KWINANA
INDUSTRIES COUNCIL

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To Whom It May Concern,

WASTE NOT, WANT NOT: VALUING WASTE AS A RESOURCE

Kwinana Industries Council (KIC) is pleased to be making a submission on this subject, and looks forward to the development of a legislative framework for waste-derived materials. We have outlined a number of positive and forward suggestions in this submission and hope these are progressed appropriately.

By way of background Kwinana Industries Council (KIC) is an incorporated business association with membership drawn from the Kwinana Industrial Area (KIA). KIC membership comprises major industries found within the KIA and more broadly the Western Trade Coast (WTC), plus support and service sectors.

The WTC is the premier industrial estate in Western Australia, covering an area approximately 14km north-south and an average of 4km east-west, on the eastern side of Cockburn Sound some 30km south of the Perth CBD. The KIA forms the heavy industrial core of the WTC.

KIC members employ approximately 5,000 workers directly and another 26,000 indirectly, and its economic activity contributes $1.6bn annually to the State economy.

The KIC was established in 1991 with its primary goals being to:

- promote a positive image of Kwinana industries;
- work towards the long-term viability of Kwinana industry;
- coordinate a range of intra-industry activities including water quality, air quality, monitoring and emergency management;
- highlight the contribution Kwinana industry makes to community; and
- liaise effectively with local communities, Government and Government agencies.

The KIC, as an industry association, is well respected for what it represents, how it operates and for what it has achieved. It pursues its goals through a range of formal committees set up to provide input on a range of issues of common interest to the KIC member companies.

Committee members are delegates with appropriate experience, technical expertise and authority drawn from the member companies. The output from the various committee activities is then used as the basis for communication to KIC's stakeholders such that Kwinana industry is seen as speaking with one voice.

Over several decades, and under the stewardship of KIC, the product and by-product exchanges between industries has grown dramatically.

We have attached the most recent version of our 'synergies schematic' which depicts the exchanges that make the Kwinana Industrial Area the world's best practice of industrial symbiosis at work. The schematic has become somewhat out dated, given firstly that it was produced using 2013 data and a new version is becoming necessary, and secondly because there is an upsurge in new entrant companies looking for and contributing to the synergies.

The schematic does indicate the sources and destinations of 'waste' materials, but we prefer to use the term by-products. There are by-products that are treated as 'waste' simply because of the regulatory definitions, and this works against the ability of industry to re-purpose by-product materials into usable commodities.

In addition, we believe the definition of waste (no further possible end use) should apply to what we currently describe as waste water. Industry uses 'waste water' via recycling processes such as the Water Corporation-run Waste Water Reclamation Plant. Very large quantities of re-usable water are continuously pumped out to sea and lost to the system. There are uses for this water and there have to be better ways of encouraging the utilisation of this resource, before out-falling it to waste. If there were a charge on the 'dumping' of waste water, like the landfill levy, then re-use would be encouraged.

Resolving this issue is the primary focus of this submission and we are pursuing a 'refocusing' approach to waste management, where low-risk material (a potential synergy material) passes through a low-complexity regulatory process for approval. If the process is too complex, the material will go to landfill, which will be a counter-productive outcome for all.

NSW, and Queensland Approaches

Recasting the definition of waste is useful. Waste is something that put simply, has no use left for it. Where pathways exist for a material, the objective should be to push it through a re-use pathway. This is where the pros and cons of the Queensland and NSW approaches become useful.

We note that something like 80% of the funds collected under the Landfill Levy goes straight to consolidated revenue, with only 20% being directed to capacity building. The levy was originally set up to encourage recycling, and clearly this purpose has been lost. Perversely, the direction of such a high proportion of the landfill levy into consolidated revenue drains the very funds that would assist in the research and development work that it requires in order to reduce waste.

We submit that a serious re-think of the use of landfill levy funds being directed away from its original purpose is required.

The Issues Paper refers to 'industrial waste' in various places, including in "Table 1 Waste recycled by material sector". Industrial waste is located together with commercial waste. From the perspective of what is really meant by the category 'industrial waste', there is a sense that the Issues Paper is not giving due recognition to the scale, complexity and potential re-use opportunities that exist for by-products coming out of heavy industry.

It is from this perspective that we have written this submission.

