13:02:34 From Ivana To All Panelists:

Hi Alexi, just confirming whether you or i am sharing the slide deck

13:02:50 From Alexi To All Panelists:

You can share your own slides!

13:03:14 From Ivana To All Panelists:

Cool thnks

13:08:54 From Jacqui To All Panelists:

I'm going to turn my video off while the other speakers are talking - so we can focus on them.

13:09:16 From George To All Panelists:

Good idea

13:10:11 From Alexi To All Panelists:

No worries

13:31:08 From Shaila To Everyone:

if the grid is decarbonising and operational energy will be getting lower, so will manufacturers and products also. So is the embodied energy shown as increasing to 85% reflecting that ?

13:33:28 From Nayan To Everyone:

Great point by Shaila! Would the presenter be able to dive into the data behind the 85% and 15%?

13:34:44 From Jeff To Everyone:

@Nayan - this report provides more detail

13:34:49 From Jeff To Everyone:

https://new.gbca.org.au/news/gbca-news/gbca-and-thinkstep-release-embodied-carbon-report/

13:35:09 From Joe To Everyone:

I'm not 100% on this, but much of the embodied carbon emissions is separate to electricity. There's CO2 released during the manufacture of cement, much primary steel is still produced using fossil fuels rather than electricity. So greening of the grid doesn't address these industrial emissions sources.

13:35:32 From Shaila To Everyone:

thanks Jeff and Joe

13:35:35 From Nayan To Everyone:

@Jeff - Thanks for sharing the report!

13:35:47 From Jeff To Everyone:

👍

13:36:51 From Shaila To Everyone:

Hi Joe - your point is good - although the decarbonisation may still remove some/major part of the embodied impact - may be possible

13:36:58 From paul To Everyone:

Greenstar have indicated that demolition waste is to be included/offset in 5 and 6 star certifications but NABERS is excluding demolition waste. Will this be harmonised in the future?

13:37:16 From Rick To Everyone:

Good point Joe, although there may be some impact from grid electrification as some industries electrify (e.g. steel could be produced in the future using electricity rather than coking coal), but this is some years away. Aluminium will be impacted much sooner.

13:37:32 From Nayan To Everyone:

Just another comment - when we talk in terms of percentages, can we also show how the actual emission is performing in terms of kg i.e compared to now how we would perform in 2050.

13:37:57 From Andrew To All Panelists:

the material CO2e will reduce, however is only measured at the point of manufacture. So, if you buy materials and build next year, that's the fixing point for the CO2e content. the point is more that upfront or embodied CO2e is a problem for us today, while operational CO2e will reduce over time

13:38:09 From Joe To Everyone:

I agree Shaila - it definitely will tackle emissions associated with manufacturing electricity usage as the grid gets to 100% renewable.

13:38:46 From Maryia To Everyone:

Will NABERS data with emissions factors be independently verified?

13:38:59 From RACHELLE To Everyone:

if cement producers are connected to the gird or green themselves then emodied carbon will be reduced. It all depends on where primary energy is sourced from but they're likely not using renewables just yet as these are hard to abate sectors. green hydrogen is often being proposed for these

13:39:02 From Joe To Everyone:

There's also the point that we're still dealing with a global supply chain, so even if Australia's grid decarbonises, we could realistically still be importing overseas materials/products with more carbon intensive grids.

13:39:33 From Shaila To Everyone:

yes.

13:39:41 From John To Everyone:

Is it okay to use the ICE (Inventory of Carbon & Energy) database?

13:40:14 From Graeme To Everyone:

@Rachelle cement production produces carbon as part of the chemical reaction to turn lime to limestone. That is the biggest source regardless of power/heat source.

13:40:28 From Gerard To Everyone:

@Joe, this points to a challenge in the choice of material emissions factors and confirming that the factor used reflects as best possible the actual source of the material (e.g. local vs overseas)

13:40:35 From Shaila To Everyone:

I guess my question thus was, whether all these issues have been considered in claiming embodied energy will increase so drastically compared to OpEner

13:40:43 From Hamish To All Panelists:

Doesn’t certification / calculation after completion defeat the purpose of using the tool as a design tool where early intervention has the highest impact?

13:40:52 From Bonnie (she/her) on Wurundjeri Land To Everyone:

Will NABERS be sharing EC benchmarks publicly? The accessibility of benchmarks is key to understanding where our buildings are sitting during the design process, even outside the NABERS pathway.

