

## SUBMISSION NO. 59



Friday 12 May 2006

Mr Ian Dundas  
Committee Secretary  
Environment and Heritage Committee  
House of Representatives  
Parliament House  
Canberra Act 2600

Dear Mr Dundas,

Babcock and Brown Environmental Investments Limited (BEI) fully supports the development of a National Sustainability Charter and welcomes the opportunity to make this submission.

This Inquiry is timely, especially given the current media attention on global warming which has elevated public awareness of sustainability issues, while recent bushfires and cyclones have highlighted the specific dangers that climate change poses to Australia.

The National Sustainability Charter should set priority areas for action and establish targets and timelines in order to ensure that real progress is made. An important component of the Charter will be the development of a national scorecard of Australia's sustainability performance. Once targets in priority areas have been established, BEI supports the use of Market Based Instruments or other regulatory mechanisms to create the necessary conditions for private investment into environmental infrastructure.

Environmental infrastructure, whether it be for renewable energy generation, water recycling, pollution abatement, or resource recovery, has the potential to create a double dividend for Australian society: economic growth and improved environmental outcomes.

This submission provides an overview of BEI activities; outlines the need for a Sustainability Charter; discusses BEI's view of sustainability as both journey and destination; presents the potential of using market forces to effect desired sustainability outcomes; summarises the need for a Sustainability Scorecard to accompany the Charter; and concludes by highlighting the contribution that private capital investment can make to improving Australia's sustainability, if the right economic conditions are established.

BEI wishes the Committee well in their deliberations over this important task.

Gary Levin  
Managing Director  
Babcock & Brown Environmental Investments Limited



House of Representatives  
Standing Committee on Environment  
and Heritage

Inquiry into a Sustainability Charter

Submission  
by  
Babcock & Brown Environmental  
Investments Limited

May 2006

### ***Babcock and Brown Environmental Investments Limited***

Babcock and Brown Environmental Investments Limited (BEI) is an ASX listed investment vehicle focused on renewable energy markets. BEI core expertise is investing in businesses that deliver positive environmental outcomes through innovative combinations of infrastructure and technology, while at the same time delivering strong financial returns – a double dividend return for shareholders.

BEI is global in outlook, with ethanol interests in the United States (Diversified Energy Company, LLC (Denco)<sup>1</sup>) and investments under consideration in Europe, in addition to Australian operations including organic waste to energy and fertiliser processing (EarthPower),<sup>2</sup> used oil re-refining (Southern Oil Refineries),<sup>3</sup> and biodiesel manufacture (Natural Fuels Australia Limited).<sup>4</sup> These investments have all been driven by market interventions by governments that have created an investor friendly regime for environmental investment. (More information regarding BEI investments can be found at [www.bbeil.com.au](http://www.bbeil.com.au)).

The majority of BEI investors are institutional investors, such as superannuation funds. Each year in Australia it is estimated that over \$65 billion dollars is invested through superannuation funds.<sup>5</sup> From a strictly commercial basis, these funds will flow to investments that provide strong returns. The opportunity exists for Australia to create the right market conditions that will allow private investment to flow into businesses that improve environmental performance and deliver commercial returns. In this way, Australian investments would be used to improve the quality and sustainability of Australia's way of life, instead of flowing off shore. Changing the market conditions for investment can thus be a powerful tool for delivering macro sustainability outcomes under a National Sustainability Charter.

The Development of a National Charter is timely as we have moved past the debate as to whether action should be taken. For example, current media is focusing the nation's attention on global warming, while recent bushfires and cyclones highlight the danger that climate change poses to Australia. BEI welcomes this Inquiry as a positive indication that the Australian government is engaging proactively with the sustainability debate and will establish priority areas for change, based on a national scorecard of sustainability performance, and supported through appropriate mechanisms to enable action on water, energy, transport and waste issues.

### ***Need for a Charter – What if we only ate fish?***

The problems created by environmental pollution, natural resource depletion and disruption to ecosystem services<sup>6</sup> take on new meaning by posing the question 'what if we only ate fish'? At present we have been able to maintain our unsustainable patterns of production and consumption because of our ability to draw on food resources from a range of plants and animals, spread over a wide global distribution. As one resource base is depleted, we shift to another. Would humankind be as cavalier in our approach to water quality if, for example, we were only able to eat fish? One suspects that current levels of pollution would be absolutely unacceptable. However, in a very real sense our ability to maintain our way of life in the long term is being put under pressure through unsustainable practices.

