



Eyes down: how setting our sights on soil could help save the climate

December 1, 2015 10.26pm AEDT

The world's soils store four times more carbon than its plants. Elena Arkadova/Shutterstock.com

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86 The world's soils could be a key ally in the fight to limit global warming to 2°C, thanks to their ability to store carbon and keep greenhouse gases out of the atmosphere.

150 France's agriculture minister Stéphane Le Foll has founded an [ambitious international research program](#), called "4 pour mille" ("4 per 1000"), which aims to boost the amount of carbon-containing organic matter in the world's soils by [0.4% each year](#).

11 The program was [launched officially today](#) at the United Nations climate summit in Paris, with the hope to sign up as many nations as possible.

How much carbon do soils store? A lot. At about [2.4 trillion tonnes of carbon](#), soil is the largest terrestrial carbon pool, and the top 2 metres of the planet's soils hold four times as

<http://theconversation.com/eyes-down-how-setting-our-sights-on-soil-could-help-save-the-climate-51514>

NATURE | COMMENT



Agricultural policy: Govern our soils

Luca Montanarella

23 November 2015

Luca Montanarella calls for a voluntary international agreement to protect the ground beneath our feet from erosion and degradation.



Subject terms: [Agriculture](#) · [Policy](#)



Corbis

Most soils are in private ownership, making it tricky to implement binding international agreements.

<http://www.nature.com/news/agricultural-policy-govern-our-soils-1.18854>

'BIAS' AND NATURAL RESOURCE MANAGEMENT

Home / 'Bias' and natural resource management

By [Sayed Iftekhar and David Pannell \(University of Western Australia\)](#) Nov 27, 2015 1 comment

Acknowledging that environmental managers are only human

People in all walks of life – from town planners to judges and financial regulators – are subject to bias in their perceptions and judgements. Of course, this applies to environmental managers and natural resource managers too. We recently explored the influence of bias in natural resource management (NRM) and found that we may be able to improve our performance if we recognise these influences and work to reduce them.



Sayed Iftekhar, on the right, listens to ecologist Geoff Kay in a grassy woodland (a threatened ecosystem). Sayed has investigated how NRM managers are often influenced by unacknowledged biases in their decision making.

Many shades of bias

<http://decision-point.com.au/article/bias-and-natural-resource-management/>



Forensic science: The soil sleuth

Forensic geologist Lorna Dawson has pioneered methods to help convict criminals using the dirt from their shoes.

Chelsea Wald

21 April 2015



PDF



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Grounds for prosecution

How microbes in soil can help solve crimes.

On a Saturday night in October 1977, Lorna Dawson was studying in her dormitory at the University of Edinburgh, UK, when two 17-year-old girls disappeared off a nearby street. The teenagers had been on a pub crawl with friends, stopping at an old Scottish tavern called The World's End before vanishing. Police officers remembered seeing two men with them. The next day, the girls turned up dead eight kilometres apart — one on a beach and another in a remote <http://www.nature.com/news/forensic-science-the-soil-sleuth-1.17373>

BALANCING TRADE-OFFS BETWEEN LAND-USE POLICY OBJECTIVES

Home / Balancing trade-offs between land-use policy objectives

By Elizabeth Law (University of Queensland) Nov 27, 2015

Exploring options in an abandoned agricultural project in Kalimantan



Farmers at work in an Indonesian rice field. The Mega Rice Project aimed to help grow the economy, create employment and alleviate poverty for men and women. Unfortunately, the many other values of the peat swamp it replaced were discounted. (Photo by Josh Estey.)

Conservation and economic paradigms are shifting. In decades past it seemed fine to dedicate land to either conservation or production. But more recently we realise that this is inadequate to save all biodiversity, particularly where we want and need it. We live in a world of complexity and competing objectives: multiple stakeholders, multiple uses of the same land and multiple goals (effectiveness, efficiency and equity). Given this complexity, why, where, and how do we best conserve nature?

We've been working on a few different ways to understand how policy choices can impact multiple objectives, and we've been using a globally important case study region – the abandoned Mega Rice Project in Central Kalimantan, Indonesian Borneo.

Rehabilitating a mistake

<http://decision-point.com.au/article/balancing-trade-offs-between-land-use-policy-objectives/>

2030 Agenda for Sustainable Development: “We need to involv

Global Soil Week > News and Opinion > News > 2030 Agenda for Sustainable Development: “We need to involve civil society...”

