

# **Conference Series**

on Life Cycle Assessment



AgriFoodLCA

23<sup>rd</sup> to 24<sup>th</sup>

LCM Australia 24<sup>th</sup> to 26<sup>th</sup>

AusBuildLCA
26<sup>th</sup> to 27<sup>th</sup>

## November 2015 Mercure Melbourne Treasury Gardens

Presenting new data, tools and approaches on how to ride the wave of business opportunities that emerge from transforming to a more sustainable society

#### ALCAS thanks our AgriFoodLCA Gold Sponsor



Research & Development Corporation

Join the Australian Government's Rural Industries Research & Development Corporation (RIRDC) for panel discussion on the drivers for life cycle assessment investment in agriculture.

As the global population is expected to hit nine billion by 2050, the demand for food will also increase by an estimated 70%.

Measuring the impact of our food production through LCA improves efficiencies and environmental performance, enabling a more profitable and sustainable rural sector.

Australia's transition to a green economy is underway that applies to all industries but especially agriculture, a sector that relies on valuable but vulnerable land and water resources.



## **Conference Series**

### on Life Cycle Assessment



#### The 1st Life Cycle Assessment Conference for Agriculture and Food

Monday November 23, 9am to 5.30pm followed by the AgriFoodLCA Dinner

Tuesday November 24, 9am to 4pm followed by networking and drinks

#### The 9th Australian Conference for Life Cycle Assessment and Life Cycle Management

Tuesday November 24, 2pm to 4pm followed by networking and drinks

Wednesday November 25 9am to 5pm, followed by the LCM Aust 2015 Dinner

9am to 12.30pm, Thursday November 26

#### The 1st Life Cycle Assessment Conference for Building and Construction

Thursday November 26, 9am to 5.30pm followed by the AusBuildLCA Dinner

Friday November 27, 9am to 3.30pm followed by networking and drinks

At the 2015 Australian Life Cycle Assessment Society (ALCAS) Conference Series, you will:

- Examine the drivers and benefits of Life Cycle Assessment
- Gain insight into the latest tools and work together to develop collaborative approaches
- Discuss the role of Life Cycle Assessment in achieving a low carbon ecomony

#### Find out more

www.lcaconference.com.au info@lcaconference.com.au Join ALCAScommunity on social media via Twitter, Facebook, Google+ and LinkedIn



# AgriFoodLCA

## Growth through sustainability

NSW Department of Primary Industries



## Monday

Wioliday			
9am	Opening address Conference Chair Tim Grant, Life Cycle Strategies		
9.15am	Special guest speakers Sustainable agriculture and the global food supply chain, Dr Urs Schenker, Sustainability Expert, Nestlé		
10am	Nutrition and the global food supply, Manny Noakes, CSIRO		
10.30am	Greenhouse gas emission intensity and food security trade-offs in meat supply chains, Steve Weidemann, FSA Consulting		
11am	Morning tea break		
11.30am	Agriculture trends and developments Mega trends for global agriculture, Sandra Eady, CSIRO		
11.55am	Can we include biodiversity in LCA? Andrew Moore, Life Cycle Logic		
12.20pm	Including soil quality in LCA - developments from the Bordeaux workshop, Tim Grant, Life Cycle Strategies		
12.45pm	Lunch		
1.30pm	LCA in food and beverage supply chain Fig conference room Methodological framework for life cycle sustainability analysis of the Australian food industry, Murilo Pagotto, University of Queensland	LCA of cropping systems  Pear conference room  How sensitive is the calculated global warming impact of cotton production in north-west New South Wales to applied N2O emissions values? Mehdi Hedayati, NSW Department of Primary Industries	
1.55pm	LCA of Australian salmon, Amy White, Tassal	A review of on-farm energy use benchmarks in the grain and horticultural industries, Guangnan Chen, University of Southern Queensland	
2.20pm	LCA of the beer industry in Northern France, Jodie Bricout, cd2e	the use of Monte Carlo analysis to estimate regional impacts of cropping systems, Aaron Simmons,	