Australia has a very fragile ecosystem and over the past century of industrial modernisation we have made a fairly large impact, to our environmental and economic disadvantage. For example, consider Western Australia and dryland salinity. In just two generations the practice of land clearing has created

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<sup>1</sup> <http://www.dencollc.com>

<sup>2</sup> <http://www.earthpower.com.au>

<sup>3</sup> <http://www.sor.com.au>

<sup>4</sup> <http://www.naturalfuel.com.au>

<sup>5</sup> ASFA, (2006), 'Superannuation Statistics – April 2006, annual data', The Association of Superannuation Funds of Australia Limited, Sydney, found online at <http://www.superannuation.asn.au/industry/SuperStats-April2006-annual.pdf>, accessed May 2006.

<sup>6</sup> Ecosystem services are the range of services provided by the ecosystem (biosphere), including atmosphere and climate maintenance, water regulation and supply, biodiversity and genetic resources, soil formation, raw materials, and food production.

dryland salinity that has made farming uneconomic in many areas. In these salinity affected areas there are no longer any opportunities to farm (limiting our ability to feed ourselves). Furthermore, there is also the legacy of a big clean up bill to try and stop the spreading environmental impacts of raised water tables. This situation where environmental impact disrupts economic performance and threatens human survival is also demonstrated by the issue of global warming.

Tim Flannery's recently published book 'The Weather Makers' communicates clearly the link between a stable climate and the development of modern civilisation. Flannery identifies that it was not until some 10,000 years ago that we *homo sapiens* experienced the climatic conditions that made it possible 'to grow crops, domesticate animals and live in settled towns'.<sup>7</sup> It was this stable climate, directly influenced by the concentration of carbon dioxide in the atmosphere, which has allowed the formation of our modern societies. It is no exaggeration to suggest that without a stable climate our current way of life is very much at risk. With these factors in mind it is obvious that change is required and that the Charter needs to address the sustainability challenge on a national scale.

### ***Journey and Destination***

The discussion paper for the Inquiry for a Sustainability Charter<sup>8</sup> quotes Chris Davis, CEO of the Australian Water Association as saying 'sustainability is a journey not a destination'. BEI would suggest that the Charter should reflect that sustainability is both a journey and a destination. The journey component relates to understanding the value proposition inherent in meeting human needs and looking for ways to increase this value while reducing environmental and social impact. In other words, seeking to increase gross domestic product while reducing ecological footprint (continuous action in improving value and reducing impact).<sup>9</sup>

The destination component of sustainability is the situation where our patterns of production and consumption replicate those of nature – a biomimetic economy.<sup>10</sup> Such an economy would be able to meet human needs by drawing down on the 'interest' provided by natural capital. For example renewable energy, cyclical flows of water, sustainable harvesting of plants and animals and at net neutral societal impact. These are the circumstances where we would be able to 'meet the needs of present generations without compromising the ability of future generations to meet their own needs'.<sup>11</sup> However, most would agree that we have yet to make significant progress on the journey (let alone the destination), highlighting the immediate need for change.

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<sup>7</sup> Flannery, T. (2005), 'The Weather Makers', The Text Publishing Company, Melbourne.

<sup>8</sup> House of Representatives Standing Committee on Environment and Heritage, *Discussion Paper: Inquiry into a Sustainability Charter*. Available online at <http://www.aph.gov.au/house/committee/environ/charter/discussionpaper.pdf>, accessed April 2006.

<sup>9</sup> Dr Joe Herbertson, former Director of BHP Central Research Laboratories, expands on the V/I equation (increasing Value (V) while reducing Impact (I)) in his 2005 presentation entitled 'Creating the material foundations for a sustainable society: A strategic business perspective'. Here value is defined as 'meeting human needs (in economically viable fashions)' and impact as harmful consequences for nature (including people). Innovation is required 'to reduce impacts and increase value throughout the production and consumption cycles of the economy'. Or to put it another way, to increase GDP while reducing ecological footprint. More information can be found at <http://www.thecrucible.com.au/3R%20JH%20web.pdf>.