13:41:16 From Caroline To All Panelists:

how long does the nabers team think that it will take to get the necessary data points of building assessments to generate the actual performance levels of the proposed star rating

13:41:22 From Benjamin To Everyone:

Does the NABERs tool include any of the other indicators that are required for a GS rating (i.e. ozone depletion & net fresh water use)?

13:41:24 From Vinay To Everyone:

Will the NABER's Emissions Factors table/database be updated periodically?

13:41:25 From Hamish To Everyone:

Doesn’t certification / calculation after completion defeat the purpose of using the tool as a design tool where early intervention has the highest impact?

13:42:09 From RACHELLE To Everyone:

good point Hamish!

13:42:19 From Gerard To Everyone:

@Hamish, presumably it is something that designers could be working towards, in the same way that designers work towards NABERS energy and water ratings

13:42:21 From Joe To Everyone:

@gerard - good point.

13:42:45 From Gerard To Everyone:

@Hamish, an upfront NABERS embodied carbon commitment agreement perhaps?

13:42:49 From Nayan To Everyone:

I will surprised to see if by 2050 the actual values of embodied energy increases compared to what it is now. Talking in percentages (%) certainly does not paint the complete picture unless I am mistaken somewhere.

13:43:24 From Alexi To Everyone:

Hi all, due to the number of questions coming through we will confine answers to the typed questions. If you have your hand raised, please put it down and type your question in the Q&A and hopefully we get to it!

13:44:07 From Dindy To All Panelists:

I wondering what the difference, if any, there is between the NABERS tool and other platform tools for carbon accounting such as Salesforce Net Zero and other carbon accounting platforms? Do we need to use both tools, or is the NABERS tool enough?

13:44:29 From Alexi To Everyone:

You can view the MECLA Discussion Paper here: https://mecla.org.au/wp-content/uploads/2022/10/MECLA-WG2-Discussion-Paper.pdf

13:44:33 From david To Everyone:

I think An EPD process would consider the carbon intensity of electricity supplied to any particular manufacturing process for a product . EPDs have a life span of 5 years max as general rule - thus its should be reasonably straight forward to factor in either: general grid greening predicted over the 5 year lifespan of the EPD and/or (if a manufacturer committed to - say a 3 or 5 year PPA with a specified renewables component) - a reasonably accuarate carbon intensity for elec used during that period of mnaufacture - thats my read on it anyway.

13:44:48 From Alastair To Everyone:

Well done to NABERS and its Data hierarchy and the recognition of Process-based LCA/EPD for the assessment of construction products and buildings. This is the recognised global approach based on international standards. Glad to see this previous fixation on iput-output LCA approaches or Hybrid LCA approaches have been dropped

13:45:17 From Graeme To Everyone:

@nayan - it is not the actual values (absolute) embodied carbon that will increase but rather the relative contribution of embodied vs operational. Both need to trend to zero. Operational emissions continue to decrease which focusses attention on the embodied emissions.

13:45:23 From Gerard Healey To Everyone:

@Nayan, do the specific % actually matter? Would a future split of embodied / operational carbon of 60/40, 50/50 etc change the importance of addressing upfront carbon?

13:46:02 From Deejan To All Panelists:

Hi Nayan,

please see the report https://gbca-web.s3.amazonaws.com/media/documents/embodied-carbon--embodied-energy-in-australias-buildings-2021-07-22-final-public.pdf

Developed in partnership with the GBCA and Thinkstep.

The report provides a good isnight into the embodied energy in Australia and also provides assumption such as decarbonised grid,etc.

13:47:14 From Mike To Everyone:

Worth noting that imported products from some jurisdications will be considerably better than Australian manufactured products based on our current national policies e.g. electric trucking within EU https://electrek.co/2023/02/15/eu-bans-new-ice-vehicles-aims-to-slash-emissions-from-trucks-and-buses/

13:47:32 From Dominique To Everyone:

yes so good!

13:47:53 From Ann To All Panelists:

Hear hear Caro! Hopefully the tipping point is here.

13:47:58 From Phillip To All Panelists:

@Gerard, the % only matter in where we focus our efforts. Traditionally Operational Carbon was the big proportion and thus the big focus. But as the % shifts towards emobodied carbon, we need to shift our focus to this as we aim for net zero emissions.