# AgriFoodLCA

Growth through sustainability



### Monday (cont)

2.45pm Afternoon tea break

Australian Wine Research Institute

3.15pm LCA in food and beverage supply chain LCA of cropping systems (cont)

Pear conference room Fig conference room

The Australian wine industry's Product environmental footprint of chicken feed environmental assurance program: products in Thailand, Prakatham Suksatit, MTEC towards streamlined individual LCAs and a national model, Tadro Abbot,

KFC Australia's environmental and 3.40pm Carbon footprints of monoculture wheat and

> social farm to fork/finger supply wheat-based rotations in south-eastern chain engagement project, Australia: certainties and uncertainties.

Jonas Bengtsson, Edge Environment David Herridge, NSW Department of Primary

**Industries** 

Panel session 4.15pm

Livestock Environmental Assessment and Performance (LEAP) guidelines,

Sandra Eady, Steve Weidemann and Beverley Henry

5.15pm Closing drinks and networking session

6.30pm AgriFoodLCA Dinner \$29 pp



#### LCA Projects – Data – Tools – Training

SimaPro

Share and Collect Social Hotspot Database







Data supplier and development partner of packaging tool | PIOET





# AgriFoodLCA

Growth through sustainability



### **Tuesday**

8am Development of LCA guidelines for biofuels and bioenergy project for Australian Renewable

Energy Agency (ARENA)

Jonas Bengtsson, Tim Grant, Annette Cowie, Scott Grierson

9am Conference debate

Parochiality in agrifood LCA - the potential effects of Australian production systems outside

our borders

Chair: Tim Grant

10am LCA in dairy production

Fig conference room

Life cycle environmental consequences of increased milk production by dairy farm intensification in New Zealand,

Jeerasak Chobtang, Massey University

10.25am

Agriculture methology development

Pear conference room

Form, fire, fuel and fate in forest product EPDs, Mathilde Vlieg, The Evah Institute

A review of on-farm energy use bench

marks in the dairy industry, Guangnan Chen, University of Southern Queensland Pesticide emissions on farm – consensus approach from the Bordeaux workshop,

Tim Grant, Life Cycle Strategies

10.50am Morning tea break

11.30am Innovations in agriculture

> Vertical farming – the future of high performance crop management, Tony Bundock, Powerplants Australia

Agriculture methodology development

The application of consequential life cycle assessment to cotton production, Mehdi Hedayati, NSW Department of Primary Industries

Life cycle sustainability assessment and 11.55am

its application potential in the develop ment of sustainable feed production systems – An ex-ante assessment of insect-based feed production, Martin Roffeis and Joana Almeida, KU Leuven, The timing of greenhouse gas emissions and

removals in life cycle assessment,

Annette Cowie, University of New England

12.20pm

Belgium

Carbon footprint of dairy products: what is the impact of different allocation

approaches, Sven Lundie, thinkstep AG / **UNSW Water Research Centre** 

How do we establish methods to assess the impact of agricultural production on soil function and ability of land systems to produce biomass?, Sandra Eady, CSIRO



## **LCM Aust 2015**

### Mainstreaming sustainability



# Tuesday (cont) Combining AgriFoodLCA and LCMAust2015

12.45pm Lunch

2pm **Inovations in agriculture** 

Fig conference room

Recent developments in international standardisation and harmonisation of

LCA and footprint practices,

Brad Ridoutt, CSIRO

2.25pm Extending LCA in agricultural sectors,

Marguerite Renouf, University of

Queensland

Agriculture methodology development

Pear conference room

Triple bottom line analysis of food systems and food waste, Joe Lane, University of Queensland

Assessing the environmental impacts of

integrated weed management strategies in

pasture systems, Aaron Simmons,

NSW Department of Primary Industries

3pm The Rural Industries Research and Development Corporation (RIRDC) presents:

