Summary and conclusions

- With state-of-the-art integrated modelling tool JINTRAC we have developed integrated core/pedestal/SOL/divertor scenarios for ITER PFPO respecting operational and technical constraints.
- The ITER Research Plan: initial power of 20MW ECRH in PFPO-1.
  - Upgrade by 10MW to 30MW ECRH for PFPO-1 under discussion.

Our study support this upgrade and suggest that robust type-I ELMy H-mode operation for 5MA/1.8T H, He and H- He minority plasmas requires 30MW ECRH in PFPO-1.

- PFPO-2: Type-I ELMy H-mode operation at 7.5MA/2.65T requires:
  - 20MW RF & 33MW NB in He plasma
  - 20MW ECRH & 33MW NB in H plasma with a He/Ne minority mix
    - More robust H-mode with 30MW ECRH
    - Caveat: Benefits from a 15% lower P_{LH} as observed on JET.
  - 30MW ECRH & 33MW NB in H with Ne minority
    - 20MW ECRH & 33MW NB not yet ruled out but will likely be more marginal.

PFPO-2 key milestone for DT Q=10: fully developed 15MA/5.3T integrated H L-mode scenario allowing for 33MW/1MeV NB.