

EU PEF: Product Environmental Footprint

Robust LCA-based tools and data
for meeting compliance obligations
and guiding international trade policy



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Key focus for today

- Changing nature of EPDs
- Increasingly complex and costly compliance expectations
- Lack of systems and frameworks to respond
- Case study: Wool industry



Changing nature of Agricultural EPDs



REGULATORY

MARKET-DRIVEN (who??)

Wastewater
Energy
Animal welfare (Manure management systems)

Organic / Pesticide-free
GMO-free
Hormone-free

LCA: Climate change (GHG) /
Carbon neutral certification

IPM / GAP / Biodiversity

Multi-indicator LCAs (PEF)

Deforestation-free
Regenerative agriculture

What's next?







Scope: 16 impact categories, full life cycle



- Top impact categories
- Second tier impact categories
- Climate change
- Ozone depletion
- Human toxicity, cancer
- Human toxicity, non-cancer
- Ecotoxicity
- Particulate matter
- Ionising radiation
- Photochemical ozone formation

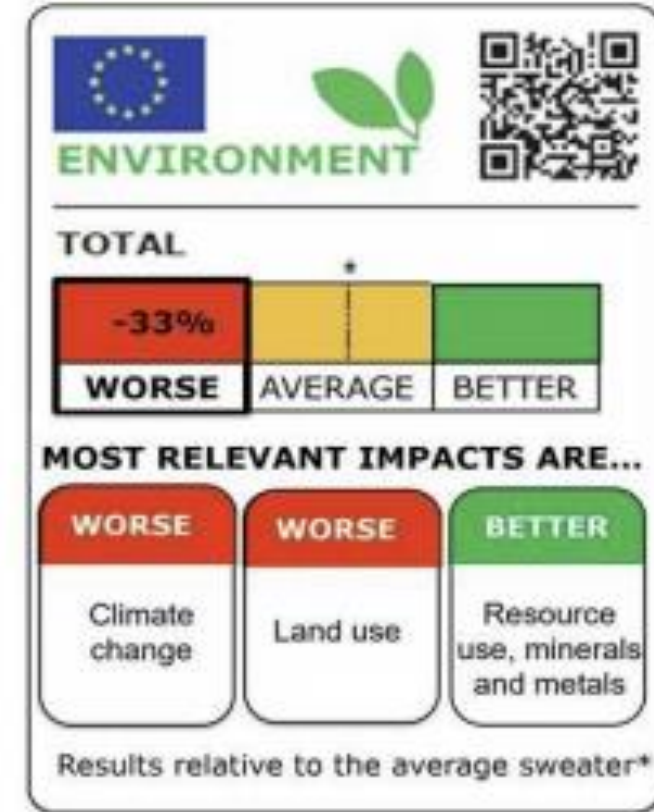
- Acidification
- Terrestrial eutrophication
- Freshwater eutrophication
- Marine eutrophication
- Land use
- Water scarcity
- Resource use, minerals and metals
- Resource use, fossil fuels

- Deforestation...
- Biodiversity...
- Microplastic leakage...