“We need to involve civil society in the implementation of the SDGs”: IASS and Partners Discuss Next Steps in Nairobi

The Sustainable Development Goals (SDGs) that were adopted in September aim to protect soils and other natural resources. We now need to ask how these ambitions can be achieved in practice and what mechanisms are appropriate for monitoring progress. This was the focus of a high-level event organised by the IASS and partners at a meeting of the [Global Land Tool Network \(GLTN\)](#) on 3 November in Nairobi. The GLTN is a coalition of organisations committed to reducing poverty through land reform, better land management and secure land tenure.

<http://globalsoilweek.org/areas-of-work/sustainable-development-goals/2030-agenda>

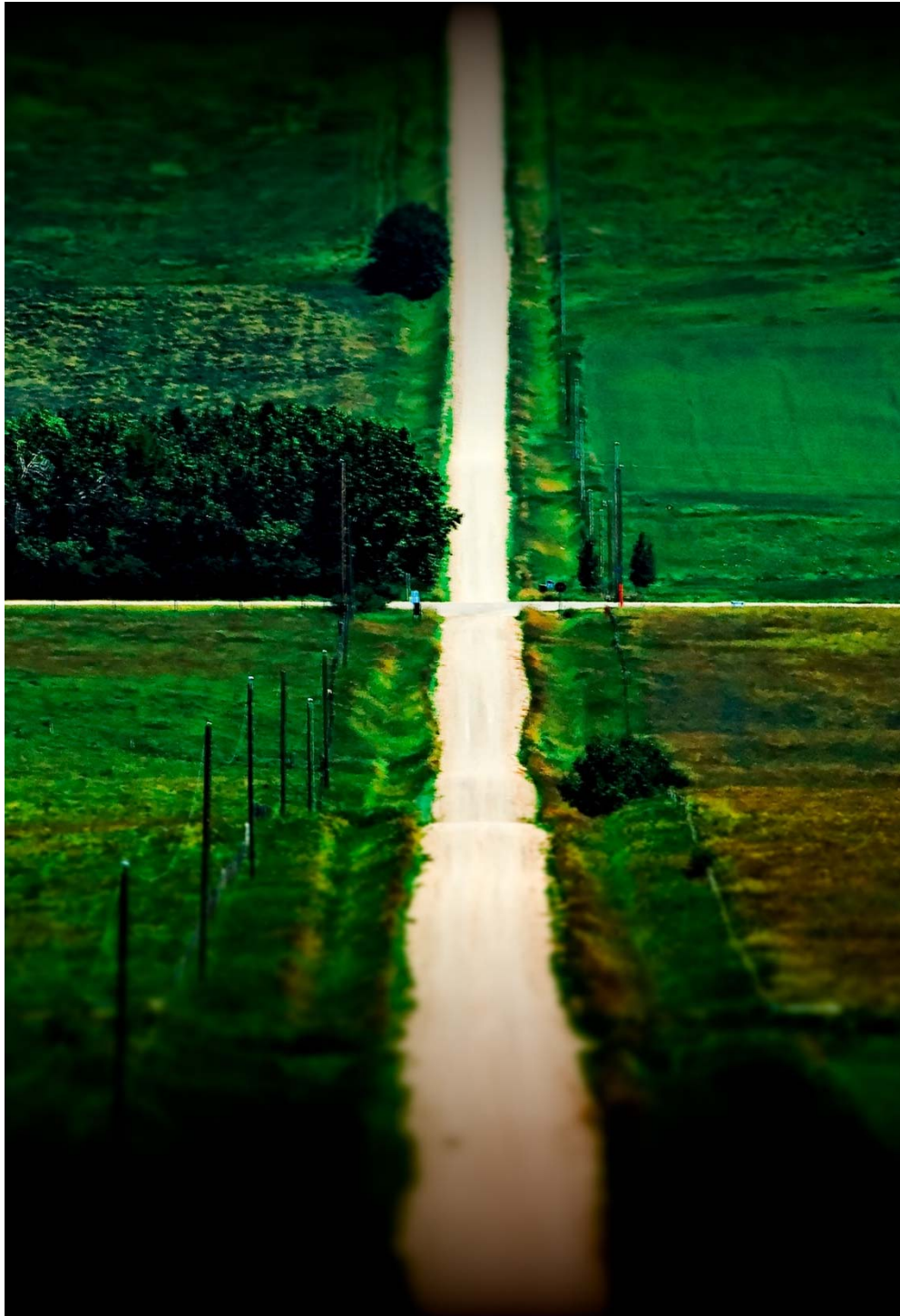
The UN’s most inclusive body at a crossroads