Drivers for LCA investment in agriculture, Sandra Eady, RIRDC

Panel discussion

The increasing the use of LCA in Australian food sector

Chair: Jodie Bricout

Panel: Jonas Bengston, Steven Weideman, Urs Schenker, Sandra Eady

4pm Side meeting

ALCAS Agricultural Sector Working Group

4.30pm Closing drinks and networking game





# **LCM Aust 2015**

## Mainstreaming sustainability



## Wednesday

9am	Opening address Conference Chair Jodie Bricout, cd2e		
9.15am	<b>Opening plenary</b> Sustainable Value Creation at Nestle, Dr Urs Schenker, Nestlé		
9.50am	Update on the government's National Carbon Offset Standard (NCOS) Program, Dr Melanie Kaebernick, Department of Environment		
10.20am	Developments in product Stewardship in Australia, John Gertsakis, Infoactiv		
10.50am	Morning tea break		
11.20am	Enabling LCM in the region and across the globe A global organisation to promote life cycle approaches, Philip Strothmann, Forum for Sustainability through Life Cycle Innovation (FSLCI)		
11.45am	Promoting LCA development in Australia and New Zealand, Tim Grant and Barbara Nebel, ALCAS and LCANZ		
12.10pm	Life cycle approaches as a driver for the circular economy, Jodie Bricout		
12.35pm	Indicators for circular economy, Barbara Nebel, thinkstep		
1pm	Lunch		
2pm	Tools for better LCM Fig conference room LCA and natural capital accounting (NCA) in product design, Barbara Nebel, thinkstep	Communicating LCM  Pear conference room  Enhancing communication to mainstream life cycle management, Philip Strothmann, FSLCI	
2.25pm	What every LCA professional needs to know about GIS, Andrew D Moore, Life Cycle Logic	Changing our tune: same meaning, different song, Nicole Sullivan, BlueScope	



## **LCM Aust 2015**

### Mainstreaming sustainability



#### Wednesday (cont)

2.50pm Recommended impact assessment guidelines for Australia, Marguerite Renouf, University of Queensland

Implementing life cycle thinking for society, Dr Sean O'Malley, Planet Ark

3.15pm Afternoon tea break

3.45pm Good management needs good data - latest developments in databases

Fig conference room

The lessons learned from the data quality improvement for Thai National Life Cycle Inventory, Nongnuch Poolsawad, National Metal and Materials Technology Centre New methods in life cycle management beyond LCA

Pear conference room

Social LCA: informing LCM strategy,

Maartje Sevenster, Sevenster Environmental

4.10pm AusLCI – critical mass achieved!

Away we go, Tim Grant, ALCAS President

Life-cycle based water footprinting methodology in the production of metal commodities, Stephen Northey, Monash University

4.35pm Enhancing LCA with the Australian

Industrial Ecology Virtual Laboratory, Joe Lane, University of Queensland Life cycle sustainability assessment and its application potential in product development: an ex-ante assessment of insect-based feed production, Martin Roffeis, KU Leuven, Belgium

5pm Closing drinks and networking

6pm LCM Aust 2015 Dinner \$29 pp





#### Sustainable foundations



# Thursday Combining LCMAust2015 and AusBuildLCA

9am **Opening address** 

Conference Chair Rob Rouwette, start2see / Energetics

9.15am **Opening plenary** 

The growing role of LCA in the global building and construction sector,

Joep Meijer, The Right Environment

10am LCA and Designing for Hope, Dominique Hes, Melbourne University

10.30am Morning tea break

11am Sustainable buildings and construction, sustainable consumption and production,

10FYP at UNEP, Usha Iyer-Raniga, RMIT University

11.30am Green Star: LCA, EPDs and the future, Karl Desai, Green Building Council Australia

