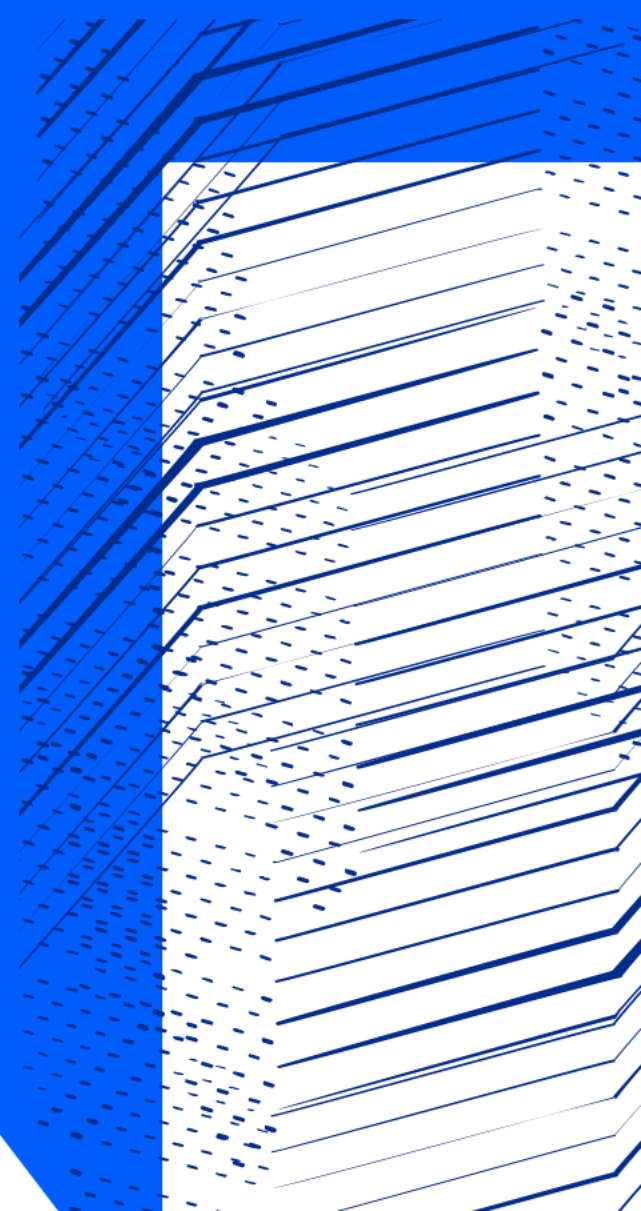




Science and
Technology
Facilities Council

PPGP(E) Update

Helen O’Keeffe, Lancaster University
STFC town meeting, 5th April 2022



Panel Membership

Professor Helen O’Keeffe	Lancaster
Professor Richard Ball	Edinburgh (Theory)
Professor Daniela Bortoletto	Oxford
Dr Joanne Cole	Brunel
Professor Nick Evans	Southampton (Theory)
Dr Evgueni Goudzovski	Birmingham
Dr Asher Kaboth	RHUL
Professor Ryan Nichol	UCL
Dr Mitesh Patel	Imperial
Professor Darren Price	Manchester
Professor Jonas Rademacker	Bristol
Professor Joost Vossebeld	Liverpool

Background

Consolidated Grant (CG) funds

- Core posts (key, underpinning skills for running and planned experiments)
- Responsive posts (exploitation, M&O, technical effort)
- Support staff
- Academic research time
- Small Research Facilities (SRF)
- Consumables/travel/equipment

Supports the UK maintenance and operations (M&O) of major international experiments in which the UK has invested.

Review Process

Proposals were assessed according to STFC/UKRI criteria:

- Scientific/Technical excellence: specific objectives of the project
- International competitiveness and strategic value within the STFC programme
- Leadership, planning and project management
- Social and Economic Impact from the proposed research

Review of experiments

- Formal submissions from experiments requesting M&O, common fund and/or travel support.
- Two panel members were assigned as “Caretakers” for each experiment.

Review of institutions

- Two or three introducers per institution.
- Clarification meetings with Introducers, STFC staff, PI and group members in May/June.
- Reviewers of international standing and expertise were pre-approached and selected.
- Each international reviewer was asked to review four or five proposals within their specialist area, from different institutes.

Review Timetable

February 2021: Institution proposals submitted.

March 2021: Experiment proposals submitted.

May 2021: Experiment review meeting.