Global Soil Week > Areas of Work > Land Governance > [The UN’s most inclusive body at a crossroads](#)

By *Matheus Alves Zanella* and *Jessica Duncan*

Published simultaneously in the [Food Governance blog](#)



The world food price crisis of 2007/08 shook global food governance. The pressure to find solutions to the unexpected price increase of several food products resulted in the launching of many global initiatives. One of which was the reform of the [United Nation’s Committee on World Food Security \(CFS\)](#), who transformed itself from ‘the most boring UN body of all’, in the words of an experienced diplomat based in Rome, to the foremost inclusive international and intergovernmental platform for food security, with substantive participation of different actors including member states, civil society and the private sector.



cc.Neal Sanche

That was 2009 and there was a general sense of urgency in addressing claims that over 1 billion people were going hungry worldwide. The reformed CFS was well positioned in this debate, by giving voice to all relevant actors, notably those most affected by food insecurity, and transitioning from an inactive talk-shop to a leading intergovernmental body. Through the

<http://globalsoilweek.org/areas-of-work/sustainable-development-goals/the-uns-most-inclusive-body-at-a-crossroads>



Soil Carbon and the Role of Fungi in the Long-term Sequestering of Carbon in Soil: Associate Professor Peter McGee

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Tuesday, 03 November 2015

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Key Points

- Soil organic carbon is the most critically important factor for sustainable use of soil.
- For a more sustainable agriculture, more long-lived organic carbon is essential.
- So far efforts to increase long-lived soil organic carbon have failed, in large part because of the need to understand soil physics, soil chemistry and soil microbiology.
- Much of the organic material contained in soil is quickly degraded and therefore does not contribute to stable and long-term increases in soil organic carbon.
- Certain types of fungi may have an important role in the long-term sequestering of carbon in soil.

<http://www.futuredirections.org.au/publications/fdi-feature-interviews/2451-soil-carbon-and-the-role-of-fungi-in-the-long-term-sequestering-of-carbon-in-soil-associate-professor-peter-mcgee.html>



Soil and its sustainability

Home | Research | News and Opinion | Further reading | Contributing journals



Healthy and productive soils are central to achieving a number of the 17 sustainable development goals adopted by the United Nations General Assembly this year. Soils sustain our food systems, filter and regulate the flow of freshwater, store vast quantities of carbon and support myriad organisms. But the world's soils are increasingly under pressure from climate change, population growth and poor land management.

This collection brings together a selection of articles that explore soil in its manifold roles in shaping the Earth's environment and human society. The make-up and management of soils, and their influence on human health and extreme poverty, are some of the topics investigated.

The United Nations General Assembly has declared 2015 the International Year of Soils to raise awareness of the life-supporting functions of soil. We hope that the collection supports this aim and that the Year of Soils is a starting point for improved understanding, better protection and sustainable management of this precious resource.

News and Opinion

<http://www.nature.com/collections/fyypchfxjb>

NATURE | NEWS FEATURE



عربي

Agriculture: State-of-the-art soil

A charcoal-rich product called biochar could boost agricultural yields and control pollution. Scientists are putting the trendy substance to the test.

Rachel Cernansky

14 January 2015



PDF



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Jeff Hutchens/Getty

Biochar — a soil additive made by heating biological material — is catching attention as a means to improve crop growth and clean up contaminated water.

For more than 150 years, the Brooklyn Navy Yard constructed vessels that helped to stop the slave
<http://www.nature.com/news/agriculture-state-of-the-art-soil-1.16699>

Profit plans are just an erosion of Soil Con



Andrew Norris & ANDREW NORRIS

[@Norrie_TL](#)

Aug. 28, 2015, 4 a.m.

Opinion



NEWS the state government is looking at how to shift the Soil Conservation Service from cost recovery to a profit centre is yet another example of where farmers will bear yet more environmental cost.