<sup>10</sup> Biomimicry refers to the design of products and processes on the basis of understanding the functions of natural organisms and ecosystems (nature as model, measure and mentor) and applying these lessons to the mode of manufacture and the operation of the product itself. A 'biomimetic' economy is one that is 'modelled on nature', for example, relying on cyclical or renewable flows of energy, water and materials. Some key principles of biomimicry include: nature runs on sunlight; nature uses only the energy it needs; nature fits form to function; nature recycles everything; nature rewards cooperation; nature banks on diversity; nature demands local expertise; nature curbs excesses from within; and nature taps the power of limits.

<sup>11</sup> WCED (1989), 'Our Common Future', World Commission on Environment and Development – also known as the Brundtland Report after the chairperson of the Commission, former Norwegian Prime Minister Gro Harlem Brundtland), in Gardiner, R. (2002), 'Towards Earth Summit 2002: Briefing Paper', Stakeholder Forum for Our Common Future, London, found online at <http://www.earthsummit2002.org/Es2002.PDF>, accessed May 2006.

### ***Levers for Change – Harnessing the Power of the Market***

Market forces left to themselves alone will not address the sustainability issues that need to be covered by the Charter. Indeed the current operation of the economy is characterised by the externalisation of environmental and social costs onto broader society, a distinct barrier to sustainability.

In economic theory externalities refers to instances where a decision causes impacts (positive or negative) on third parties who were not involved with the original decision. Costs associated with negative impacts (such as environmental pollution) are said to be externalised when they are not included in the price of a good or service. Environmental externalities include the impacts of environmental pollution, depletion of natural resources and disruption to ecosystem services.

In the current marketplace corporations can gain competitive advantage by externalising the costs of their actions onto the environment, disadvantaged communities and future generations. Unless the problem of externalities can be fixed, it will be difficult to make progress on sustainability initiatives. The removal of negative environmental externalities should thus be a key focus of the Charter.

For example, the use of fossil fuels has no cost associated with its carbon content (and associated contribution to global warming). This means that fossil fuels of coal and diesel, for instance, have an unfair cost advantage when compared against the use of biomass and biodiesel for electricity generation and transport fuel respectively. The result is an overprovision of fossil fuel based energy, and an under provision of sustainable alternatives.

There are many similar circumstances where the type of environmental infrastructure required to deliver objectives under a Sustainability Charter remains uneconomic, highlighting the need for government intervention. Market Based Instruments are one potential solution to the market failure caused by externalised costs.

Market Based Instruments (MBIs) seek to harness market forces to assist in meeting a desired sustainability goal (such as renewable energy) at the lowest economic cost. Such instruments include charges, fees and taxes, market creation (such as the establishment of tradeable permits/certificates), subsidies, deposit/refunds and improving the operation of the market through non-financial means, such as information provision. (MBIs are also known as Economic Instruments or Economic Incentives.)

MBIs have started to be used in Australia, and have proved effective in enabling the flow of private investment into 'double dividend' projects, that is projects that deliver an environmental benefit in addition to a financial return.

For example, the viability of the EarthPower anaerobic digester in Sydney was supported through high landfill prices, caused by an increasing waste levy (will increase to \$58 per tonne by 2010), and by Renewable Energy Certificates, tradeable certificates established under the Mandatory Renewable Energy Target. EarthPower processes source segregated solid and liquid organic wastes of all types derived from food and food processing activities. The technology converts 'wastes' into biogas (similar to natural gas) and a granulated fertiliser product.

There is scope for more than one of these type of facilities in each capital city in Australia, however landfill levies in other states would need follow the Sydney example and be set at a level that accounts for the externalised costs of landfill disposal,<sup>12</sup> lost opportunity costs (inability to use materials once lost to landfill)<sup>13</sup> and community willingness to pay for sustainability outcomes (such as improved outcomes of recovered energy and compost through alternative technologies to landfill).<sup>14</sup>

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<sup>12</sup> Landfill externalities include greenhouse gas emissions from landfill gas, loss of local amenity from odour, windborne dust and litter, transport corridor usage, groundwater pollution from leachate, liability for post closure management, and a permanent legacy in the form of a contaminated site.