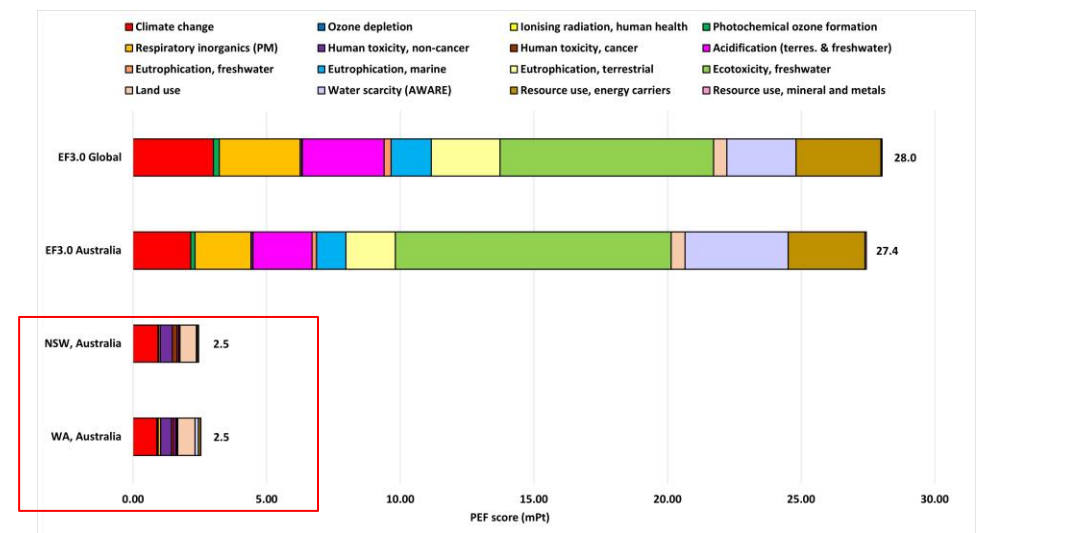
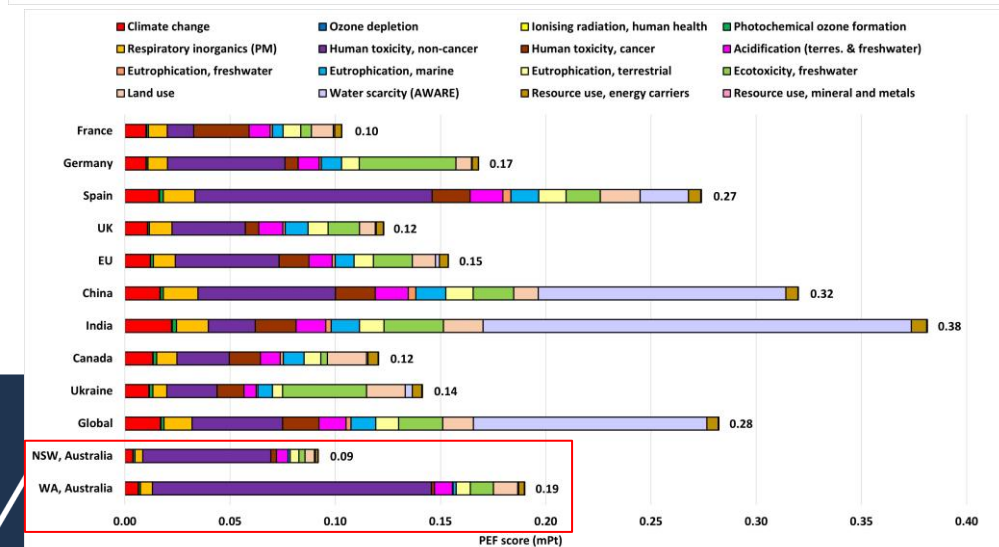