Since 1990, the service (which emerged as the Soil Conservation Act in 1938) has been operated commercially, but in a way which has meant

<http://www.theland.com.au/story/3366524/profit-plans-are-just-an-erosion-of-soil-con/>

Geographical Systems Approach to the Assessment of Soil Erosion Using RUSLE Model

Authors:

Roxane Blackley¹, Carla Sbrocchi², Celine Steinfeld², Mike Grundy³, Andrew Biggs⁴, Mark Silburn⁴

Report Citation:

Blackley R., Steinfeld C., Grundy M., Biggs A., Silburn A. and Sbrocchi C.D. (2015). *Geographical Systems Approach to the Assessment of Soil Erosion using RUSLE Model*. Australian Regional Environmental Accounts Working Paper Series (5/5). Wentworth Group of Concerned Scientists, Sydney.

Keywords

Erosion, Universal Soil Loss equation, Cover management, Supporting practice, Environmental Accounts, #OpenData, Queensland Murray-Darling Basin.

Abstract

Knowledge of long term soil loss by water erosion is fundamental to assess soil health for natural resource management and the development of regional environmental accounts. We developed a spatially explicit model based on the Revised <http://wentworthgroup.org/wp-content/uploads/2015/11/Accounting-for-Nature-Technical-Report-Working-Paper-5.pdf>



Corporations and climate change

▶ Listen now ▶ Download audio ▶ show transcript

Sunday 22 November 2015 7:45AM [\(view full episode\)](#)

In the lead-up to the Paris Climate Talks, Christopher Wright, examines how environmental destruction became a business opportunity. He explores the complex relationship between the corporate world and climate change, and the central role of corporations in shaping political and social responses to the climate crisis.



Sundays 7:45am

Presented by Robyn Williams



IMAGE: COVER ART FROM 'CLIMATE CHANGE, CAPITALISM AND CORPORATIONS'



<http://www.abc.net.au/radionational/programs/ockhamsrazor/corporations-and-climate-change/6947120>

OPINION: Knowing the soil is important for modern dairy farmers

BALA TIKKISSETTY

Last updated 14:06, 13 November 2015



Supplied

Bala Tikkisetty.

Knowing the soil has always been the basis of good farming because the soil is the foundation of the production system.

For modern dairy farmers a good understanding of their property's soils has even more importance because the soil is also the basis of the effluent treatment system. Knowing the soil conditions and how they vary during the year can help to deliver very practical benefits including maximising utilisation of nutrients in dairy effluent and preventing contamination of ground water and waterways. <http://www.stuff.co.nz/waikato-times/opinion/74010739/opinion-knowing-the-soil-is-important-for-modern-dairy-farmers>

A splash of climate hope as Turnbull knives Abbott

Sara Phillips ABC Environment 15 Sep 2015



Prime Minister Malcolm Turnbull at a press conference on 14th September.

Malcolm Turnbull has toppled the party leader and sitting Prime Minister to assume the top job. For Australians worried about climate change, there's hope he'll be stronger on climate than his predecessor.

<http://www.abc.net.au/environment/articles/2015/09/15/4312889.htm>

Rising Salinity in Bangladeshi Sundarbans

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Wednesday, 21 October 2015

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Rising salinity levels in the Sundarbans are partly responsible for growing rural-urban migration which is putting greater pressure on urban infrastructure.

Background

Rising sea levels and more frequent storm surges are increasing both water and soil salinity in the Sundarbans, a dense mangrove forest that straddles the India-Bangladesh border. Rising salinity is attributed to multiple factors including climate change, rising sea levels, reduced water flow in rivers due to diversions upriver in India and poor water management in the brackish shrimp aquaculture industry.

Comment

With more than a quarter of its population living near the Bay of Bengal coast, powerful monsoons and rising sea levels, Bangladesh is particularly vulnerable to salt water intrusion. The increased popularity of financially lucrative shrimp production has also significantly contributed to agricultural degradation.

<http://www.futuredirections.org.au/publications/food-and-water-crises/28-global-food-and-water-crises-swa/2437-rising-salinity-in-bangladeshi-sundarbans.html>



We can achieve sustainability – but not without limiting growth

November 30, 2015 6:15am AEDT

While the technology exists for zero emissions energy, we won't achieve full sustainability without limiting growth and consumption. Wind turbine image from www.shutterstock.com

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Can Australians be sustainable and enjoy endless economic growth? It's not likely.

In a recent [article](#) on The Conversation, Steve Hatfield-Dodds argued that sustainability was possible in Australia without sacrificing economic growth.

He also argued the necessary policy changes would not require fundamental changes to

<http://theconversation.com/we-can-achieve-sustainability-but-not-without-limiting-growth-51032>

Could we see an election fought over climate change again?