May/June 2021: Introducer meeting with each institution.

July 2021: Grant review meeting.

September 2021: Grant finalisation meeting.

October 2021: PPGP(E) recommendations presented to Science Board.

February 2022: Outcome communicated to institutions/experiments.

March 2022: Grant outcome announced.

Assessment of proposals

The programme was divided into board theme areas:

- Energy frontier
- Flavour physics – LHCb
- Flavour physics
- Neutrino physics
- Dark sector
- Other (which includes accelerator and detector development)
- Quantum Technology for Fundamental Physics (QTFP)

Assessment of proposals

The panel assessed and scored the theme areas for each institute proposal

- The panel scored the percentage of work that fell into quartiles for each theme area
 - 1 was low and 4 high.
- Scores were used to form a ranked list of theme areas.
- Panel scores for each theme area were anonymised and displayed as a histogram at the July meeting.
- The list and histograms formed the first basis for discussion in the panel meeting.

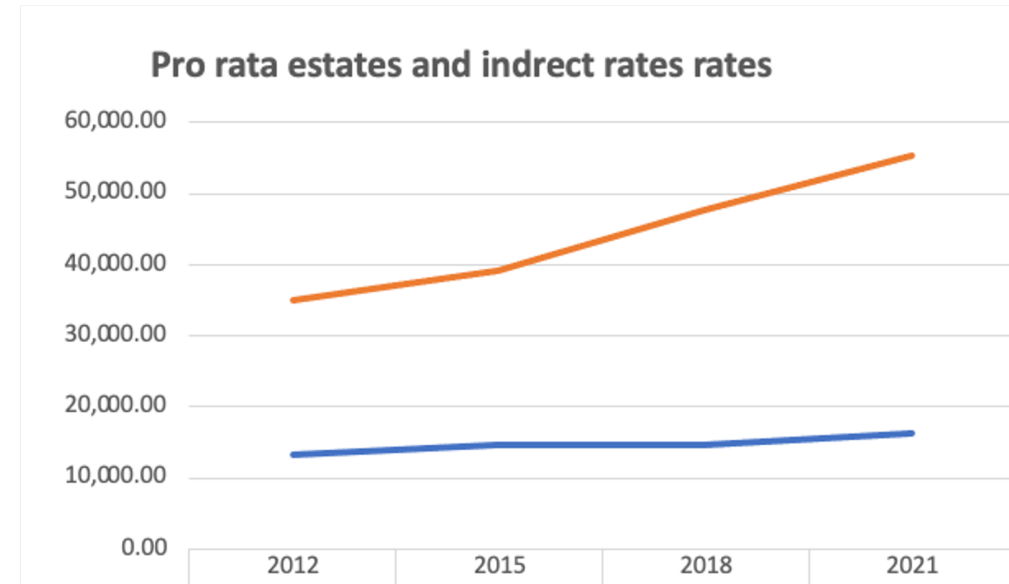
Balance of programmes was considered across groups and experiments.

Cost of posts was NOT considered.

Finances

Planned for flat cash, in reality received a small increase to the budget that was inline with inflation.

- Approximately £21.5M p/a, c.f. £20M p/a in 2018 round.
- Ringfence posts in ATLAS upgrade, CMS upgrade and DUNE.
- Expected to slightly increase the number of awarded FTEs, but...
- University indirect costs increased further in this round.
 - Increase was +21% (+£3.95M, 100% cost) compared with 2018 round.
 - This was more than the inflation increase to the budget.



— Average estates
— Average indirects

100% cost used in averages

Recommendations

Panel tensioned

- Balance of core and non-core posts
- Support for M&O/exploitation and analysis
- Technical and computing support for groups
- Academic time, travel, consumables

Staff Costs

- Standard level of academic time (4%) awarded to all supported academics.
- Awarded core FTE maintained at the level awarded in 2018.
 - Lower than the level deemed necessary to support the programme.
- Awarded responsive FTE is lower than the level awarded in 2018
 - Risk to exploitation, M&O, technical effort

Very challenging to reconcile needs of the programme with the available funding.