<sup>13</sup> The opportunity cost equation for landfill is best described as the difference between the return on investment from an integrated system of 'maximum resource recovery' as opposed to the return from disposal of materials to landfill. The Australian Council of Recyclers estimate the opportunity cost of landfill from disposing 19 million tonnes of waste, as the loss of approximately: \$912 million of commodity value (assuming indicative commodity market values); 68,400 giga-watt hours of embodied energy (the energy used to manufacture the materials in the first

The need to internalise externalities has surprising resonance with a 2005 cover story in The Economist, entitled 'Rescuing Environmentalism', which advocated three things needed for a market based green revolution:

- setting the correct price for ecological services
- developing the requisite data sets to set prices correctly
- embracing cost-benefit analysis, with the proviso that some things in nature are irreplaceable, making them literally priceless.<sup>15</sup>

Part of the work that the Sustainability Charter should address is the development of better valuation techniques for environmental resources and impacts. This work also lends itself to the development of a National Sustainability Scorecard.

### ***Keeping Score – Developing Benchmarks for Intervention***

A National Sustainability Scorecard is required in order to set priorities for market intervention, adjust the rate of change required and monitor progress on sustainability issues. It is not the intention of BEI to set out the structure of the Scorecard, rather to highlight its importance to the overall objectives of establishing a National Sustainability Charter.

There are few who would argue that Australia is on a sustainable footing, or that change is not required – this is no longer part of the debate. Most would agree that on any given scorecard our performance would be in the red – and deteriorating. However, what is needed is a set of 'national sustainability accounts' that measure Australia's sustainability performance in a quantitative manner. Without this we are in a sense flying blind, unaware of our rate of decline, or of the scale of costs and impacts that are externalised onto broader society.

Similarly it is difficult to make a holistic assessment of the costs and benefits of proposed sustainability initiatives, essential if we are to avoid making gains in one sector of the environment at the expense of large impacts in other areas. Furthermore, without a Scorecard that is released on say a quarterly basis (similar to our national set of accounts), it will be difficult, if not impossible to track any changes in performance over time because of the absence of robust historical trend data.

The discussion paper released on the Inquiry into a Sustainability Charter flagged the potential of Ecological Footprinting as a national measurement, with the objective of reducing Australia's Ecological Footprint over time. Ecological Footprint is useful as a descriptive indicator for Australia's sustainability performance, however in order to be useful as a decision making tool, disaggregated data are required.<sup>16</sup> In many cases the data exists, it just needs to be brought into a central location and put into a common format to make comparisons and interpretations possible.

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place); more than \$3.5 billion in eco-service benefits (improved environmental outcomes), and 5,000 – 9,000 additional jobs (resource recovery has at least three times the employment as landfill). For more information see <http://www.pc.gov.au/inquiry/waste/subs/sub040.pdf>.

<sup>14</sup> A recent nation-wide survey entitled 'Waste Recycling: Consumer Willingness to Pay', prepared by Taverner Research for The Waste Management Association of Australia & The Alternative Waste Treatment (AWT) Working Group – November 2005 (unpublished) identified that ratepayers were prepared to pay an average weekly increase of \$1.81 for improved outcomes other than landfill. This annual increase of nearly \$95 per rateable tenement corresponds to a willingness to pay of approximately \$135 per tonne for technology that: 'makes good use of waste; is good for the environment; takes pressure off landfill; and will reduce or eliminate waste'.

<sup>15</sup> The Economist, April 21<sup>st</sup> 2005, 'Rescuing Environmentalism', found online at [http://www.economist.com/opinion/displayStory.cfm?story\\_id=3888006](http://www.economist.com/opinion/displayStory.cfm?story_id=3888006), accessed May 2006.

<sup>16</sup> Ecological Footprint (EF) is a per capita measure of the land equivalent requirement to produce the resources that a given population consumes and to assimilate the wastes that the population produces. The ecological footprint thus estimates a population's consumption of energy, food, and materials in terms of the area of biologically productive land or sea required to produce the natural resources or, in the case of energy, to absorb the corresponding carbon dioxide emissions. EF is thus a single point indicator (land equivalent requirement in hectares), however it is suggested that a greater level of dis-aggregation is required to support the case for policy interventions.