12pm Technology challenges and opportunities for sustainable buildings,

Alan Pears, RMIT University

12.30pm Lunch





#### Sustainable foundations



## Thursday (cont)

1.30pm	LCA and infrastructure  Developments in the Infrastructural Sustainability Tool, Rick Walters, Infrastructure Sustainability Council of Australia (ISCA)	
1.55pm	TfNSW's LCA based CERT-tool is now mandatory for large infrastructure projects, Rob Rouwette, Energetics	
2.20pm	TAGG Workbook (Carbon Gauge) and the role of LCA, Simon Renton, VicRoads	
2.45pm	LCA in industry: a material supplier's perspective on the use of LCA in infrastructure, Ross Brookshaw, Downer Group	
3.10pm	Afternoon tea break	
3.40pm	LCA of buildings Carbon footprint and embodied energy consumption saving opportunities for Western Australia's housing industries: a life cycle management approach, Krishna Kumar Lawania, Curtin University	
4.05pm	A quantitative analysis, measuring the relationship between level of life cycle cost, designer involvement, design quality and the value of improvements for commercial CBD assets within Sydney, Maryam Litkouhi	
4.30pm	Life cycle carbon footprint of public buildings: A case study of Canada, Kasun Hewage, University of British Columbia	
4.55pm	How to account for carbon storage in global warming potential (GWP) results, James Logie, Edge Environment	
5.30pm	Closing drinks and networking	
6.30pm	AusBuildLCA Dinner \$29 pp	



### Sustainable foundations

Energy consumption analysis and life cycle

assessment of resin infusion process for

Tiange Lu, University of Auckland

thermosets composites,



Friday					
9am	Conference debate Climate change is all that matters – other indicators are not worth the carbon stored in the paper they are printed on Chair: Jodie Bricout Panel: Rob Rouwette, Richard Haynes, Tim Grant				
9.40am	EPD and ecolables, materials, LCI Fig conference room EPDs for associations: successes and challenges in the Australian timber products industry, Stephen Mitchell	Building LCA modelling tools  Melon conference room  Simplifying building LCA, Richard Haynes, eTool			
10.05am	EPDs: enabling quality LCA of the built environment, Nicole Sullivan, BlueScope	Comprehensive dynamic LCA/LCC from inception: introducing ENVEST, Nigel Howard, Clarity Environment			
10.30am	Floorcovering LCA for ecolabelling in Australia, Shloka Ashar, Global Green Tag	Development of ESD Manager for Capital Works, Peter Shuey, ACXargyle			
10.55am	Morning tea break				
11.25am	Benefit metrics for environmental building declarations: The balancing act between simple communication and scientific rigour – a critique of the development and use of weighting in LCA, Gaya Gamage, thinkstep	The life cycle advantages of using stainless steel, Dr Graham Sussex, Sussex Materials Solutions			
11.50am	Synthetic fibre LCA for ecolabelling, Omar Biaz, Global Green Tag	Life cycle inventory of cement and concrete produced in Australia, Brett Sharma, Life Cycle Strategies			
12.15pm	The successful realisation of the business value for LCA at David Trubridge, Jeff Vickers, thinkstep	Hybrid LCA for construction materials, Soo Huey The, UNSW Water Research Centre			

Product environmental footprint for thermal

insulation materials, Jodie Bricout, cd2e

12.40pm



#### Sustainable foundations



## Friday (cont)

1.05pm Lunch

2pm Panel discussion

Challenges for LCA in building and construction

Joep Meijer, David Baggs, Barbara Nebel, Rob Rouwette, Nicole Sullivan and Rick Walters

3.30pm Closing drinks





# BLUESCOPE





Technically rigorous, user-friendly & cost effective online software

help@footprintcompany.com.au



#### SimaPro Share & Collect

SimaPro Share & Collect makes it easy to share LCA-based scenarios with business stakeholders who need them, and to collect data from suppliers and other stakeholders. Share & Collect is an interactive, web-based platform. It improves collaboration by making life cycle assessment results accessible, tangible and understandable. At last, you can efficiently share your LCA results for sustainable product development and fact-based decision-making in sustainability.