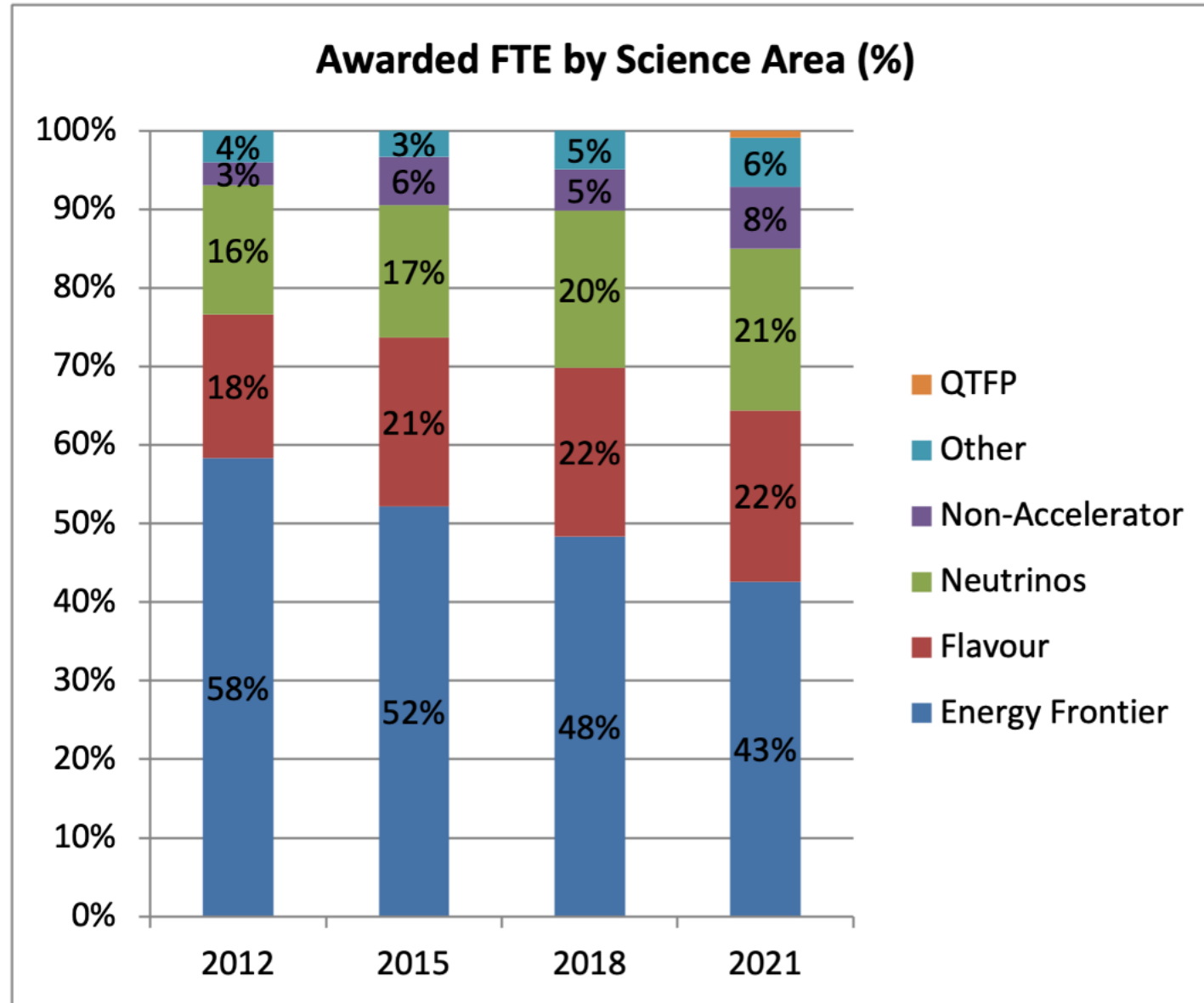
Recommendations

Non-Staff Costs

	2018 CG	2021 CG
Travel and subsistence	£1100 per physicist FTE (i.e. those with overheads)	£1100 per physicist FTE (i.e. those with overheads) per year, but only two years to be awarded.
Computing	£1500 per person FTE, then reduced to £1000	£1000 per person FTE
Tier 3	£0 per physicist FTE (i.e. those with overheads)	£0 per physicist (i.e. those with overheads)
Consumables	£4875 per person FTE	£4875 per person FTE
Computing support	1 FTE per 30 persons per year (including fellows)	1 FTE per 30 persons per year (including fellows)
Administrative support	1 FTE per 60 persons per year (including fellows)	1 FTE per 60 persons per year (including fellows)

- No funding held back for new applicant grants, conference requests etc.
- Experiment travel awards reduced to a level that is now below that set in 2012.
- Equipment items were assessed, prioritised and the panel recommended awards up to the level of funding available.

