

# Strategic Analysis Paper

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*Editors Note: This paper was written by Walter Jehne, an independent microbiologist and researcher, who has contributed to the Sydney-based not-for-profit Outcomes Australia.*

## Securing a Safer Climate

-Walter Jehne

### Summary

There is considerable debate about the extent and cause of climate change. As a result, there is no international consensus on how to deal with the issue. Yet there appears little doubt that we face serious threats to our water, food, social fabric and national security if the impact of climate change is not reversed.

One approach has been to set targets to reduce future CO2 emissions through trading schemes or taxes in order to slow down warming effects.

But there is another option that creates incentives and stimulates direct, practical and local action. This requires setting a price on the cost of activities and their impact without the subsidies that will continue to protect the status quo. This will require carbon emitters to assume responsibility for their emissions, albeit with appropriate reward resulting in better planning, improved efficiency and innovative approaches.

What this paper proposes is a different, innovative scheme with a reward component called the Net Emissions Reduction Incentive (NERI) which will require emitters to innovate or pay. The science and means to implement NERI exist. What is required is strategic leadership and policy. NERI can provide the policy framework for this to happen.

### Analysis

The risks posed to our environment and economic and social stability that result from climate change are too serious to be ignored. Nor is this a recent issue. In 1988 the UN Framework Convention on Climate Change mandated that nations needed to take all practical actions possible to ensure a safe climate. But there is no consensus as to what is causing climate change and whether it is naturally or human induced, or a combination of both.

Indeed, despite some \$US50 billion investment by the international community since the 1988 UN declaration, the recent Copenhagen conference made it clear that:

- There is still much uncertainty on the science, causes and impact of climate change.
- We are no closer to an international consensus on coordinated targets or actions.
- Our population, energy demands and impacts continue to increase.
- The earth may be nearing limits and tipping points for further dangerous climate changes.

Growing international and public awareness suggests we need increasingly to consider how we secure a safer climate. This requirement must go further than marginally reducing greenhouse emissions and should attempt to do the following:

- Cool climates hydro logically to offset any human induced warming effects.
- Draw down current and past CO2 emissions via bio-sequestration to safe levels.
- Transition our industrial and landscape ecologies to a safe, just bio-sensitive future.

If climate change is not approached seriously as a total philosophy (including CO2 emission control) then the implications could be catastrophic and may include the following:

- Reduced rainfall in southern Australia, increasingly leading to serious aridification.
- Major declines in monsoon rainfalls and the dependent water and food supplies.
- The inundation of low delta communities due to sea level and storm increases.

For many countries, including Australia, this suggests the response is not just about marginal warming but potentially serious threats to sustainable water and food availability and national security.

The challenge, therefore, is what to do practically in a timely manner.

Due to locked in ocean lag effects, modest targets or attempting to reduce future CO2 emissions through trading schemes or taxes may now not be enough. Instead, measures are needed to:

- Nationally prioritise, secure and restore the essential rainfall and water systems on which our bio-systems, economies, communities and life depend fundamentally.
- Regenerate the health and resilience of our bio-systems and landscape so they can draw down emissions and buffer the impacts from climate changes.
- Remove regulatory and economic impediments to enable land managers to extend the adoption of such practices profitably to regenerate large areas of our degraded lands.
- Create the commercial conditions and incentive to foster such land regeneration innovation and the transition of economies to viable bio-sensitive futures.

These outcomes will not be achieved simply by more regulation and administration but through a holistic national approach to climate change. In the meantime and importantly, those who emit the carbon need to take steps through innovation, better management and increased use of science and technology to reduce emissions. In other words, major entities need to take responsibility for their carbon emission, but be rewarded for so doing.

This responsibility could be met justly by imposing a levy on the net emissions by the entity. As the levy will be on the net emissions, it will in fact be a major commercial incentive to innovate, to reduce or offset impacts and liabilities and thereby secure a safer climate.

To enable entities to forward plan, to transform in the most effective manner and to avoid the need for exemptions, a Net Emissions Reductions Incentive (NERI) could start at a modest rate but then increase annually by fixed amounts. Entities will know clearly what a NERI will cost them, when and how they should invest to reduce or offset their net emissions so as to minimise their levy payments, secure strategic advantages relative to competitors or even profit from verified offset activities.

Various Australian industry leaders, including Brad Page, the CEO of Australia's energy supply peak body the Energy Supply Association of Australia, have made it clear that they have the motivation, technologies and the investment projects to fundamentally reduce Australia's net emissions and enhance productivity and competitiveness, once there is a fair and reliable carbon price signal. The NERI will provide this incentive and signal. By contrast a variable ETS carbon price, or a consumer-based carbon tax, do not.