It is commercially advantageous for industry to be able to find uses for its by-product materials. The current regulatory regime can make it commercially less risky to simply landfill these materials. It is frustrating for industry where there are clear uses for by-product materials, and there can easily be hundreds of thousands of tonnes per annum involved, but the regulatory framework just makes it "all too hard".

We seek a framework that has the flexibility to consider a by-product material stream on its merits, and which has a clear pathway through assessment and approval.
It is our view that regulators do want to say 'yes' to by-product re-use (where the use is clear and safe), but that the approval process is probably bound up in red tape. We have found that when a regulator does not have the knowledge, or confidence, or if felt un-supported, the 'no' answer is the likely decision, despite obvious merits.

If regulators were able to take a 'tell us what you want to do' approach, industry could then invest in the time and resources to carry out the scientific analysis, product research, and market development work in the knowledge that an approval, subject of course to appropriate conditions, was achievable.

The approval process, in this new environment, would benefit if by-product materials were to be able to go through a certification process (note, we do not consider that tailings are a by-product), so that a company receiving a material knew with certainty they were receiving an Australian (&/or international) certified product. The question then becomes how might this be achieved?

Practitioners and institutions such as, for example, the CSIRO, university researchers, and circular-economy experts could be engaged in these processes. Perhaps these globally astute people could form a third party, independent committee to assess applications for the certification of a specific product, forwarding their recommendation for certification to the regulator. Once a product has a certification, other products with appropriately similar chemical properties can then use the certification, so it only needs to be done once for that particular product. An inconsistent approach, which we have now, is what we need to move away from. Perhaps this process could be funded from the Landfill Levy?

The Queensland model clearly defines 'waste' and adopting their approach in this respect is supported. It provides clarity and certainty. The South Australian model builds in the flexibility to reuse, recycle and contribute to the industrial synergies that are an essential element for a successful industrial complex like the Western Trade Coast, and the Kwinana industrial core in particular, and especially for low-risk waste.

Any mechanism that:
- enhances industry certainty, be this through a definition of 'waste' that excludes 'waste-derived materials' (they are not 'waste' until there is no possible further use to be found);
- quality-controls products that are by-product derived materials (certified);
- includes timeframes for assessment and approval (so it doesn't drag on);
- provides for a system of product tracking;

is supported.

We do not support definitions that add complexity, or that take away from the process of by-product innovation. *For example: in the industrial synergies context, a definition that used the phrase "substantially transformed" would prohibit a certified by-product that needs no transformation whatsoever from being used by a company literally 'over the road' as a process input.*

It is prescriptive regulatory process definitions like this that are making innovation in this space too hard to bother with trying to get through; the investment is quite simply not worth the regulatory risk.

To conclude, we believe that this aspect of waste reform is sufficiently complex and that a separate discussion, perhaps via a targeted industry-specific issues paper, is warranted. In industry's case, the numbers are large, the rewards to the State recycling targets are significant, and the benefits to industry's ability to compete on international terms are real.

