

THRIVING Food Futures: Nutrient and Environmental Profiling Model (NEPM) Expert Working Group (EWG) meeting minutes

12th November 2025, 1pm – 4pm, Microsoft Teams

Attendees	
NEPM EWG members	Role
Alison Tedstone (Chair of the Expert Working Group)	Former National Director of Diet, Obesity and Physical Activity at Public Health England
Victor Aguilera	Food Systems Sustainability Lead, Department of Environment, Food and Rural Affairs
Tazeem Bhatia	Deputy Director of Diet, Obesity and Healthy Behaviours and Chief Nutritionist, Department of Health and Social Care
Sandra Bogelein	Lead Analyst, People and Net Zero, Climate Change Committee
Hannah Brinsden	Head of Policy and Advocacy, The Food Foundation
Andy Cole	Director for Northern Ireland, Food Standards Agency
Melanie Farron-Wilson	Senior Scientific Officer, Nutrition Evidence, Surveys and Translation, Department of Health and Social Care
Peter Faassen de Heer	Senior Policy Manager for Tobacco, Gambling, Diet and Healthy Weight Unit, Directorate of Population Health, Scottish Government
Megan Tresise	Associate Specialist, Greenhouse Gases, WRAP
Project team members	Role
Fran Bernhardt	Commercial Determinants Co-ordinator, Sustain
Mike Clark (invited expert to give information about the environmental metrics in the study dataset)	Associate Professor, University of Oxford
Hannah Forde	Wellcome Trust Research Fellow and Senior Researcher, University of Oxford
Trisha Gordon	Administrator, University of Oxford
Mike Rayner	Professor of Population Health, University of Oxford
Barthelemy Sarda	Researcher, University of Oxford
Peter Scarborough	Professor of Population Health, University of Oxford
Ruth Westcott	Campaign Manager, Sustain
Apologies	
Asha Kaur	Senior Researcher, University of Oxford
Susan Jebb	Professor of Diet and Population Health, University of Oxford and Chair, Food Standards Agency
Alana McDonald	Senior Public: Health Nutrition Advisor, Food Standards, Scotland
Ilona Johnson	Consultant in Public Health, Public Health Wales
Ann Humble*	Head of Strategic Analysis, Environment and Rural Affairs Department, Welsh Government. *Due to a change of job Ann Humble has stepped down from the Membership.

Abbreviations

NPM = Nutrient Profiling Model

EPM = Environmental Profiling Model

NDNS = National Diet and Nutrition Survey

NEPM = Nutrient and Environmental Profiling Model

EWG = Expert Working Group

COI = Conflict of Interest

THRIVING = Transdisciplinary Health Research to Identify Viable Interventions for Net zero Goals research hub

HFSS = High fat, sugars, or salt

1. Welcome and introductions (PS)

- Two new attendees: Barthelemy Sarda (Research Officer) and Melanie Farron-Wilson (deputy to Tazeem Bhatia) were welcomed to the meeting.
- To support EWG members who may not be able to attend all meetings, a new role of 'deputy' has been created. Deputies can be nominated by EWG members and must be from the same organisation as the EWG member. Deputies can attend EWG meetings alongside or in place of EWG members. They can contribute to discussions and have voting rights. All EWG members can nominate a deputy (if they choose to) by contacting Peter Scarborough.
- Attendees were asked to disclose any additional conflicts of interest arising since the last meeting. None were declared.

Action Point: New members to complete COI declaration.

Action Point: EWG members to nominate deputies (if they choose to).

2. Minutes of the Meeting of 2nd June 2025 (PS)

- No amendments were suggested, so the minutes will be finalised and posted on the website.

Action Point: Finalise and publish minutes of first meeting on the website.

3. Objectives of today's meeting and quick overview of circulated papers (PS and MR)

1. PS introduced the three objectives of the meeting:
 1. For all EWG members to have a good understanding of the datasets to be used during the project
 2. To demonstrate (and receive feedback on) the proposed methods for summarising the results of testing proto-type NEPMs
 3. To provide direction for building the first iterations of the NEPM.
2. MR provided an overview of the circulated papers:
 1. A review of EPMS
 2. A proposed food categorisation system
 3. A proposed set of indicator foods

4. Q&A on circulated papers (MR)

Review of existing EPMS

- BS introduced the review of EPMS and presented results on 11 models, 91% were for food labelling purposes, the functional unit most commonly used was 100g, the most commonly used environmental indicators were for Green House Gas emissions, water use and land use. To obtain an aggregated score the Product Environmental Footprint (PEF) methodology developed by the EU was the most widely used.

- It was suggested that a critique of the EPMs would be useful with their strengths and limitations outlined. Knowing if one of the EPMs is particularly good, would be helpful for understanding whether it might be used as the basis for the environmental component of the NEPMs.
- What is the level of agreement between existing EPMs?
 - Most of the EPMs have not been around for long enough to be tested as much as the NPMs.
 - Appraising EPMs wasn't the purpose of the paper circulated, but in future the research team can start applying some of the EPMs to data to test their performance.

