

2026 European Strategy for Particle Physics Update (ESPPU) - Introduction to Drafting day

Sarah Williams, on behalf of:

Jim Clarke (Director of ASTeC), Sinead Farrington (Director of STFC PPD), Mark Lancaster (UK representative on the European Strategy Group), Ruben Saakyan (Chair of PPAP) and the UK ECFA delegates (Daniela Bortoletto, Sinead Farrington, Joel Goldstein, Haroon Rafique, Aidan Robson, Sarah Williams, Matthew Wing)

Introduction - thanks

- Thanks to everyone for making the time to attend today's drafting day (both in-person and remotely)- it's great to have so many people participating.
- Also thanks to Daresbury national laboratory for hosting the day, and to the IOP HEPP and PAB groups for providing financial support for the day.
- A lot of work has gone on behind the scenes to prepare for today, so additional thanks go to:
 - All the project leads/contacts for making time to provide the requested inputs.
 - The drafting team members for helping to prepare sample statements for discussion.
 - All the names listed on the introductory time for their efforts preparing the format of today.
- This presentation aims to give a (brief) overview of the plans for the drafting, before we move onto discussions.

Plans for Drafting the UK's national input

- Guidelines have now been released by the European Strategy Group (ESG) on the form of the national inputs:
<https://ecfa.web.cern.ch/ecfa-guidelines-collecting-input-european-high-energy-physics-community-2026-update-european> which will be:
 - Accepted at several points in the process.
 - Asked to address a list of key questions.
- Two national drafting days ahead of the 31st March 2025 to converge on a first draft of the UK input:
 1. Today
 2. 9th January at University College London (times tbc)

There will then be two additional meetings; one following the 31st March deadline but before the 26th May deadline, and a second following the release of the briefing book (probably October 2025).

QR code for slido!



Format of drafting day(s)

- These will be open to all, and run in a hybrid manner.
 - We will have chairs monitoring questions on the room and on zoom.
 - Google doc
<https://docs.google.com/document/d/1MWpwSyDdSTrM5dTH3r7mcfoSYKrN6XkH0TFU0-WFqZI/e/dit?usp=sharing> to provide comments/questions (which can be submitted anonymously)- this will be monitored throughout the day.
 - Plan to use polling to gauge levels of consensus with different questions through slido
<https://app.sli.do/event/4tMKwA7JhCwQ72eZiz1cdX> - please don't use the Q+A feature- we're just using the polling!
 - There's a 'survey' available to provide reactions (strongly agree-neutral-strongly disagree) to the sample statements- please fill it out (over lunch?)- it should be quick!
 - Aiming to do drafting in 'real-time' (where possible), following discussions of suggested sample statements prepared by the drafting team and input provided by projects.
- At the end of each drafting day, drafts/summaries will be circulated for further comment/reflection.
- After the second drafting day, a complete document (page limit 10 pages) will be circulated in February for comments and feedback. This will allow time for a second draft to be circulated to the community early/mid March to be submitted by the deadline on 31st March.

Drafting team and sample statements

- Role of drafting team is to **facilitate** the drafting of the national input in the drafting days. For today's meeting this has involved preparation of **sample statements**.
- Aim for representation across broad range of areas (including ECR*).
- Where possible members drawn from current PPAP membership or the UK delegates on plenary ECFA. Otherwise selected after consultation with those leading efforts in the UK.

(* ECR membership to be augmented with the new ECFA-ECR representatives upon changeover in January 2025)

- Sample statements aim to stimulate/guide the discussion- we also encourage you to raise points not captured in the prepared statements.

Aidan Robson
Matthew Wing
Sinead Farrington
Mark Williams
Sarah Williams
Jessica Turner
Henning Flaecher
Mark Lancaster
Ruben Saakyan
Michael Spannowsky
Haroon Rafique
Jim Clarke
Chris Parkes
Joel Goldstein
Davide Costanzo
Daniela Bortoletto
Holly Pacey*
Julia Allen*
Atanu Modak*
Patrick Dougan*

Format of the day

- Obvious comment- we have a lot to get through.
- For that reason we have timing guidelines for each session to ensure we get through everything. We will likely need to move discussions on/flag some points to be revisited later.
- We will periodically pause to try and wrap-up/converge on points that could be promoted to the draft in real-time (and to identify follow-up points).