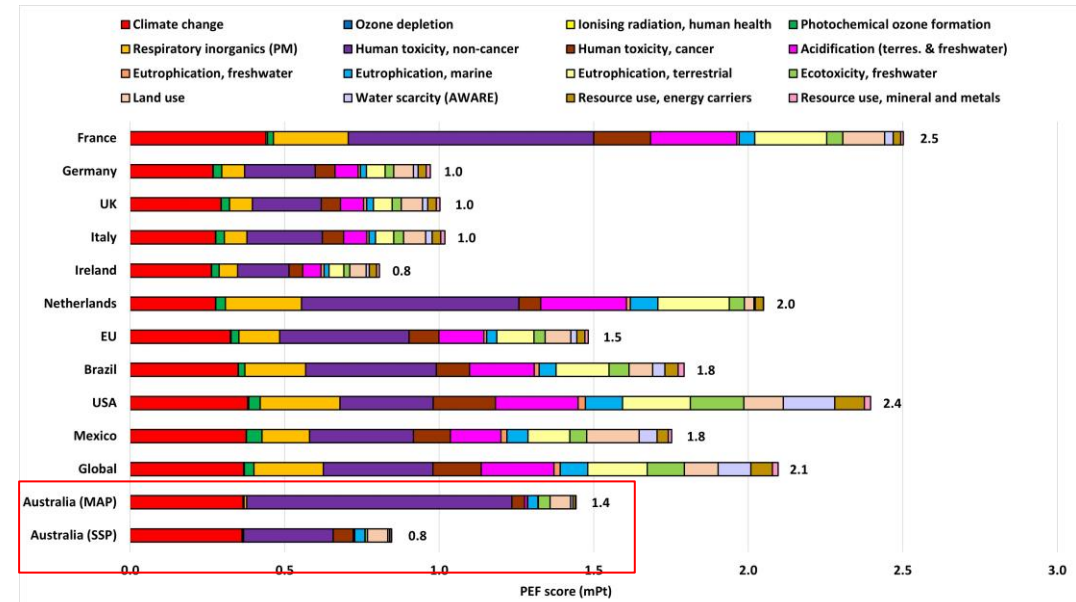
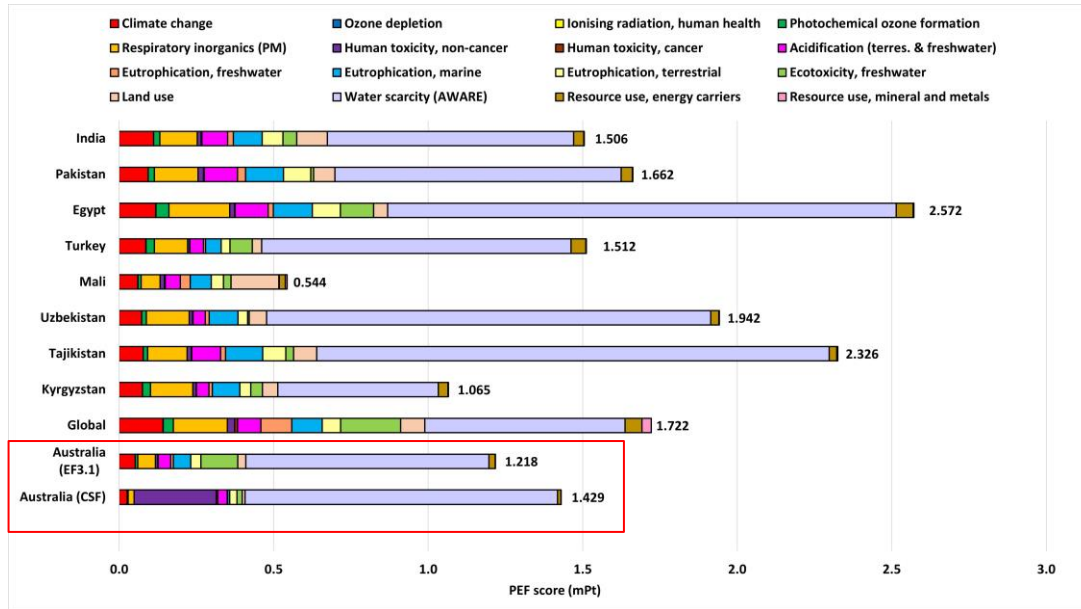