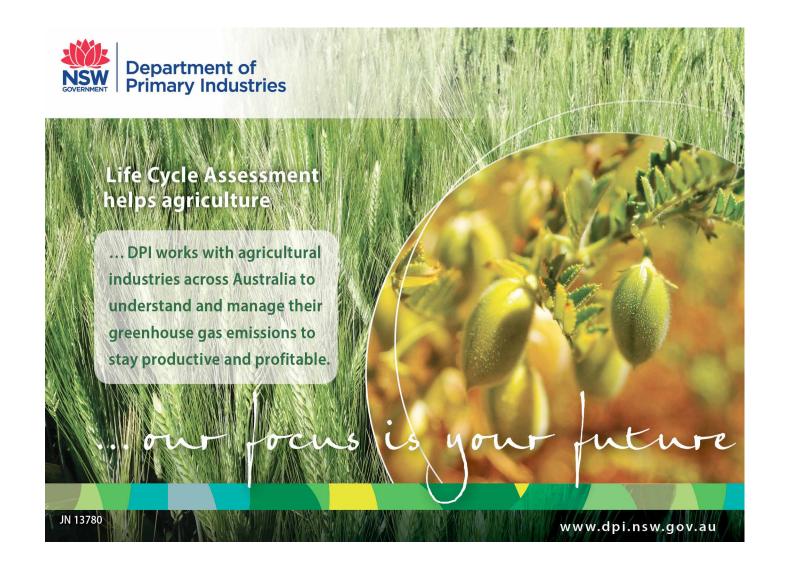






Sold in Australia and New Zealand by







#### **About ALCAS**

The Australian Life Cycle Assessment Society (ALCAS) is Australia's peak professional organisation for people involved in the use and development of Life Cycle Assessment (LCA), management and thinking. ALCAS was established in 2001, an important milestone in Australia's development of LCA. It was incorporated to promote life cycle practices and sustainable development, and to coordinate the rapidly growing professional community in Australia. A not-for-profit organisation, ALCAS has individual and corporate members from industry, government, academia and service organisations. We welcome membership from people interested in the practice, use, development, education, interpretation of and advocacy for life cycle based approaches. Below are just five of our key programs we provide to promote and support LCA in Australia. To join ALCAS, go to our website at www.alcas.asn.au Corporate membership is \$990, individual is \$99 and student membership is \$33.

#### Australasia EPD Program

ALCAS and its sister organisation in New Zealand LCANZ run the Australasian Environmental Product Declaration (EPD) program to bring credibility, consistency and independence to environmental product declarations in the Australasian region. The Australasian EPD\*



Programme is aligned with its partner organisation, the International EPD® System, to enable a harmonised and efficient platform for global EPD® development and communication. More information is available at www.epd-australasia.com

#### **Practitioner Certification**

ALCAS and LCANZ are now able to offer suitably qualified and registered members of both organisations the ability to become certified as Life Cycle Assessment Certified Practitioners (LCACPs). The rigorous certification aims to provide Australasian companies with confidence in LCA professionals being competent and up to international standards. Find out more at http://certification.alcas.asn.au

#### AusLCI database

The aim of the Australian National Life Cycle Inventory Database (AusLCI) is to provide a national, publicly-accessible database with easy access to authoritative, comprehensive and transparent environmental information on a wide range of Australian products



and services during their entire life cycle. the database crrently contains more than 300 Australian unit processes with many more on the day. To learn more, visit www.auslci.com.au

#### Methodology development

ALCAS has recently released and Best Practice Guide on Life Cycle Impact
Assessment which provides recommendations for undertaking impact assessment in Australia taking account
of the available impact methods published worldwide. A part of the project, specific Australian factors have
been published for human and eco toxicity and water stress indices. It can be downloaded from the ALCAS
website at www.alcas.asn.au

#### **Student Support Program**

This is a new program due for launch early in 2016. It aims to provide support to post graduate students working in LCA by connecting them through regular webinars where LCA practitioners and industry professionals will present on important and cutting edge LCA topics and case studies, alongside presentations by the students themselves. It will be a safe supportive forum where students can share experiences and learn from both professionals in the industry and other students. If you are interested in the program contact ALCAS on info@alcas.asn.au or you can join ALCAS as a student member.