Science areas



Impact on Science Delivery

- Maintaining a broad programme is important but challenging in the current funding environment.
- Very difficult to balance new and existing activities within the budget.
- Proposed reductions increase risk to science. Loss of staff effort risks defaulting on UK obligations.

Energy Frontier: ATLAS+CMS represent just under half of the programme. No support for future collider R&D beyond academic time.

Flavour (LHCb): Decrease in responsive effort will impact analysis and M&O effort.

Flavour (other): Slight increase reflects increase in academic time.

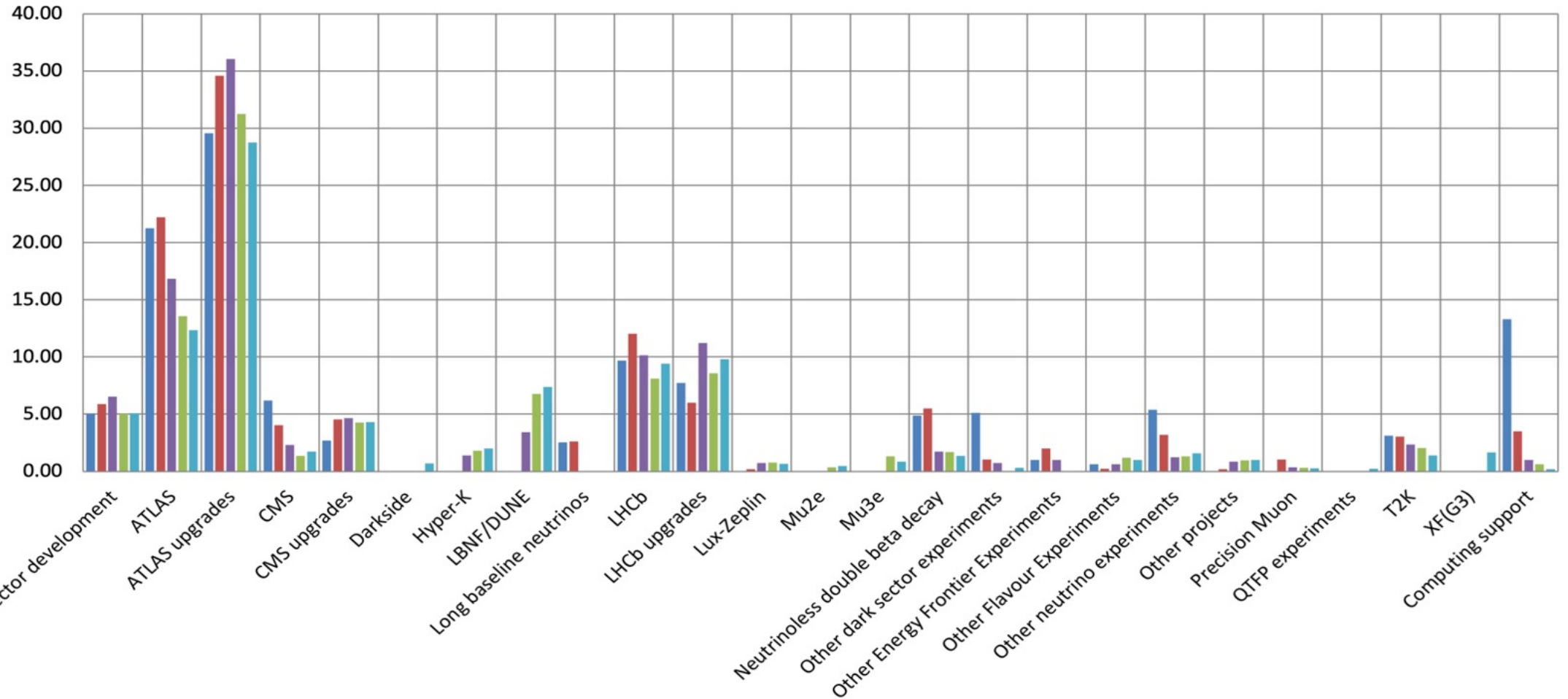
Neutrinos: Support for neutrinoless double beta decay now at critically low level.

Dark Matter: Support for LZ and Darkside.

QTFP: Not possible to absorb costs from the QTFP programme.