OPINION

By [Peter Lewis](#)

Posted Wed at 11:11am Wed 2 Dec 2015, 11:11am



Photo: Malcolm Turnbull turned up to Paris wearing Tony Abbott's Direct Action policy like a fig leaf. (AFP: Ian Langsdon)

Polling shows the public was never that against climate action, but that they were just let down by successive leaders. Now there is cause to believe that's all changing, writes Peter Lewis.

There was a sense of a fractured fairytale as Australia put forward its credentials to the Paris climate change conference, with our Prime Minister earnestly committing to act on a policy lovingly crafted by his sceptic predecessor.

While there were [questions over whether Tony Abbott would stay away from the convention](#), Malcolm Turnbull took to the stage to say Australia was not daunted by the challenge the world faced and would play its part in global efforts.

[Peter Lewis](#) is a director of Essential Media Communications.

<http://www.abc.net.au/news/2015-12-02/lewis-have-climate-politics-changed/6993050>



Energy and the Earth

On the energy systems that sustain our human societies and our planet Earth

Praying for rain

November 6, 2015 10.11am AEDT

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On the back of four years of dry and the shadow of [El Niño looming large](#), recent rains across parts of inland Queensland must come as great relief. While plenty of follow up will be needed to restore surface water stores and recharge aquifers, we should be thankful for such mercies.

As I sat down on Thursday morning (November 5) to start this piece, it began raining proverbial “cats and dogs” in Melbourne, bringing relief to parts of Victoria, including my garden (the 2-3 cm of rain that fell across Melbourne was twice as much as fell in all of October).

However, the news is not so positive in Tasmania, which seems to have largely missed out on rain again, after several near record dry months.

SE Australian Rainfall Deciles

1 August to 31 October 2015

Distribution Based on Gridded Data

<http://theconversation.com/praying-for-rain-50085>

Coal casts a shadow over the Paris climate summit

OPINION

By [Ian Verrender](#)

Posted Mon at 7:47am Mon 30 Nov 2015, 7:47am



Photo: Coal exporting nations such as Australia have become the targets of furious lobbying. (David Gray: Reuters)

Coal is the elephant in the room at the Paris climate summit starting today, as economics, energy poverty and the mining lobby all combine to ensure the meeting will be both a triumph and a disappointment, writes Ian Verrender.

If history is any guide, the climate gabfest that gets under way in Paris today will be both a triumph and a source of bitter disappointment.

Despite mounting, indeed overwhelming scientific evidence, it is unlikely any meaningful agreement will be hammered out by the gaggle of presidents, prime ministers and premiers assembling in the City of Lights today.

Ian Verrender is the ABC's business editor and writes a weekly column for The Drum.

<http://www.abc.net.au/news/2015-11-30/verrender-coal-casts-a-long-shadow-over-the-paris-climate-summit/6984890>

Don't bet it all on the carbon farming

May 4, 2011 7:10am AEST



Should we really be relying on trees and soil to suck up our emissions? Flickr/Sascha Grant



<http://theconversation.com/dont-bet-it-all-on-the-carbon-farming-632>

Carbon farming could restore Australia's southern coastal wetlands

May 8, 2013 6:35am AEST

Restoring our southern wetlands as carbon farms would have many additional benefits to the ecosystem and the public. Catherine Lovelock

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Australia's southern coastal wetlands are more diverse than most people realise. In a recent [paper](#), Paul Boon suggests they provide valuable ecological services that exceed those of inland wetland ecosystems. But these wetlands face enormous pressures from urban development and climate change. Fifty percent of coastal wetlands have been lost from the east coast of Australia.

Despite this staggering loss we don't know enough about them to manage or restore them effectively because of years of under-valuing, under-researching, under-funding and under-managing them. We now have an opportunity to redress the poor treatment of our southern coastal wetlands.

<http://theconversation.com/carbon-farming-could-restore-australias-southern-coastal-wetlands-13521>

Don't rely on grand treaties from the Paris climate summit

OPINION

By [Sara Phillips](#)

Posted 27 Nov 2015, 10:05am Fri 27 Nov 2015, 10:05am



Photo: [As we approach the Paris climate conference, it's worth turning to Copenhagen as a cautionary tale. \(Reuters: Jason Lee\)](#)

If we want to avoid the disappointment we felt after the 2009 Copenhagen climate conference, we need to accept that the Paris meeting next week won't be about signing some grand treaty, but about keeping up momentum for change, writes Sara Phillips.