For example, in the area of transport and diesel fuel use, a National Scorecard should measure (amongst other things):

- volumes of fuel used
- greenhouse gas releases associated with this fuel use
- other emissions associated with this fuel use
- human health impacts of diesel use
- biodiversity impacts
- upstream impacts of diesel fuel use (for example embodied energy, embodied water and embodied waste)<sup>17</sup>
- estimated costs of environmental and human health impacts from diesel use (using a nationally accepted method of environmental cost accounting)
- all subsidies (direct and indirect) associated with the use of diesel (upstream, midstream and downstream)

The Scorecard could thus inform the current sustainability impacts of diesel use and how far this performance was from targets set in the Charter. It could also be used to estimate amongst other things, the human health benefits from having a B20 only (20 per cent biodiesel mix with conventional diesel) policy for metropolitan settings. A decision could then be made on the scale of intervention required to gain access to sustainability benefits and/or meet targets set by Charter.

However, it is important to note that many positive actions can be undertaken in the absence of a Scorecard, or during the period of developing the scorecard. It is important to avoid the paralysis of analysis that could occur in setting up such an ambitious measurement protocol.

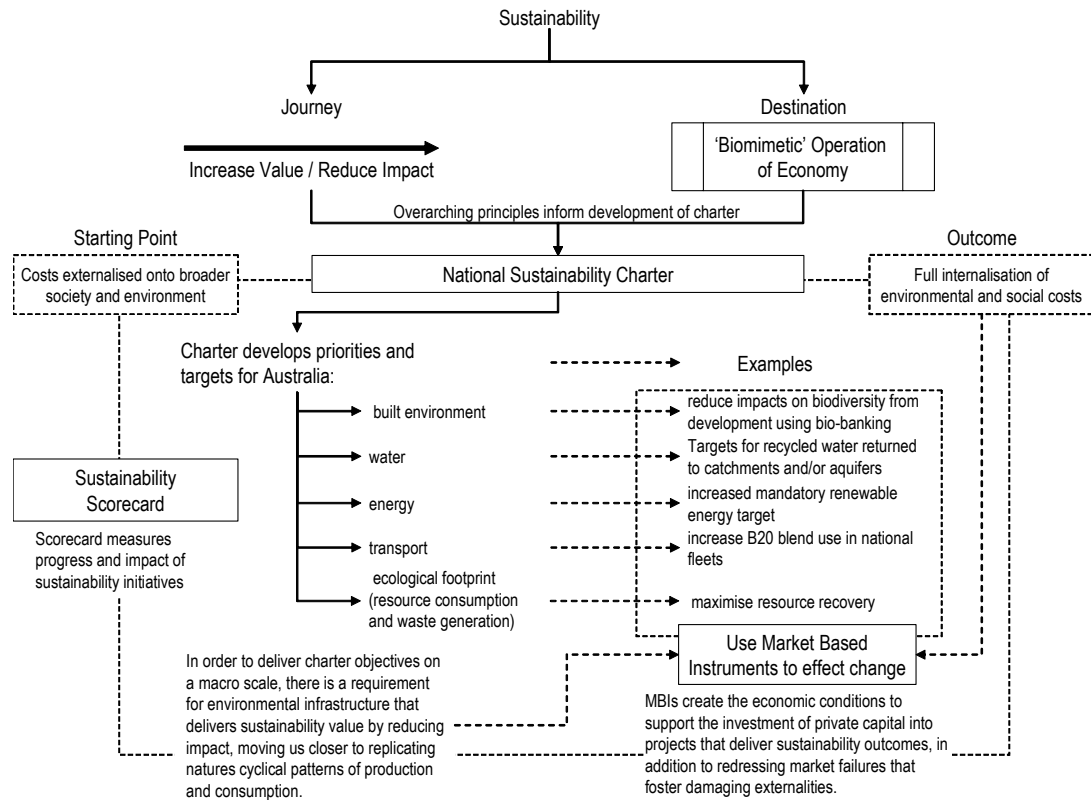
The figure overleaf shows interaction of sustainability with the establishment of a National Charter to set priorities and a National Scorecard to measure progress, with the purpose of moving Australia as a nation from our current situation where many costs are externalised onto the environment and broader society, to the goal of a 'biomimetic economy', where environmental and social costs are fully internalised.