Review of methods to establish an indicator food list and proposed list:

- BS introduced the paper on the development of a list of indicator foods and the draft list
- From the literature, most other indicator lists have been developed based on sales and consumption data. These lists have mostly been used for convergent validity testing, but they can also be used in the model development phase (not systematically reported).
- The method applied to develop an indicator list here involved:
 - Using the NDNS to identify foods frequently consumed by the UK population
 - Then using the NDNS categories to provide a diverse list of sample products varying in nutritional and environmental characteristics
 - Then identifying top selling brands using Euromonitor data
 - Then retrieving products of the corresponding brand using Acuity data
- This method resulted in a list of 164 indicator foods
- It was suggested that the list should be expanded to include more foods which act as replacements (e.g. plant-based dairy products),
- It was suggested that the list needed more foods at the borderline between 'healthier' and 'less healthy' [see MF-W comments sent to PS in advance of the meeting],, e.g. a healthier biscuit alongside a standard biscuit.
- It was suggested that the list needed a wider range of 'healthier' foods to demonstrate to policy makers what can pass a model not just fail it.
- It was noted that a larger number of products in the indicator list will have practical implications for analyses.

Proposed food categorisation system for reporting on model testing to the EWG

- BS introduced the proposed method for categorising foods for reporting on model testing to the EWG. He had adapted the category system already in the Acuity dataset
- The proposed categories are:
 - Level 1: 25 macro categories e.g. composite food, meat products, desserts
 - Level 2 (for assessing inter group discrimination ability): 85 intermediary categories e.g. pizzas, sandwiches, red meat, poultry and puddings
 - Level 3 (for assessing intra-group discrimination ability): 171 micro categories e.g. pizzas with or without meat, unprocessed or prepared poultry,
- It was agreed that the proposed food category system was appropriate.

5. Presentation 1: Introducing the dataset (BS)

- BS introduced the Acuity dataset, which contains nutrition data for 33,546 products (from Tesco, Sainsbury, Asda, M&S and Ocado).

- The extract was taken on 18/06/25
- Fibre data were most likely to be missing from the product information.
- BS presented an algorithm that estimates ingredient composition from the name of the food and the ingredient list (see Clark et al. 2022¹).
- He described the seven environmental impact indicators for which data are available for 26,194 products: green-house gas emissions, water use, water scarcity, eutrophication, acidification, land use and biodiversity loss. Five out of these seven indicators are PEF indicators. The number of products for which environmental data is available is smaller than the number of products for which nutrition data are available.
- Issues with data linkage reduces the number of products for which both types of data are available.
- Solutions to the problem of missing data so far identified include:
 - For nutrition data: the use of simple imputation for fibre, fruit, vegetables and nuts, and free sugars.
 - For environmental data. It is expected that there will be a 10% increase in the number of products with environmental data in the future..
- Data could be improved in future by improving the accuracy of missing nutrition values and increasing the number of products with environmental data

6. Q&A on presentation 1

- Why is there a difference between the number of indicator foods and the number of food categories?
 - The category system is designed for the entire dataset (not all categories will have an indicator food).
- Will you pick up on the difference between red and processed meat given that this is a key issue in nutrition and in environmental sustainability?
 - The category system, will distinguish between different types of meat i.e. within red meat, there will be separate categories for processed vs unprocessed meats.
- Why is land use an indicator?
 - It's one of the indicators in the PEF framework, so has been included so far, but its use could be discussed further. Land use is a proxy for other impacts e.g. loss of biodiversity,.

Action Point: Explore the correlation of environmental metrics within the database in future meetings.

- Will you share your imputation process for the missing fibre data?
 - Missing fibre data was imputed using the median for the category. This is a temporary solution and we will be working on alternative methods to estimate fibre more accurately.
- Food categorisation in datasets like Acuity are often more applicable to retailers' uses. The report shared by DHSC has categorised foods in line with Eatwell Guide categories. The team may wish to consider doing the same here.
 - It would be feasible to do this, but it depends on whether this is helpful for the assessment of NEPMs.
- Why is there a high number of products missing the ingredients list, is there a problem with the supplier of the data? It was suggested that team might want to enquire, given the legal situation.

Action Point: Check on missing ingredients data with data supplier

¹ M. Clark, M. Springmann, M. Rayner, P. Scarborough, J. Hill, D. Tilman, J.I. Macdiarmid, J. Fanzo, L. Bandy, & R.A. Harrington, Estimating the environmental impacts of 57,000 food products, Proc. Natl. Acad. Sci. U.S.A. 119 (33) e2120584119, <https://doi.org/10.1073/pnas.2120584119> (2022).

Action Point: Provide a breakdown of missing data e.g., to show if there's a high proportion of single-ingredient products, or of products that inherently don't include fibre, (e.g. by removing bottled waters etc.).

- There is a large difference in the environmental footprints for the same products with different production processes and origins, how will that be dealt with?
 - At the moment the Acuity data are connected with the Poore and Nemecek database by commodity, using a weighted average for the UK based on where we import/export from. It will be hard to go into more detail because we don't have any more detailed information than the ingredients listed.