Once a NERI is enacted, all the affected entities, be they producers or importers with high non offset emissions, will have progressive incentives, and can be expected to innovate or pay. While the speed at which innovations and offsets are adopted will vary, and can be monitored, there will be no need for targets, with industry having the clear eventual target of zero net emissions.

Indeed, many entities may find that having invested in efficiency or offset transitions as a result of the incentive from a NERI, their profitability will increase, resulting in lower competitive prices and increased economic benefit, in direct contrast to a carbon tax.

Technologies to improve energy efficiencies and competitiveness are available but are impeded by regulatory and other factors that appear to support the status quo, such as a lack of a clear price on carbon. Similarly, land management practices to safely bio-sequester carbon in stable biomass and soil sinks now available to provide verifiable emission offsets under a NERI are similarly impeded.

There are no legal or administrative barriers, and minimal costs, in introducing a NERI. Just as a levy is imposed on tobacco or alcohol to offset health impacts, this could be extended to a NERI. In other words, by introducing a clear price signal, incentive and catalyst for transition to a low emissions economy, NERI should result in the rapid adoption of innovations and offsets and a reduction in Australia's net emissions.

The reduction in emissions and offsets may well exceed Australia's target and obligations, enabling Australia to progressively sell verified premium offset credits internationally. This may help to rapidly and profitably draw down past emissions to help secure a safer climate.

Just as importantly, the introduction of a NERI should also enable the Australian economy and community to efficiently transition from our current energy intensive linear extract-use and waste industrial paradigm into a far more efficient and beneficial cyclic industrial ecology.

The introduction of a NERI should potentially benefit the following financially through rewarding:

- Industry in facilitating its transition to more efficient, more profitable operations and in providing it with leading strategic and competitive advantage internationally.
- The community in enabling the competitive flow-on of these efficiencies and savings, including substantial employment opportunities.
- Land managers via a new bio-sequestration industry and source of offsets income.
- Regional communities by revitalising activities and multiplier benefits.
- Governments in generating tax income and savings from these new activities.

Most importantly, the offset options via NERI should enable Australia's innovative farmers to more effectively regenerate the health, resilience and bio-productivity of our landscape and its capacity to sustain the essential water, food, bio-materials and habitat on which Australia will depend, particularly as global climate stresses and impacts intensify.

NERI represents a fundamentally new practical policy approach to address our climate imperative that differs from the current proposed emission trading system or carbon tax options. As such it may give rise to many questions that need open critical debate and resolutions, some of which are outlined in future FDI Strategic Analysis Papers.

In conclusion, while climate change is a global imperative, Australia may be affected earlier and more severely than most countries, particularly via the heating and drying of southern Australia. Consequently we have to take responsibility and direct effective action to respond to and mitigate such risks in our strategic national interest.

Fortunately, we have the science and means to do so effectively and even profitably. But we need the strategic leadership and policy support to do so. NERI represents a fundamentally new practical policy approach to address part of the climate imperative that improves on current emission trading system or carbon tax options.

### **Future Strategic Analysis Papers relating to the Net Emissions Reductions Incentive (NERI)**

1. The proposed structure of the NERI.
2. Proposed amendments and processes for enacting the NERI.
3. A comparative analysis of a NERI, the CPRS and a carbon tax.
4. The scientific justification for a NERI in securing our safe climate.
5. The macro-economic justification of externality price signals via a NERI.
6. The proposed operation of transition innovations and incentives under a NERI.
7. The proposed operation of offset arrangements under the NERI.
8. Commercial and strategic benefits from a NERI in Regenerating our Landscape.
9. Commercial and competitive benefits from a NERI to Australian industry.
10. National and strategic returns and benefits from a NERI.
11. The proposed administrative operations and comparative benefits from a NERI.
12. A case study of how typical responsible entities may respond to a NERI.
13. Precedents to equally treat emissions from local and imported goods under a NERI.
14. Potential benefits from Australia's lead and extension of NERI concepts globally.
15. Scenarios of anticipated industry responses and net emission reductions to a NERI in relation to our national and international emission reduction and climate objectives.

**About the author:** Walter Jehne is an independent microbiologist having worked for the CSIRO on the microbial ecology of soil vegetation relationships and then in Government on national innovation and R&D commercialization strategies. He is active in a range of independent research areas with farmers and industry including on sustainable science, the hydrology and biology of climate change, the restoration of healthy soils and in the design and commercialisation of autonomous water systems.