



EMPIR 19ENV05 STELLAR

WP4: Creating impact

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WP4 Creating impact



- Task 4.1 Knowledge transfer
- Task 4.2 Training
- Task 4.3 Uptake and exploitation

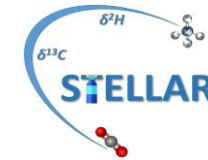
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Aims

- ensure that the research outputs are disseminated and clearly communicated to stakeholders and end-users to ensure maximum impact and uptake.
- engage with stakeholders to ensure they shape the strategic direction of the project to meet their needs.
- address the need for new mechanisms to disseminate and maintain continuity to the existing delta scales for carbon dioxide and methane.
- deliver field-deployable spectroscopy to work towards the long-term goal of meeting the precision specification of mass spectrometry (0.01 ‰) and initiate SI traceability of the international carbon dioxide isotope ratio scale by re-measuring the absolute isotope ratios by high-resolution gas-source isotope ratio mass spectrometry.

WP4 Creating impact Knowledge Transfer



The impact of the project will be maximised through following tasks;

1. Project website

The screenshot shows the website header with the URL empir.npl.co.uk/stellarproject/ and the title "19ENV05 STELLAR". The navigation menu includes Home, Project Structure, News & Events, Documents, Members Area, Partners, and Contact us. The main content area contains a paragraph about global warming and the project's goal to improve isotopic measurements of carbon dioxide and methane. At the bottom, there is a banner for "STELLAR: Stable Isotope Metrology to Enable Climate Action and Regulation" with a "Need" section and a graph.

Notice of work progressing, conferences attended, project milestones

Open Access Papers, Reports, Posters

Access to the Project Consortium SharePoint site

<http://empir.npl.co.uk/stellarproject/>

WP4 Creating impact **Knowledge Transfer**



The impact of the project will be maximised through following tasks;

2. **Stakeholder Committee** with representatives from

- end-users,
- industry,
- standardisation bodies and
- atmospheric monitoring networks including ICOS.

The committee will be kept informed on progress and consulted via email correspondence and conference calls. The stakeholder committee will be convened at least two times during the project lifetime.

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The impact of the project will be maximised through following tasks;

3. **Papers** at relevant international conferences. Possible conferences include:

- European Geosciences Union, Vienna (annually, next conference April 2021)
- Gas Analysis Symposium, Rotterdam (June 2021), a presentation on latest developments in metrology to support the measurement of stable isotopes of carbon dioxide and methane
- WMO/IAEA meeting on carbon dioxide (September 2021) where a presentation on the development in infrastructure for underpinning measurements of isotope ratios of carbon dioxide and methane will be given.
- Technical meeting on the development of IAEA stable isotope reference products (2021).
- 20th International Metrology Congress, Paris, France (CIM, September 2021)

Further relevant conferences may be identified during the project.

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The impact of the project will be maximised through following tasks;

4. Open access publications to peer-review journals. Possible target journals are:

- Analytical Chemistry; (papers on development of gas reference materials)
- The Journal of Geophysical Research; (papers on applications for measuring isotope ratios)
- Atmospheric Measurement Techniques (papers on advances in metrology for measuring isotope ratios)
- Applied Physics B, Optics Express, and Applied Optics (papers on developments in spectroscopy)
- Metrologia (papers on developments on metrological traceability paths and uncertainty budgets)

In addition to peer-reviewed journals, the outputs from the project will be made available to the end user community by the publication of articles in relevant trade magazines.

WP4 Creating impact **Knowledge Transfer**



The impact of the project will be maximised through following tasks;

5. Standards Committees, Technical Committee and Working Groups

- CCQM-GAWG
- CCQM-IRWG
- EURAMET TC MC – SC gases
- **ISO/TC 158**
- **CEN/TC 264**
- WMO-GAW GGMT
- IUPAC CIAAW
- IAEA stable isotopes meeting
- European Metrology Network (EMN) for Climate and Ocean Observation

The main technical committees targeted are ISO/TC 158 (Gas Analysis) and CEN/TC 264 (Air Quality) and the related national standardisation committees in gas analysis, where the work in this project is most relevant and will have the most impact.

Good practice guides

will be published open access on the project webpage

WP4 Creating impact **Training**



The impact of the project will be maximised through following tasks;

- **Three training courses**

in the style of on-site visits will be focused on enabling the technical outputs of the project to be clearly disseminated amongst all partners, European NMIs and end users

- **Two stakeholder workshops**

The first was intended to be hosted by UEF alongside a Joint European Stable Isotope Users Group Meeting (JESIUM 2020) in Kuopio, Finland in October 2020. *Cancelled due to the current situation (JESIUM postponed until 2022)*. NPL and all partners are currently considering platforms other than physical meetings during 2021, and beyond).

- The second stakeholder workshop will take place around the end of the project and will present the results achieved by the project and allow time for discussion with stakeholders. European NMIs and DIs that are not partners, instrument manufacturers, the speciality gas industry, the atmospheric monitoring community, reference material producers (e.g. IAEA) and standardisation committees will be invited.

- **Webinar**

Method for validating spectroscopic instrument precision and/or accuracy.

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Uptake and exploitation



The impact of the project will be maximised through following tasks;

- **Intellectual Property (IP) exploitation plan**

The plan describing how the partners will exploit and commercialise the outputs of the project.

- **New measurement services**

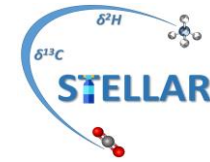
NPL and VSL will plan new measurement services for the production and provision of static reference materials for isotope ratio of carbon dioxide and methane.

- **IRMS approach (Isotope Ratio Mass Spectrometry)**

PTB will assess the applicability of the investigated absolute IRMS (Isotope Ratio Mass Spectrometry) approach to different relevant gases with complex isotopic patterns.

- **New infrastructure developed for carbon dioxide and methane**

AL will use the new infrastructure developed for carbon dioxide and methane, to support production of new gas mixtures and characterisation of carbon dioxide and methane in natural air.



Thank you **Any Questions?**