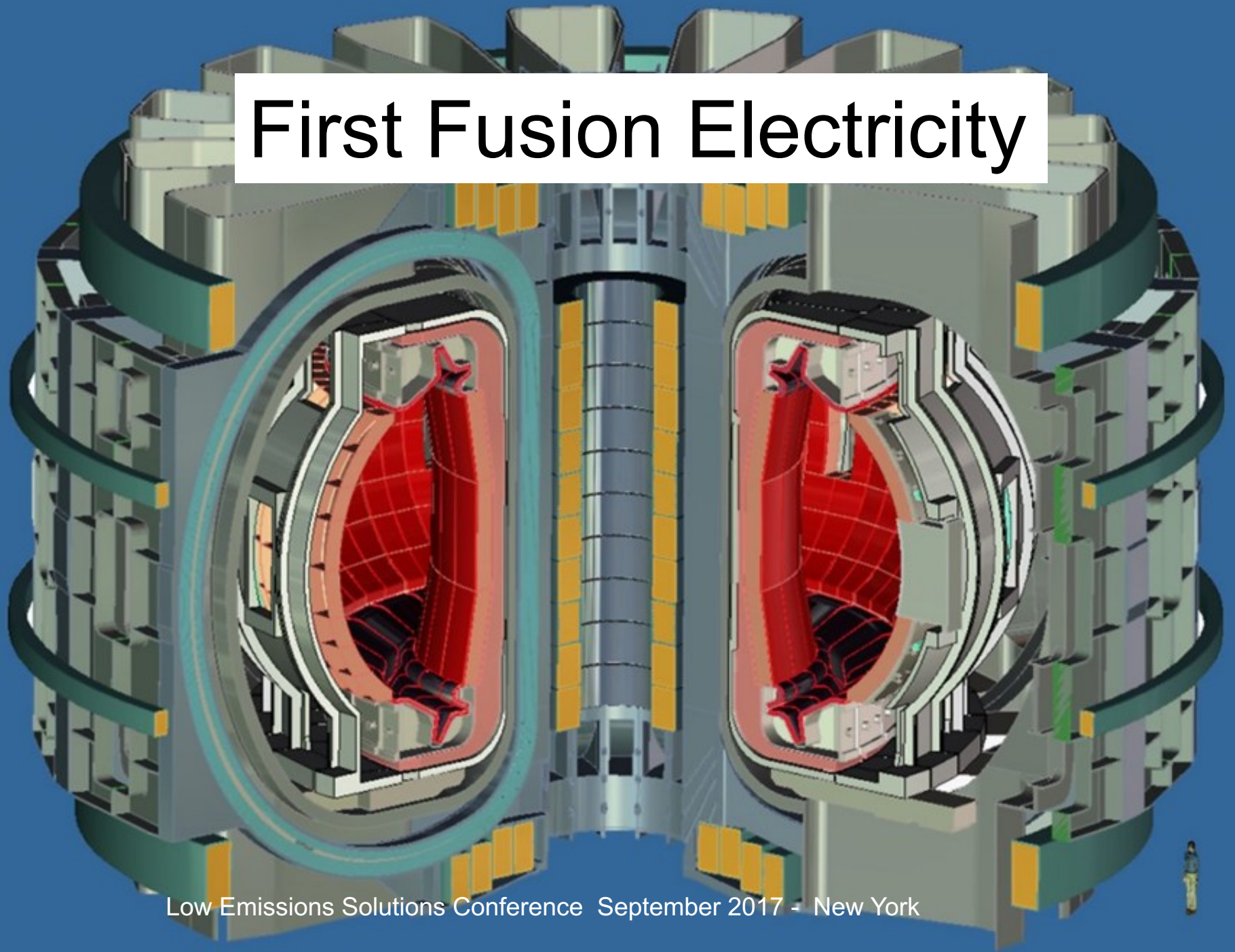
$$c = 1 \times 10^9$$

$$c^2 = 1 \times 10^{18}$$

Gravity
= 1

- EMF
(Electromagnetic
Force)
= 1×10^{40} (1 with 40
zeros!)
- Strong nuclear force
= 1×10^{12}

First Fusion Electricity



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Two Kinds of Fusion Energy

- Inertial Confinement
- Magnetic Confinement

Laser (NIF, etc.)

Tokamak
Stellarator
a few others

Why Fusion?

- NO Problems:
 - No raw materials limitations and little transport
 - No waste problems (NO GHG)
 - Cannot explode or meltdown
 - No political or terrorist interest
- Except it needs to be proven

- The Major Challenges :
 - Finance
 - Public Awareness
 - Academic Timidity
 - Technology
 - 150 million degrees
 - Size
 - Materials

Final Thought

Delivering this project couldn't
be easy. And it isn't.

.... And it couldn't be more important.