13:48:11 From Tyrel To Everyone:

Re: third tier of Data Hierarchy - why create yet another dataset? why not use existing database e.g. Australian National Life Cycle Inventory Database (AusLCI)

13:48:16 From James To All Panelists:

Interesting discussion on carbon intensity of overseas vs local materials. Current trend would be lower carbon steel and aluminium typically sourced from overseas. I think a situation where overseas materials have a higher carbon content would be a good problem to have - would mean would be on the way to solving the local, lower carbon supply chain we need to track towards a 1.5deg C future.

13:48:28 From Mike To Everyone:

China may be close behind the EU since that's where most of the vehicles will be made, and that they have limited fossil fuel resources.

13:48:45 From Claire To Everyone:

Is there any consideration of the NABERS tool being broadened to take on infrastructure beyond buildings, for national consistency?

13:48:47 From NIKI To All Panelists:

Q1 - If using a BOQ from the theoretical design as the benchmark for say concrete, is there a factor for waste and or rejected concrete similar to the GCCA EPD of 3%? Q2 - Is it possibility to use a previous structure with the same concrete performance (specs are usually cut and paste between projects) as the benchmark for concrete and actually waste from these previous projects.

13:48:48 From Phillip To Everyone:

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13:48:54 From James To Everyone:

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13:49:00 From Maryia To Everyone:

Fully agree, Tyler... tools should simply agree to use the best available third party reviewed data set to avoid gaming

13:49:37 From David To Everyone:

Would a NABERS certified 'Embodied Emissions' rating be able to be used to certify a building as a Climate Active 'Product'? Would the two be complimentary or equivalent?

13:49:56 From Vivian To Everyone:

When will the NABERS tool be available?

13:51:03 From Graeme To Everyone:

@Vivian - Ivana's slides showed Pilot tool in mid '23 and Launch mid '24

13:52:22 From Matthew To Everyone:

@shaila, current upfront carbon makes up 16% of total. When grid decarbs that 16% now accounts for 85% as the total emissions will have reduced considerably.

13:53:09 From Matthew To Everyone:

Good to focus on upfront now to get to zero

13:53:11 From rob To Everyone:

Good point @Tyrel. Creating a "conservative" generic dataset (when specific product data is unavailable) when AusLCI already exists seems to be re-inventing the wheel.

13:53:37 From Alexi To Everyone:

You can view the MECLA Discussion Paper here: https://mecla.org.au/wp-content/uploads/2022/10/MECLA-WG2-Discussion-Paper.pdf

13:53:38 From Gavin To Everyone:

Agree, well done to NABERS on their extensive consultation process and the proposed data hierarchy and recognition of process-based LCA and EPDs.

13:53:39 From Shaila To Everyone:

thanks Matthew. when grid decarbonises, then looks like that is reflected in op energy. But is the 85% assuming the same quantity as before which makes it proportion higher? that was my question.

13:53:57 From Nayan To Everyone:

@Gerard: Surely not! We must need to look for ways to decarbonise and work on a sustainable journey. I was just interested to understand how the declining (or increasing) trend of the embodied energy. Now that the hosts have shared some documents, these could provide me with better data to make informed decisions along the way. As you mentioned, it is indeed crucial to focus on the important issue of the day and % distribution of the many issues certainly helps in prioritising!

13:54:00 From Tyrel To Everyone:

IS Materials Calculator (established 2012) is available for the infrastructure sector

13:54:55 From NIKI To Everyone:

Q1 - If using a BOQ from the theoretical design as the benchmark for say concrete, is there a factor for waste and or rejected concrete similar to the GCCA EPD of 3%? Q2 - Is it possibility to use a previous structure with the same concrete performance (specs are usually cut and paste between projects) as the benchmark for concrete and actually waste from these previous projects.

13:55:08 From Tyrel To Everyone:

eTool have established 'equivalency' process (with IS Mat Calc) that also covers infrastructure

13:55:28 From To Everyone:

It would be great to understand how the Infrastructure Sustainability Councils experience has been considered and leveraged given the IS Rating tools have been tackling these same questions in all the rating tools to date. Seems like lots of ross over here so logical to

13:55:58 From Fin To Everyone:

...integrate this.

13:56:45 From Alexi To Everyone:

You can view the MECLA Discussion Paper here: https://mecla.org.au/wp-content/uploads/2022/10/MECLA-WG2-Discussion-Paper.pdf

13:57:12 From Shaila To Everyone:

thanks Alexi

13:58:42 From paul To Everyone:

Could the NGA factors be a place where Australian specific material co-efficients could live?