11:00	→ 12:30	Session 1	
		Overview of drafting plans and summaries of information submitted by the projects	
11:00		Introduction/overview of the drafting process	15m
		Speaker: Dr Sarah Williams (University of Cambridge)	
11:20		Physics landscape (summary of project submissions and projections) +discussion	30m
		Speaker: Sinead Farrington (University of Edinburgh)	
12:00		Accelerator landscape (summary of project submissions, costs, environmental impact) + discussion	20m
		Speaker: Phil Burrows	
12:30	→ 13:15	Lunch	45m
13:15	→ 15:00	Session 2	
		Begin drafting discussions on the future collider landscape (question 3):	
		a) Which is the preferred next major/flagship collider project for CERN? b) What are the most important elements in the response to 3a)? i) Physics potential ii) Long-term perspective iii) Financial and human resources: requirements and effect on other projects iv) Timing v) Careers and training vi) Sustainability c) Should CERN/Europe proceed with the preferred option set out in 3a) or should alternative options be considered: i) if Japan proceeds with the ILC in a timely way? ii) if China proceeds with the CEPC on the announced timescale? iii) if the US proceeds with a muon collider? iv) if there are major new (unexpected) results from the HL-LHC or other HEP experiments? d) Beyond the preferred option in 3a), what other accelerator R&D topics (e.g. highfield magnets, RF technology, alternative accelerators/colliders) should be pursued in parallel? e) What is the prioritised list of alternative options if the preferred option set out in 3a) is not feasible (due to cost, timing, international developments, or for other reasons)? f) What are the most important elements in the response to 3e)? (The set of considerations in 3b should be used).	
		ESPPU-draftingday-...	
15:00	→ 15:30	Coffee	30m
15:30	→ 16:45	Session 3	
		Drafting on non-collider activities/priorities - i.e. question 4 a) What other areas of physics should be pursued, and with what relative priority? b) What are the most important elements in the response to 4a)? (The set of considerations in 3b should be used). c) To what extent should CERN participate in nuclear physics, astroparticle physics or other areas of science, while keeping in mind and adhering to the CERN Convention? Please use the current level and form of activity as the baseline for comparisons.	
		ESPPU-draftingday-...	
16:45	→ 17:15	Session 4	
		Closeout and discussion of next steps	

Note: all the timings are ~guidelines to ensure we cover all topics!

Overview of timings for session 2

- 15 minutes for discussion on 3a
- 10 minutes (additional) discussion on 3b
- Followed by 10 minutes for wrap-up and to (hopefully) converge on some points for inclusion in the draft.

[2 min break]

- 20 minutes for discussion on 3c and 3d
- Followed by 10 minutes for wrap-up and to (hopefully) converge on some points for inclusion in the draft.

[2 min break]

- 20 minutes for discussion of 3e and 3f .
- Followed by 10 minutes for wrap-up and to (hopefully) converge on some points for inclusion in the draft.
- ~ 6 minutes “overflow” to raise additional points for follow-up.

Overview of timings for session 3

- 25 minutes for discussion of 4a and 4b)
- Followed by 10 minutes for wrap-up and to (hopefully) converge on some points for inclusion in the draft.

[2 min break]

- 15 minutes for discussion on 4c)
- Followed by 5 minutes for wrap-up and to (hopefully) converge on some points for inclusion in the draft.

[2 min break]

- 16 minutes for discussion on of 'additional points' (including SW+ computing, instrumentation, theory) before moving to closeout

Conclusions

- I have tried to provide a brief overview of the plans for the drafting today- will now aim to move on so we have maximal time for discussion.
- We hope today will provide a respectful and inclusive environment to discuss the future. Please respect the [CERN code of conduct](#)
- Happy to take questions/comments!



Backup

(3) Questions to be considered by countries when forming and submitting their “national input” to the ESPP

- a) Which is the preferred next major/flagship collider project for CERN?
- b) What are the most important elements in the response to 3a)?
 - i) Physics potential
 - ii) Long-term perspective
 - iii) Financial and human resources: requirements and effect on other projects
 - iv) Timing
 - v) Careers and training
 - vi) Sustainability
- c) Should CERN/Europe proceed with the preferred option set out in 3a) or should alternative options be considered:
 - i) if Japan proceeds with the ILC in a timely way?
 - ii) if China proceeds with the CEPC on the announced timescale?
 - iii) if the US proceeds with a muon collider?
 - iv) if there are major new (unexpected) results from the HL-LHC or other HEP experiments?
- d) Beyond the preferred option in 3a), what other accelerator R&D topics (e.g. highfield magnets, RF technology, alternative accelerators/colliders) should be pursued in parallel?
- e) What is the prioritised list of alternative options if the preferred option set out in 3a) is not feasible (due to cost, timing, international developments, or for other reasons)?
- f) What are the most important elements in the response to 3e)? (The set of considerations in 3b should be used).

(4) The remit given to the ESG also specifies that “The Strategy update should also indicate areas of priority for exploration complementary to colliders and for other experiments to be considered at CERN and at other laboratories in Europe, as well as for participation in projects outside Europe.” It would thus be most useful if the national inputs explicitly included the preferred prioritisation for non-collider projects. Specific questions to address:

- a) What other areas of physics should be pursued, and with what relative priority?
- b) What are the most important elements in the response to 4a)? (The set of considerations in 3b should be used).
- c) To what extent should CERN participate in nuclear physics, astroparticle physics or other areas of science, while keeping in mind and adhering to the CERN Convention? Please use the current level and form of activity as the baseline for comparisons.