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Wind Turbine Blade & BESS Contamination

Contamination and Waste Management are issues that are being swept under the carpet. It's time the government stop putting renewable targets ahead of the nation's public health and food security.

All epoxy resins contain Bisphenol A (BPA) or similar bisphenol components. Epoxy resins are used in almost every part of our daily life (*in a confined state*) such as paints, plastic drink bottles, flooring etc. and in the manufacture of wind turbine blades.

BPA is a highly toxic synthetic compound recognised by the World Health Organisation (WHO) as an endocrine disrupter that has been linked to about 80 diseases including cancer and reproductive disorders and can be lethal for young children. In September 2023, turbine manufacturer Vestas confirmed that epoxy resins containing BPA are used in the manufacture of the turbine blades for their wind farms. The blades, however, will wear and then shed a fine dust of BPA throughout their life. This dust is spread wide and far by wind and if only one gram of it gets into dam or town storage waters, 10 million litres of water is polluted and then rendered unusable. This dust (*BPA in an unconfined state*) from eroding blades has already covered large areas of our planet in proximity to wind farms and BPA is leaching into soils and waterways. Furthermore, the process is accelerated when the blades are cut up, dumped (on-site) and buried.

The wind industry openly admits that any turbine will emit at least 62kg of microplastics per year into the atmosphere which will find their way into soil profiles and waterways. That would be the equivalent of about 50 tons of pure unadulterated BPA pollutants over the life of a typical wind farm (20 years) finding its way into catchments from a 100-turbine wind farm. Now think about that number and its consequences for the environment and farm produce!

Contamination of waterways, soil profiles and the waste management arising from wind turbine blades containing high levels of BPA is recognized worldwide as a ***'ticking time-bomb'***. This toxic chemical group is slowly but surely working its way up the food chain and finishing up on our dinner tables.

Presently the DPE, EPA and presumably all LGA's consider that they are absolved from any responsibility regarding contamination caused or waste arising from wind turbine blades. And whilst these blades (*unrecyclable*) continue to be stockpiled in staggering quantities and leaching BPA, arbitrary discussion continues between government authorities as to what to do with them.

Toxic PFAS 'forever chemicals' imbedded in lithium-ion batteries also present a dangerous source of chemical pollution that new research carried out by Jennifer Guelfo PhD of Texas Tech University and Lee Ferguson PhD of Duke University found in their peer reviewed co-paper published in Nature Communications 8 July 2024, threatens the environment and human health as the industry scales up. They found alarming levels of the chemicals in the environment near manufacturing plants and discovered that waste from batteries disposed of in landfills was a major pollution source.

PFAS are a class of man-made compounds most often used to make products resistant to water, stains and heat. They are called 'forever chemicals' because they do not naturally break down and have been found to accumulate in humans. The chemicals are linked to cancer, birth defects, liver disease, thyroid disease, plummeting sperm counts and a range of other serious health problems.

Their paper notes that few end-of-life standards for PFAS battery waste exist, and the vast majority ends up in Council tips where it can leach into waterways, accumulate locally or be transported long distances. Detection of the chemicals in snow suggests the chemicals easily move through the atmosphere. That may help

explain why the chemicals have been found in remote areas not close to production plants.

The study noted previous research that bis-FASI can be reused, though as little as 5 per cent of lithium batteries are recycled. That could yield a projected 8 million tons of battery waste by 2040 if battery recycling is not dramatically scaled up with demand.

As an accredited LPA livestock producer selling beef into the Grass-Fed market, I am very aware of the strict compliance requirements of the rules and regulations set down by Meat Standards Australia in regard to hormonal growth promotant (HGP), grain or feed containing grain, feed containing animal fats, by-product stockfeed, feed containing chemical residues within a Withholding Period (WHP) when harvested, and any livestock still within a WHP or Export Slaughter Interval (ESI) as set by APVMA or SAFEMEAT following treatment with any veterinary drug or chemical, and their slaughter for export.

To meet these criteria a National Vendor Declaration (NVD) must accompany all movement of livestock and there is an obligation that I must be absolutely satisfied that I have correctly completed all parts of the NVD and that I understand that any misleading or unverified statements may result in prosecution, heavy fines or loss of my LPA accreditation thereby precluding me from trading.

Australia's reputation for clean green *food and fibre* has been built over generations on the back of good practice and strict governance. A priceless reputation, second to none and envied by our competitors. Export destinations like the US, Japan, Korea, China, and Europe are already very aware of the dangers of BPA in foods and packaging. If they were to get a whiff that our beef or lamb could be contaminated with BPA, heavy metals or other toxins like 'forever chemicals', our brand built over generations would be destroyed overnight.

International public health advocates are sounding alarm bells about the need to find alternatives to the toxic chemicals and heavy metals imbedded in renewable energy components for the renewable energy transition to progress cleanly. Accordingly, there needs to be a far greater focus on the toxic contamination risks arising from wind farms and BESS potentially causing leaching of 'forever chemicals' and heavy metals such as cadmium, cobalt, lead, lithium-copper, mercury, and nickel into our agricultural land, water resources and atmosphere,

and also a greater focus on the associated Occupational Health & Safety risks, Intergenerational Equity and potential elevated stock toxicity levels as a measure to protect crops, livestock and producers thereby ensuring food security for our future generations.

The iniquitous transition has not been properly thought through and it has far too many '*unintended consequences*' for it to be fit for purpose. More than likely infrastructure will be left as stranded assets since there is no satisfactory plan for where the hundreds of thousands of toxic turbine blades and millions of tons of dangerous batteries will eventually end up.

This nation cannot afford to let public health and food security to be undermined by this unparalleled travesty and until such time as these issues have been resolved and environmental and food chain protection plans have been established, I call on government to adopt the '*precautionary principle*' and initiate a moratorium on all industrial wind farm applications.

Renewable energy is NOT clean, NOT green, NOT zero.

Ian McDonald, Walcha Grazier