

# Making turn toward fusion development

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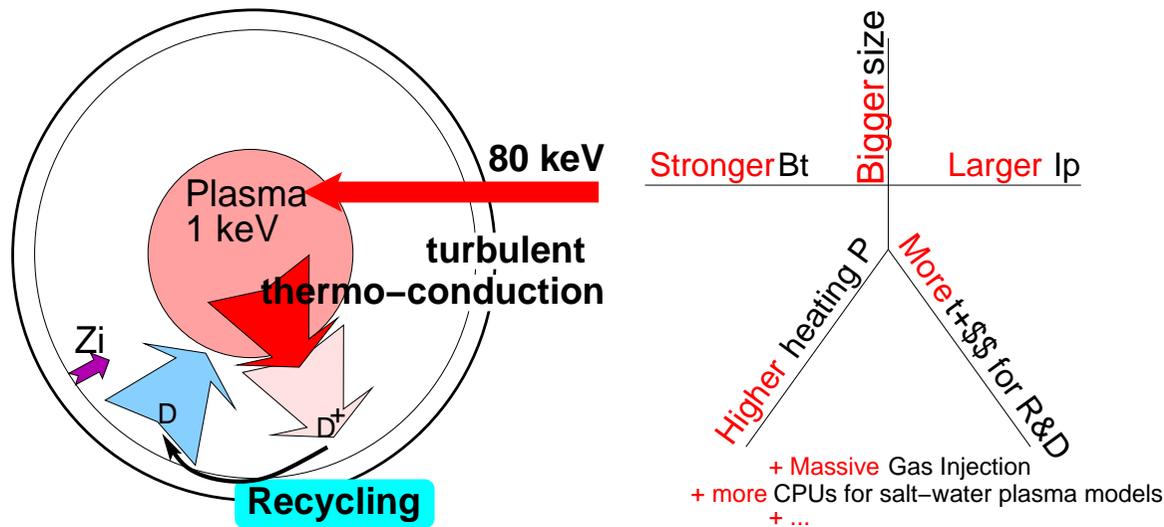
Lithium Strategy Discussion,

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## Anomalous electrons are at the root of fusion problems (and its failure so far)

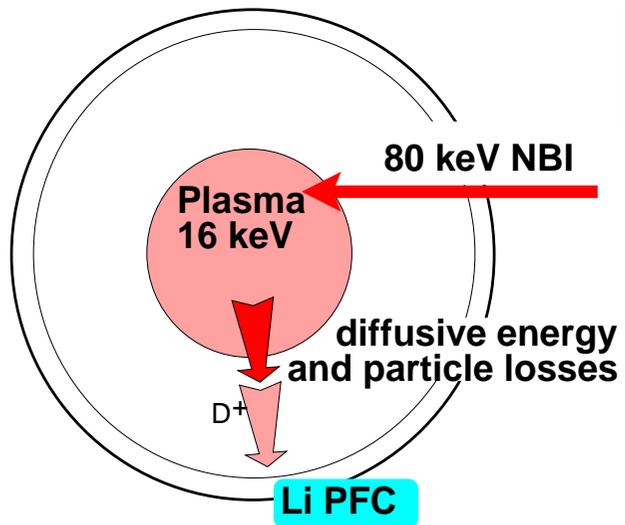
*Big 5+ mentality dominates fusion “strategies” for decades*



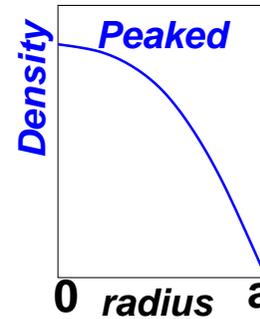
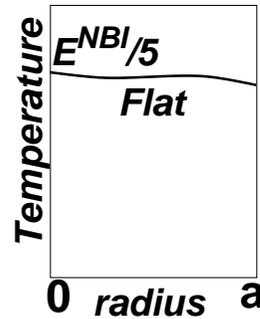
*Big 5+ approach has exhausted itself at the level of TFTR and JET.*

*Its continuation only piles up new and amplifies existing fusion problems without tangible progress.*

***For toroidal plasma is much more efficient to prevent its cooling by neutrals recycled from the walls, rather than to rely on extensive heating power.***



**NBI for core fueling & heating + Pumping LiWall conditions**  
 (Limited plasma edge cooling:  $R^{cycling} < 0.5 \Gamma^{gasI} < \Gamma^{NBI}$  )



The plasma physics is much simpler (or eliminated). Energy losses are only due to the plasma diffusion.

Anomalous electron thermal conduction plays no role

Regime is realistic:

- plasma edge can be stable;
- NBI can be sufficient for core fueling

**Does or not fusion community and its establishment recognize it, but the confinement part of FES mission is accomplished - the best possible and realistic confinement regime has been suggested.**

**The only real question is "How good is the best"**

*(There is no question that every day spent on Big 5+ is simply waste of taxpayers money.)*

**At the moment, NSTX is still uniquely positioned to initiate a turn in the program toward fusion development:**

- 1 g Li in the PSI zone is necessary for pumping  $10^{22}$  particles per NSTX shot: Macroscopic layer of Li is necessary
- Development of the LiWF regime is the realistic and the real mission of NSTX. It will give fresh air to all other ideas.
- The tangible result of this mission would be a motivation of a LiWF DT experiment on JET with  $Q^{DT} > 5$ .