Some examples of the kinds of priorities that a National Sustainability Charter could establish include:

- national system of biodiversity banking to ensure 'net neutral' development impacts associated with the built environment
- national targets and policy direction to facilitate investment into water recycling infrastructure
- policy and targets for energy 'decarbonisation' so that if 'clean coal' initiatives do not deliver outcomes the balance is achieved through increases in MRET or similar mechanisms
- using the public health benefits of reduced particulate emissions from a B20 biodiesel blend as the economic basis for metropolitan targets on B20 use
- implementing product stewardship initiatives to drive investment into the resource recovery of certain product types, similar to models developed for used oil and proposed for used tyres
- policy and targets towards maximising resource recovery that facilitate the development of recovery technologies such as anaerobic digestion, energy from waste and charring processes for organic materials

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<sup>17</sup>Embodied energy, water and waste are measures of the amounts of energy, water and waste used to transform raw materials into a final product, material or fuel. At a minimum this includes life cycle stages of extraction, processing and refining for commodity materials, and additional elements of transport, manufacturing and assembly for retail products.



**Figure - Interaction of sustainability with the establishment of a National Charter to set priorities and a National Scorecard to measure progress**

Regardless of the targets that are set under the Sustainability Charter, there will be a role for environmental infrastructure to play in delivering these objectives. There is great scope for accelerating progress on sustainability targets by creating the necessary investment climate for private capital to flow into environmental infrastructure.

### **Encouraging Investment into Environmental Infrastructure**

When considering the role that environmental infrastructure can play in delivering sustainability outcomes it is important to note that the days of national interest projects funded through public monies are, if not gone, rapidly decreasing in frequency and scale. This means that private capital will be required to underwrite the development of 'intervention businesses' – those businesses that use technology and infrastructure to deliver sustainability outcomes and shareholder returns.

The Sustainability Charter should not shy away from the issue of cost when setting priorities. For example (as noted earlier), each year in Australia it is estimated that over \$65 billion dollars is invested through superannuation funds.<sup>18</sup> An alignment of the Australian economic framework with the Sustainability Charter through, for example, the use of MBIs, would enable superannuation monies to remain in Australia and contribute to creating a long term and sustainable quality of life.

<sup>18</sup> ASFA, (2006), 'Superannuation Statistics – April 2006, annual data', The Association of Superannuation Funds of Australia Limited, Sydney, found online at <http://www.superannuation.asn.au/industry/SuperStats-April2006-annual.pdf>, accessed May 2006.



However, BEI as an investment fund is global in outlook, as are other infrastructure investment vehicles. Unless the investment climate is right in Australia superannuation monies will go offshore into investments such as ethanol in the United States, food waste processing in Germany or alternative resource recovery in the United Kingdom. Part of the required intervention package relates to creating investor certainty, not of investment return, but of the overriding stability of economic conditions for investment.

The Sustainability Charter has the potential to form a gateway between capital markets and environmental opportunities by establishing the right investment conditions for double dividend businesses that will deliver sustainability results while contribution to economic growth.

### **Conclusion**

Australia should have a National Sustainability Charter that clearly sets out targets and milestones to improve Australia's sustainability performance. The debate regarding whether we need to change is over. Change is required and the Charter should map out how Australia will change. An important element required to support such a Charter is a National Sustainability Scorecard. The Scorecard is required to set priorities for market intervention, adjust the rate of change required and monitor progress on sustainability issues.

Market forces can be harnessed in order to deliver sustainability objectives in a least cost manner. This is an important factor in developing the national infrastructure required to address sustainability issues in the built environment, water, energy, and transport sectors, in addition to reducing Australia's ecological footprint. In order to harness market forces to achieve these objectives, a series of interventions are required, such as the use of Market Based Instruments or some other legislation (regulatory underpinning) that will facilitate investment.

Interventions of this nature will allow private capital to meet the costs associated with delivering sustainability outcomes, essentially allowing superannuation contributions to create a long term and sustainable quality of life. This will provide a double dividend of economic growth and sustainability outcomes for the benefit of the Australian society.

### **Acknowledgements**

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