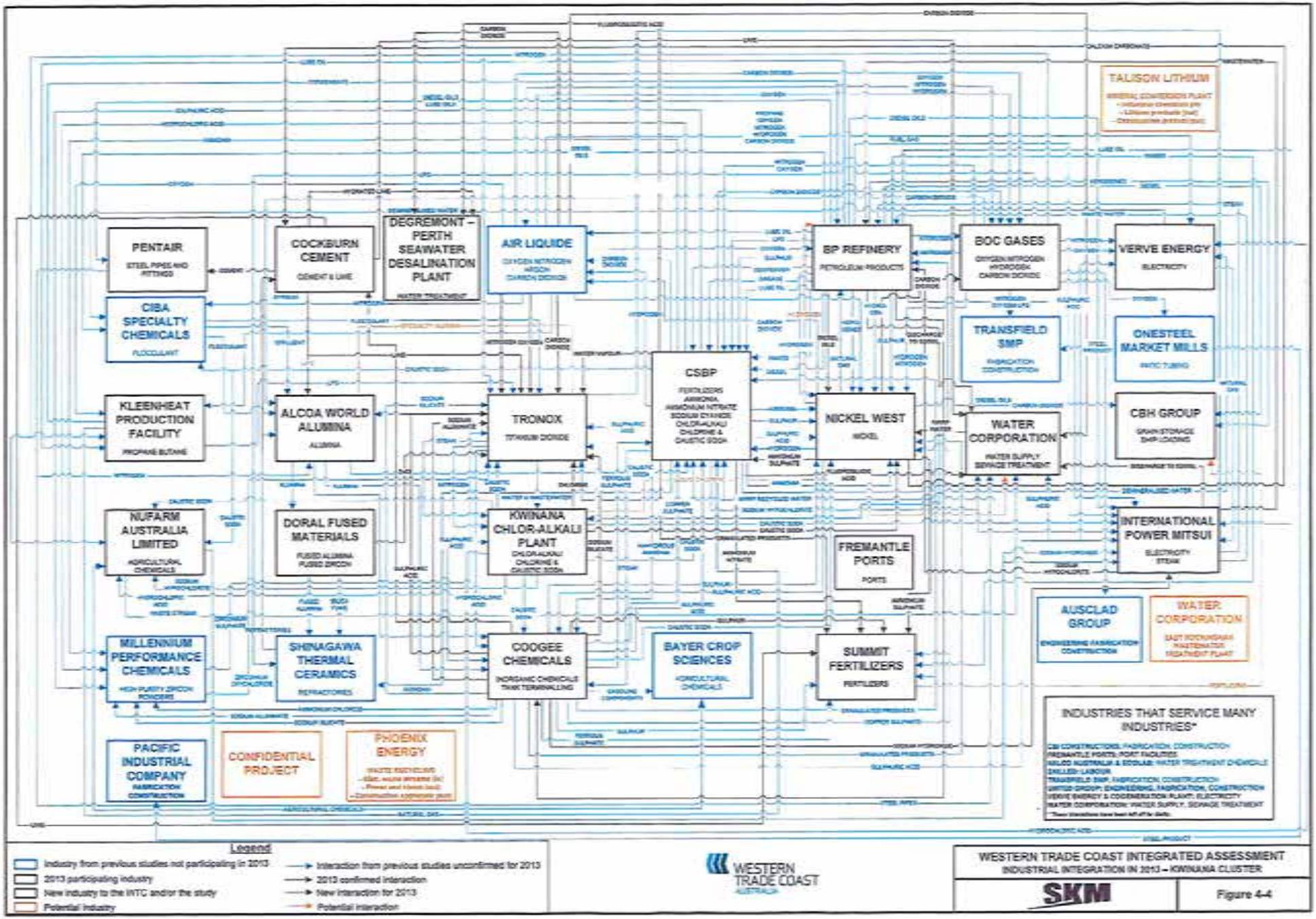
We would be happy to progress this idea with you and are more than willing to actively participate in this sort of targeted approach.

Thank you for the opportunity to make further comment into this review process.

Yours sincerely,

CHRIS OUGHTON
Director

Attachments:
1. Schematic – Industrial Integration in 2013 – Kwinana Cluster
2. Addendum


