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Building for Discovery: Strategic  
Plan for U.S. Particle Physics in the  
Global Context

P5

Rapport express

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## Panel Members

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**A very dedicated, hardworking panel!**

# Method, 3 scenarios, 30 recommendations

- **Recommendation 5:** Increase the budget fraction invested in construction of projects to the 20%–25% range.
- **Recommendation 10:** Complete the LHC phase-1 upgrades and continue the strong collaboration in the LHC with the phase-2 (HL-LHC) upgrades of the accelerator and both general-purpose experiments (ATLAS and CMS). The LHC upgrades constitute our highest-priority near-term large project.
- **Recommendation 11:** Motivated by the strong scientific importance of the ILC and the recent initiative in Japan to host it, the U.S. should engage in modest and appropriate levels of ILC accelerator and detector design in areas where the U.S. can contribute critical expertise. Consider higher levels of collaboration if ILC proceeds.

- **Recommendation 12: In collaboration with international partners, develop a coherent short- and long-baseline neutrino program hosted at Fermilab.**
- **Recommendation 13: Form a new international collaboration to design and execute a highly capable Long-Baseline Neutrino Facility (LBNF) hosted by the U.S. To proceed, a project plan and identified resources must exist to meet the minimum requirements in the text. LBNF is the highest-priority large project in its timeframe.**

Increase Fermilab intensities to MW powers

Strongly recommend DESI

Continue LSST, CMB, reinforce Generation 2 DM

Keep CTA as a small project with NSF Astro support

Continue  $\mu \rightarrow e, g-2$

In scenario A (3 years + 2%/y) DESI and R&D have to be cut

In scenario B (3 years+ 3%/y, that is +500 M\$ after 10y) DESI and some R&D are possible