13:58:45 From Dominique To Everyone:

Nicely said Caroline

13:58:49 From Jeffrey To Everyone:

Caroline what are your thoughts on what can be done to increase the knowledge of many folk in the industry on methods for measuring carbon

13:59:17 From jane caught To Everyone:

Hi - is it possible to transmit the chat thread to attendees?

13:59:46 From Alexi To Everyone:

Hi Jane, yes we can circulate the chat after

14:00:02 From jane caught To Everyone:

thanks!

14:00:46 From Rene To Everyone:

In addition to determine upfront carbon emissions using the NABERS tool, will there be other requirements to achieve Upfront Carbon for Buildings certification under Climate Active's NABERS pathway?

14:03:45 From Wayne To Everyone:

How will the tool account for a CO2e comparison with a baseline building using conventional methods vs an mmc/offsite/modular construction processes?

14:03:46 From Sam To Everyone:

@Shaila most of the embodied carbon is upfront, locked in by the time the building is built, so grid decarb doesn't really influence emb:op % split for projects at the moment (and seemingly for next 5 years at least)

14:06:34 From Mateo To Everyone:

Do you guys envision EPD's as mandatory material property for building materials enforced by the NCC or Australian standards?

14:06:35 From Shaila To Everyone:

thanks Sam. I get that embodied energy is locked in first. But by 2050, manufacturers will also be availing of a decarbonised grid, more sustainable strategies (due to ESG reporting, brand value, investor pressure etc.) so all I am saying is that those trends will affect the locked in embodied energy over the next few years.

14:06:44 From Nicola To Everyone:

ILFI Declare database building products that have disclosed embodied carbon FYI https://declare.living-future.org/?filter=program%7CDeclare%20%2B%20Embodied%20Carbon%20(Pilot)

14:06:54 From Nicola To Everyone:

Mote info https://trimtab.living-future.org/zero-carbon/a-guide-to-reducing-embodied-carbon/

14:07:48 From Matt To Everyone:

EC3 tool is available here, and it's free/open access: https://buildingtransparency.org/auth/login

14:09:16 From Rick Walters To Everyone:

It is a good point to make about industries that should rapidly decarbonise (e.g. Aluminium) versus those that will likely be slower (e.g. steel). I guess this embodied carbon approach does not recognise future embodied carbon, that is that it may encourage efforts to reduce Aluminium now, when in the future, this should be much less important. Could put the effort into the wrong measures.

14:14:33 From Mehdi To All Panelists:

Link to the Inflation Reduction Act Programs if anyone is interested: https://www.epa.gov/inflation-reduction-act/inflation-reduction-act-programs-fight-climate-change-reducing-embodied

14:14:54 From David To Everyone:

@Ivana But could you classify a net-zero building as a 'Product' if you're selling it to a buyer - so could you use NABERS Embodied Carbon to say "this building is a net zero product" based only on the embodied carbon. Then it could also separately be a Climate Active 'Building' during operation too

14:15:00 From Steven To Everyone:

Hey Rick, I wasn't aware that aluminium is expected to rapidly decarbonise compared to steel. May you explain the reasoning for that thought?

14:16:24 From Matthew To Everyone:

Spot on Shaila, manufacturing and materials supply not standing still

14:16:48 From Mike To Everyone:

@Steve Aluminium is smelted in 4 states in Australia, including Tasmania where the grid is mostly decarbonised already

14:17:03 From Rick To Everyone:

Steven, since Aluminium is known as "liquid electricity", it will "automatically" decarbonise with the grid. Further, the Australian smelters have aggressive decarbonisation targets. Steel is much harder. See the very good past MECLA event recordings specific to these industries.

14:19:18 From Peter To Everyone:

Absolutely Caroline. Through informed demand mechanisms?

14:19:58 From Steven To Everyone:

Thanks for the insights everyone

14:20:16 From Monica To Everyone:

Bravo

14:20:23 From Peter To Everyone:

Well said Jacqui!

14:20:35 From Ann To Everyone:

Great points Carolien and Jacqui

14:20:49 From Ann To Everyone:

Caroline

14:20:54 From Caroline To All Panelists:

14:21:07 From Ruth To Everyone:

keen to get a copy of the chat. Very interesting session all. Great questions.

14:21:08 From Lauren To Everyone:

Thanks for a great spotlight team!!

14:21:19 From John To Everyone:

Caroline always great to hear your thoughts.