PEF – flash-in-the-pan or new world order?

- Will PEF set the benchmark for world assessment of environmental performance?
- Will reporting environmental performance give Australian producers an edge in the late 2020's?
- What is the opportunity cost of inaction?
 - Trade barriers
 - Major brands moving away from Australian products based on the wrong information



PEF: Cotton, Grains, Red meat, Wool

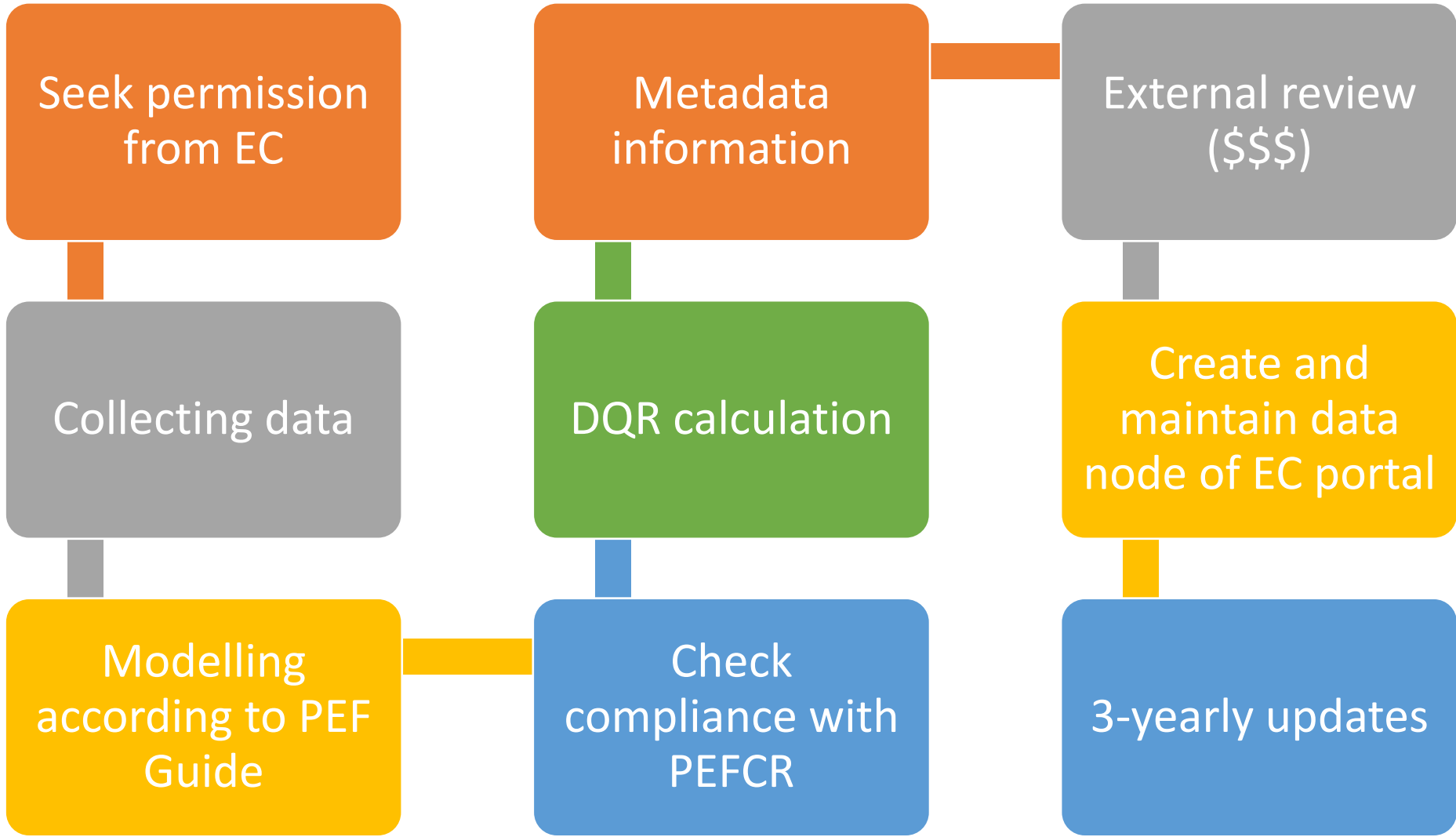


Case study: Global wool EF3.1 dataset

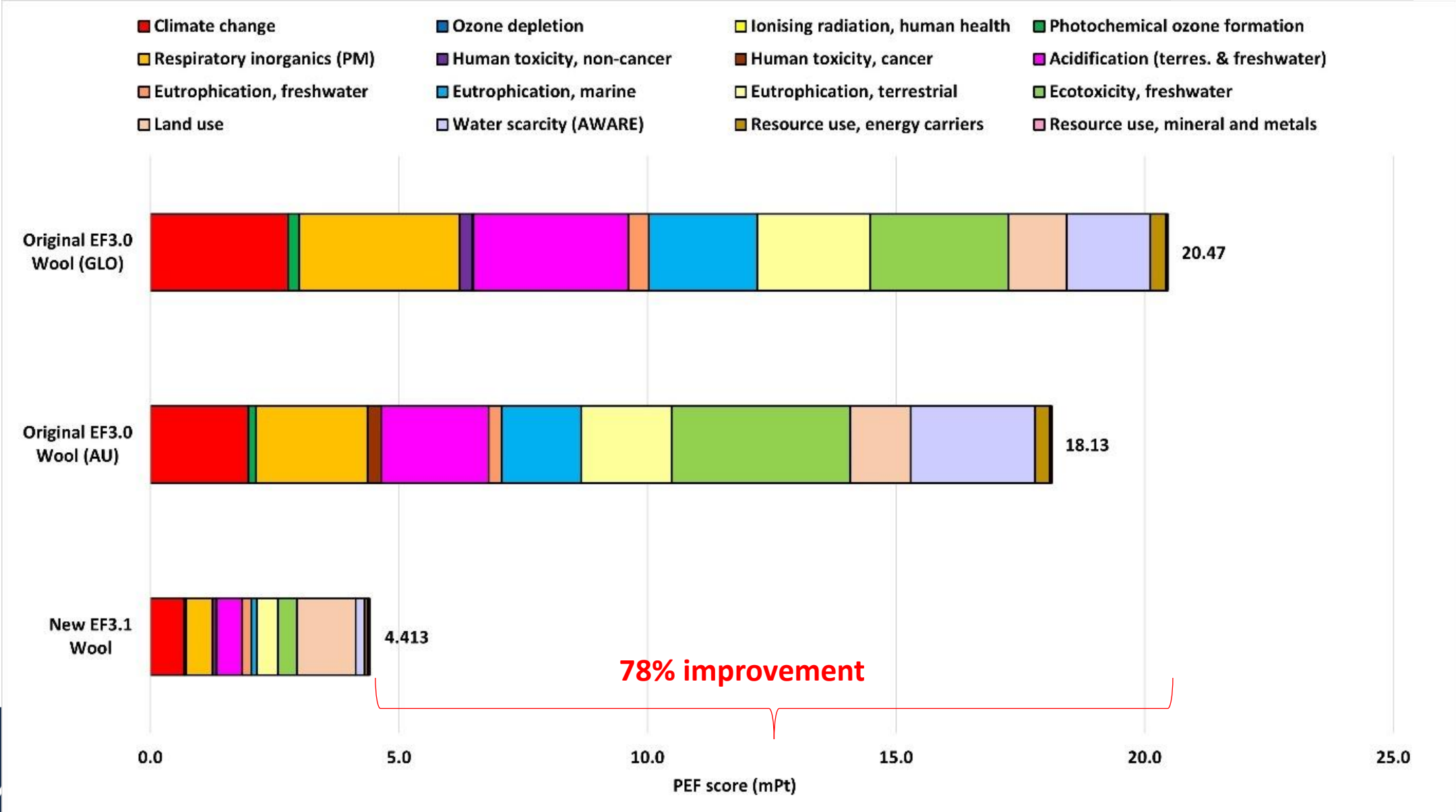
- Aim:
 - Australian wool industry to the farm gate
 - Wool supply chain datasets through to finished garments
 - Work through the critical review phase with assistance from EU researchers familiar with this process
- 15 datasets were developed for submission to the European Commission
 - 1 farm gate dataset and 14 processing and manufacturing datasets



Developing PEF datasets



Results: Wool EF3.1 dataset development



Results: Wool EF3.1 dataset development



(% contribution to PEF score of 1 kg greasy wool at farm gate)