Calm your farm, Greenies. Paris is an amazing city, but the United Nations conference on climate change to be held next week is not going to save the world.

<http://www.abc.net.au/news/2015-11-27/philips-don't-rely-on-grand-treaties-from-paris/6979176>



The electricity network is changing fast, here's where we're heading

December 3, 2015 6:26am AEDT

More people are installing solar panels to take control of their electricity supply. Solar PV image from www.shutterstock.com

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Things are changing extremely fast in the electricity sector. In 2013 the electricity industry and its stakeholders came together in the CSIRO Future Grid Forum to imagine the possibilities for the future of electricity industry to 2050.

Electricity demand was falling, solar panels were being adopted en masse, retail prices were

Author



Paul Graham

Chief economist, CSIRO

<http://theconversation.com/the-electricity-network-is-changing-fast-heres-where-were-heading-51652>

Malcolm Turnbull begins the great climate catch-up

Date

30 November 2015

EDITORIAL



Australia has joined a 19-nation, \$US20 billion global coalition to bolster climate change technology over five years. *Photo: Sean Gallup*

Australia alone cannot change global temperatures. But we can ensure our emissions reduction targets are ambitious and achievable, most likely through a globally linked, market-based scheme. We can encourage other countries to adopt similarly tough and efficient policies too.

Read more: <http://www.smh.com.au/comment/smh-editorial/malcolm-turnbull-begins-the-great-climate-catchup-20151129-glb4wr.html#ixzz3tDI0NoEV>



Changing climates

Communicating the relationships between political climates, media power and climate change

Two days in at COP21 – what has Australia pledged?

December 2, 2015 12:33pm AEDT



Entrance to the climate summit at Le Bourget, Paris. David Holmes

Author

David Holmes

Senior Lecturer, C
Monash University

Disclosure statement

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<http://theconversation.com/two-days-in-at-cop21-what-has-australia-pledged-51498>

Paris climate summit: There's grounds for optimism

OPINION

By [Mike Stekete](#)

Posted 20 Nov 2015, 7:57am Fri 20 Nov 2015, 7:57am



Photo: [The UK has announced it will close all coal-fired power stations by 2025, so will Australia also show its commitment to change? \(AFP: Oli Scarff\)](#)

The Paris climate change summit later this month will be a test of whether Australia is ready to get serious, and whether it will embrace new studies that show it's possible to reduce emissions without the economic blowback, writes Mike Steketee.

While the Paris attacks last weekend demonstrated the extent of man's inhumanity to man, perhaps the climate change summit starting there on Monday-week will provide grounds for greater optimism.

If so, it will be based not so much on the words of the agreement to which world leaders subscribe as the measures that they take.

*[Mike Steketee](#) is a freelance journalist. He was formerly a columnist and national affairs editor for *The Australian*.*

<http://www.abc.net.au/news/2015-11-20/steketee-paris-climate-summit-there's-grounds-for-optimism/6956944>

Climate for Change: Why Paris matters so much

EDITORIAL



The effects of climate change can be managed. *Photo: Jessica Shapiro*

Five years is a very short time when it comes to measuring global warming. It's an age, however, in terms of assessing the politics of climate change.

Read more: <http://www.smh.com.au/comment/smh-editorial/climate-for-change-why-paris-matters-so-much-20151122-gl5bx7.html#ixzz3tDIJXbJq>

James Hansen: emissions trading won't work, but my global 'carbon fee' will

December 2, 2015 8:53pm AEDT



James Hansen says currently proposed carbon pricing schemes won't solve the problem. Perrot Thomas/Place to B/Flickr.com

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Former NASA climate scientist [James Hansen](#) has called for a global "carbon fee" in which fossil fuels are taxed when they are produced or imported, rather than when they are consumed.

<http://theconversation.com/james-hansen-emissions-trading-wont-work-but-my-global-carbon-fee-will-51676>

EROSION

Presentation Group A

EART3339 Land Rehabilitation
The University of Western Australia

By

Jasmyn Arkininstall 21308675,
Rachael Harrison 21768412,
Julia Tana 21323285 &
Thomas Ferguson 21315463

Soil Erosion Powerpoint Group A*

<https://www.youtube.com/watch?v=O6HtGF9-IWg>



“If we knew what it was we were doing, it would not be called research, would it?”

— Albert Einstein