PENTAIR
STEEL PIPES AND FITTINGS
COCKBURN CEMENT
CEMENT & LIME
DEGREMONT – PERTH SEAWATER DESALINATION PLANT
WATER TREATMENT
AIR LIQUIDE
OXYGEN NITROGEN ARGON CARBON DIOXIDE
BP REFINERY
PETROLEUM PRODUCTS
BOC GASES
OXYGEN NITROGEN HYDROGEN CARBON DIOXIDE
VERVE ENERGY
ELECTRICITY
TALISON LITHIUM
CIBA SPECIALTY CHEMICALS
FLOCCULANT
TRANSFIELD SMP
FABRICATION CONSTRUCTION
ONESTEEL MARKET MILLS
PIPE TUBING
KLEENHEAT PRODUCTION FACILITY
PROPANE BUTANE
ALCOA WORLD ALUMINA
ALUMINA
TRONOX
TITANIUM DIOXIDE
CSBP
FERTILIZERS AMMONIA AMMONIUM NITRATE SODIUM CYANIDE CHLOR-ALKALI CHLORINE & CAUSTIC SODA
NICKEL WEST
NICKEL
WATER CORPORATION
WATER SUPPLY SEWAGE TREATMENT
CBH GROUP
GRAIN STORAGE SHIP LOADING
NUFARM AUSTRALIA LIMITED
AGRICULTURAL CHEMICALS
DORAL FUSED MATERIALS
FUSED ALUMINA FUSED ZIRCON
KWINANA CHLOR-ALKALI PLANT
CHLOR-ALKALI CHLORINE & CAUSTIC SODA
FREMANTLE PORTS
PORTS
INTERNATIONAL POWER MITSUI
ELECTRICITY STEAM
AUSCLAD GROUP
ENGINEERING FABRICATION CONSTRUCTION
WATER CORPORATION
EAST ROCKINGHAM WASTEWATER TREATMENT PLANT
MILLENNIUM PERFORMANCE CHEMICALS
HIGH PURITY ZIRCON POWDERS
SHINAGAWA THERMAL CERAMICS
REFRACTORIES
COOGEE CHEMICALS
INORGANIC CHEMICALS TANK TERMINALLING
BAYER CROP SCIENCES
AGRICULTURAL CHEMICALS
SUMMIT FERTILIZERS
FERTILIZERS
PACIFIC INDUSTRIAL COMPANY
FABRICATION CONSTRUCTION
CONFIDENTIAL PROJECT
PHOENIX ENERGY
INDUSTRIES THAT SERVICE MANY INDUSTRIES*
Legend
Industry from previous studies not participating in 2013
2013 participating industry
New industry to the WTC and/or the study
Potential industry
Interaction from previous studies unconfirmed for 2013
2013 confirmed interaction
New interaction for 2013
Potential interaction
WESTERN TRADE COAST
WESTERN TRADE COAST INTEGRATED ASSESSMENT
INDUSTRIAL INTEGRATION IN 2013 – KWINANA CLUSTER
SKM
Figure 4-4

Addendum to KIC Submission to DWER

The information below is attached as a demonstration of the lengths that must be gone to in order to have an industry by-product material not classified as a 'waste', and is to be read in the context of the KIC submission on the subject of DWER's Issues paper, "Waste not, want not: valuing waste as a resource".

The process described below demonstrates a long, arduous and expensive journey for the company trying to prove their by-product material has a legitimate end use and is therefore not a waste to be land filled. The process described enables companies with a similar by-product to obtain a benefit without contributing to the product research and accreditation process.

The KIC submission suggests a similar process, but achieved via a more equitable alternative pathway.

> "For the Kwinana Plant feasibility study in 2016 a waste management study was undertaken that considered prior investigations and trials undertaken to utilise the alumino silicate (TAS) by-product as an additive to existing product mixes for construction materials. The focus was with brick manufacturers, a potential light weight concrete product and as an ingredient in concrete generally.
>
> The other option in the project study was to landfill at the Millar Rd facility in Rockingham that would incur the full cost of disposal levies as a class three waste. Considering the early concept test work showing promise as a useful by-product and the high cost of disposal a detailed investigation was undertaken of the potential markets, industries and end use applications for TAS.
>
> In early 2017 test work programs were commenced at a leading concrete materials laboratory in Sydney to determine the performance of TAS against Australian Standard compliance tests for use of TAS as a supplementary cementitious material (SCM) in concrete.
>
> It became evident from engagement with leading industry concrete companies and considering the regulations that defined a material as waste subject to levy that the TAS by-product would have to be certified to an Australian Standard as SCM to avoid the levy and be utilised by industry.
>
> By late 2017 extensive marketing and laboratory test work undertaken to the concrete standards for SCM provided evidence of the viability of TAS for use in concrete and in 2018 the process was commenced for attaining certification to the Australian Standard.
>
> The process to certification is extensive and typically takes many years. The early development steps are outlined below and Craig from HBM (APozA) will provide further detail of the standards process:
>
> 1. Pre-work as described above to undertake extensive test work programs, market and end user analysis, industry engagement and review of industry standards.
>
> 2. The creation of an industry association is the first of several mandatory steps required by Standards Australia before consideration of an application for a new standard.

3. One of the mandatory requirements is that the association must have broad industry, end user, producer, academic, other related associations and government agency support and ideally as members.

4. The Australian Pozzolan Association (APozA) was formed in 2018 following a series of stakeholder meetings and forum conducted in October 2018. APozA was formally registered and general meetings conducted with members including other materials associations to agree on the content for the submission to of a project to Australian Standards."

Readers will agree the process does requites persistence. The KIC submission suggests an alternative approach to product accreditation.