7. Presentation 2: Testing NPMs in our database (BS)

- BS presented an overview of the UK NPM 2004 and the UK NPM 2018
- He showed the proportions of products passing the 2004 and 2018 NPMs
- He highlighted the categories unaffected by the update, moderately impacted, and heavily impacted
- Overall the 2018 NPM is stricter than the 2004 NPM. 51% of foods in the dataset passed the 2004 NPM vs 43% for the 2018 NPM. This is mostly explained by the difference in the way sugar levels are scored. Low sugar categories remained largely unaffected
- Observations from this analysis are aligned with the results of DHSC's review of the 2004 NPM which led to the development of the 2018 NPM.
- Methodological limitations were noted. Better imputation of fibre content and better estimation of fruit, vegetable and nut content may marginally change results in some specific groups: Better free sugar estimated (the team is currently working on this) may result in greater accuracy but a smaller sample size.
- BS showed how the indicator foods passed/failed the 2004 and 2018 NPMs.
- The point of this presentation was to show how the data will be presented in the future.

8. Q&A on presentation 2

- With regard to the presentation of data for future meetings: the scatter plots were found to be particularly useful i.e. seeing all the data, whereas perhaps seeing at a category level is less useful. Presenting too much on one slide is unhelpful. It was suggested that results should be shared in advance of meetings so that they can be reviewed thoroughly.
- Are there good reasons to have an in-person workshop/dialogue with the charts rather than static thinking in advance? Conversations about graphs may be quite difficult to do online, and might be better achieved in person. Using something like R Shiny to generate a reactive graph producer should be considered.

Action Point: Consider further methods of data visualisation for future meetings, and whether some data should be shared in advance and/ or discussed in-person

- It was suggested that the scatter plots perhaps indicate that there isn't a sufficient range of products at this stage. Demonstrating the variation within categories is especially helpful.
- Historically, there have been foods that are especially politically sensitive. It was suggested that the team might wish to consider how to deal with those.
- Are you using out-of-home data?
 - There's no out of home dataset at the moment, we have some out of home data available – even if not a full dataset (currently only 4,000 foods), and could discuss how this might be used. In general the team is happy to add further foods etc, as the process evolves..

Action Point: Explore addition of out-of-home data.

9. Presentation 3: Environmental metrics in the current dataset (BS)

- BS gave a presentation on the environmental impact of foods in the Acuity dataset
- There are currently 23,303 products in the Acuity dataset with both nutrition and environmental data (but only 12,433 products with acidification specifically).
- BS showed the distribution of environmental data within the dataset i.e.: GHGEs, water use, water scarcity, eutrophication, acidification, land use and biodiversity loss both overall and by food category.
 - Metrics with the highest range tend to also be the ones with the highest impact. This could be because some of these products consist of multiple ingredients.
- Environmental impacts are all positively correlated: water related metrics are highly correlated with each other, less so with other metrics; the other metrics are reasonably well correlated with each other.
- For metrics that are highly correlated, e.g., water-related ones, is there a case for only using one of them?
- Regarding weighting of different indicators: are some of the indicators more important than others and thus should be weighted differently?
 - We will check on how the PEF indicators are weighted.
- Does the data distinguish between where the product is from e.g. UK beef vs beef from elsewhere?
 - Currently, the dataset doesn't distinguish between the origins of products (we've used British average sourcing for most products). It's possible that going forward, we could add to the database the impact on UK products for specific indicators.

10. Discussion and direction for next EWG meeting

- Which elements of sustainability need to be captured? How many environmental indicators are needed? How do you combine an EPM with an NPM?
- PS proposed that, as a first step a minimal EPM (i.e. a few indicators) and a maximal EPM (i.e. more indicators) should be developed. Then we should look at how they would work if combined with the 2004 and 2018 NPMs. Two different methods of combining scores should be trialled. This would generate eight different models to present at the next meeting.
- It was suggested that we should also use an existing EPM rather than develop our own, and then proceed as above.
 - This will be explored
- What's the intended use for the NEPM?
 - At the previous meeting this had been discussed and it was agreed that this should be kept open at this stage.

Action Point: Present results of prototype NEPM testing at next meeting

11. AOB

- There was a discussion about whether having input now e.g. expert judgement on assessing cut offs, which could provide some information to the research team to fit the models between EWG meetings. It was suggested that there was a risk that this could be subjective based on norms and perceptions (though this itself could be considered a different type of evidence).

12. Date of next meeting (tbc)

Action Point: Circulate a Doodle Poll for another meeting in March/April.

Action points	Person
New members of EWG to complete COI declaration, send to PS and TG.	ALL
Finalise and publish minutes of first meeting on the website	PS
Explore the correlation of environmental metrics within the database	Research team
Check missing data with data supplier	Research team
Provide a breakdown of missing data (nutritional/environmental)	Research team
Consider data visualisation for future meetings	Research team
Explore addition of out-of-home data.	Research team
Present results of prototype NEPM testing at next meeting	Research team
Circulate Doodle poll for a meeting date in March and April	PS/TG