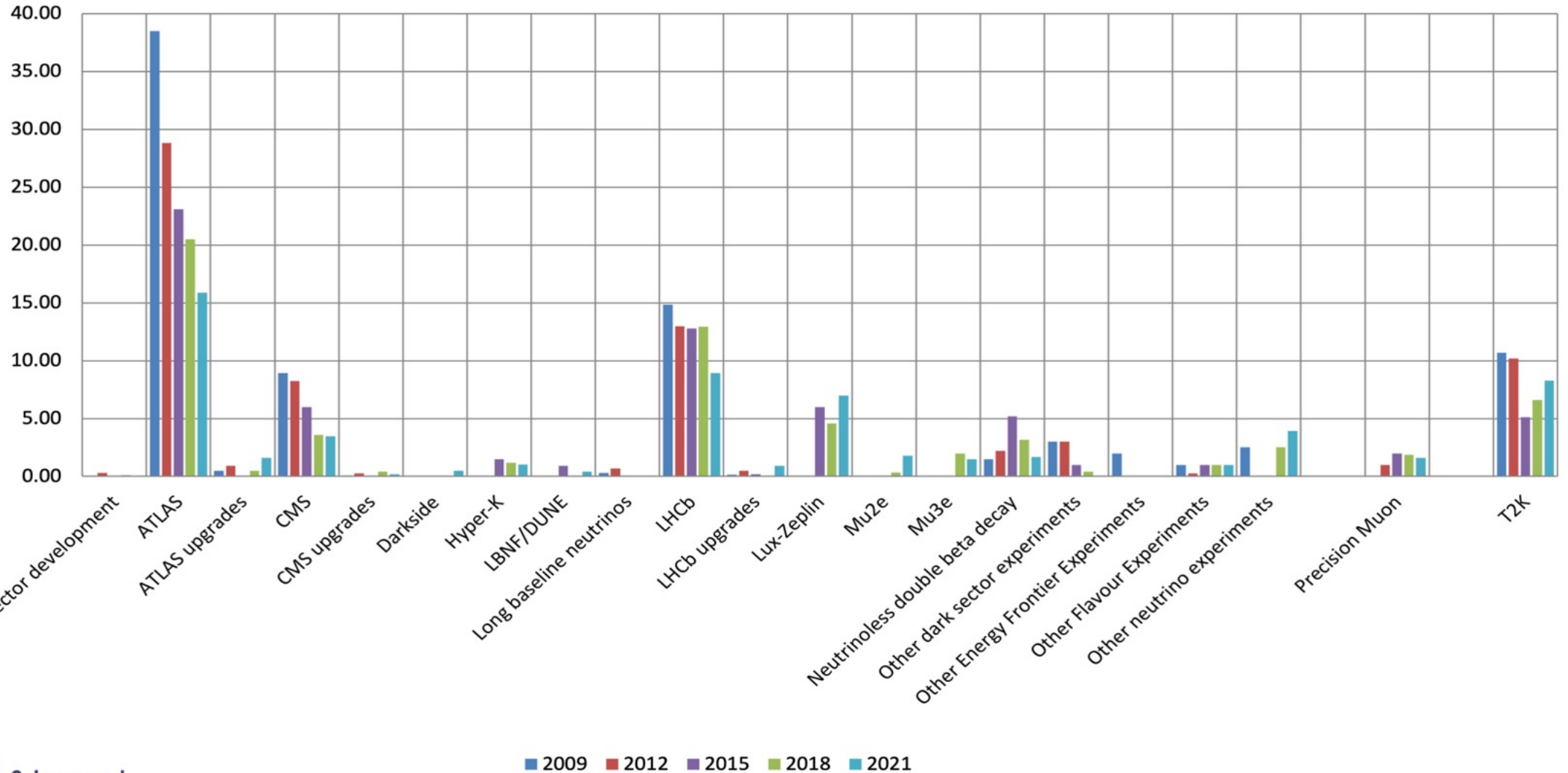
Trends and Statistics: Core FTE

FTE of core posts by experimental area



Trends and Statistics: Responsive FTE

FTE of non-core posts by experimental area



Summary

- Despite the increased budget, it was still a very difficult round.
- The panel made difficult decisions to arrive at an affordable programme whilst having to mitigate substantial increases in university indirect costs.
 - £3.95M indirect costs increase relative to the 2018 round is approximately 13 posts
- The panel tried to preserve posts where ever possible and was mindful of the strong messages from the introducer meetings that preserving posts was the highest priority.
- It was not possible to achieve an optimal or balanced programme.