- **Major impact categories:**

1. Land use (27%)
2. Climate change (15%)
3. Particulate matter (12%)
4. Acidification (12%)
5. Eutrophication, terrestrial (10%)
6. Ecotoxicity (9%)
7. Eutrophication, freshwater (4%)
8. Water scarcity (4%)

- **Major elementary flows:**

1. Ammonia (31%)
2. Grassland/pasture occupation (26%)
3. Methane (12%)

- **Insights:**

1. Importance of accurate N modelling in nitrogen fertiliser and feed protein
2. Importance of representative regional characterisation factors for major impact categories (land use for wool/grains, water for cotton, etc.)

Eutrophication, marine



Wool data submission: Success and Limitations

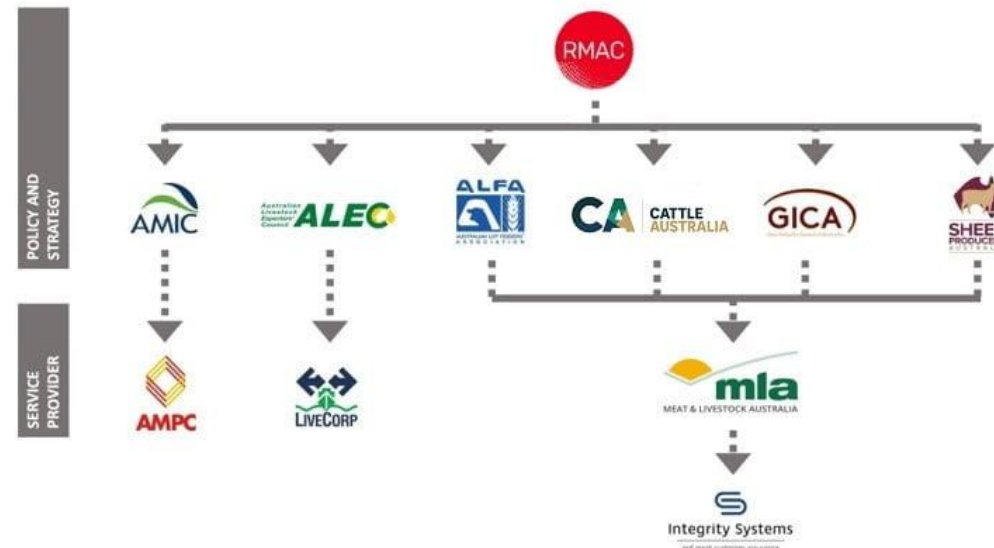
- **78% reduction** in reportable impacts at farm gate
- Methodological issues embedded in the PEF system (ammonia, land use, etc.) result in impacts still being **50% higher than reasonable**
- Conceptual issues embedded in the PEF system:
 - insufficient guidance for comparative analysis and public disclosure
 - incomplete system boundaries and the choice of functional unit
 - the choice of attributional LCA methods and variable methods applied for handling multi-functionality;
 - use of generalised data and small datasets, without reported sensitivity or uncertainty;
 - exclusion of important impact categories, choice of LCIA methods and lack of coverage of non-LCA assessed issues; and
 - the choice of the weighting and normalisation approach based on EU policy and priorities.



Summary of Findings

- Australia often has lower environmental impacts than competitors
- **Data quality** in the EU EC database is **very poor** despite apparently high standards
- Impacts being reported for Australian products are far too high – in some cases **over-estimated by a factor of 5.**
- Supplying Australian data can dramatically reduce (improve) reported impacts for our products.

But, can we??



Recommendations:

POLICY

- Brief DFAT on findings, seek high-level negotiation meetings with EC Directors to oppose the use of EU tools constructed around EU policy
- Prompt Ag Minister ongoing, targeted funding to address these knowledge gaps

INDUSTRY

- Develop regionalised EF-compliant datasets for each trade-exposed industry
- Invest in data systems to support reporting

RESEARCH

- Review and critique methodological & conceptual issues
- Develop alternative modelling methods



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