The triumph of market over centrally planned economies continues unabated, with Mozambique the last of a growing list of converts. State socialism has been the primary 20th century adversary of capitalist market systems. With its collapse, capitalist markets will come under increasing attack from internal critics. Pressures for reform are coming from many sources, including spectacular financial debacles, economic slowdown, growing income inequities, and persistent obstacles to racial and gender equality.

But in many countries, including Australia, the greatest push is likely to come from a conservation movement newly alerted to the importance of going beyond the politics of anti-development. The four big environmental organisations — the Australian Conservation Foundation, Greenpeace, the Wilderness Society and the World Wide Fund for Nature — recently issued their first comprehensive statement on ‘ecologically sustainable development’. While very much a first step, it signals the growing recognition of the importance of economics in green thinking. The success or failure of the environment movement in articulating a vision of a green market economy — one that speaks to the economic realities of Australia in the 21st century — will likely spell its political success or failure in the coming decade.

What might a green market economy look like? How could it promote environmentally friendly production and consumption patterns? How would environmental aims fit in with other progressive goals such as expanding democracy, promoting social, gender, and racial equity, and revitalising public life? How could a green economy generate new sources of income and employment, helping to get Australia out of the foreign debt hole? Coherent and politically energising answers to such questions will not spring from the head of a green Zeus. Rather, they will be fashioned through widespread debate and discussion encompassing activists and intellectuals throughout the en-
environment movement and beyond. The use of futures-oriented strategic thinking — clarifying the vision and then developing a guiding strategy — would help the process.

One of the first issues to be confronted in constructing a vision of a green economy is the desired role of market forces and the role of the state in thwarting, controlling, or channelling them. Historically, greens as well as the Left have seen markets and the private property systems upon which they are typically based as the enemy of the social good. On the Left, free enterprise is seen to privilege the rich and to enhance the power of capital over labour. For greens, untrammelled market forces allow property holders to pillage the resources which they 'own' and to dump the costs of degradation onto the current or future society at large. For ideological reasons, the Left has often supported nationalisation over privatisation, while greens have supported regulation over market-based incentives and state over private ownership of sensitive environmental resources.

A green economy, however, must succeed on two counts: it must promote economic efficiency in a modern, internationally integrated, industrial society while enhancing ecological health, knowledge and ethics.

On the economic side, market systems have significant advantages over administrative ones. They are immensely more flexible, allowing the co-ordination of literally millions of prices in complex domestic and international economies. Markets also limit the power of state bureaucracies and disperse economic initiative (though, if unregulated, markets tend to concentrate economic power in big corporate bureaucracies). Most important from an economic point of view, competitive market forces provide incentives for technological and managerial innovation, as well as increased work effort. The upshot is a tendency towards rising labour productivity, which provides the potential basis for rises in material well-being — including less work-time.

On the downside, unregulated markets have a bad history when it comes to the environment. The great dynamism of market forces has fuelled an explosion of capital accumulation and mass consumption in the rich countries. Seen as limitless and costless — and as something for man (sic) to dominate — the environment has been simply left out of market equations. Of course, the experience in state socialist societies has typically been even worse, suggesting that the problem lies deeper than ownership patterns alone.

Markets have acted to pillage, rather than preserve, the environment, in part because they have treated nature as a free good. Left to their own devices, prices — the primary form of information in a market society — do not incorporate the costs of pollution, depletion, or degradation. Such 'external' costs are borne not by direct producers and consumers but by the wider community through deterioration in health or simply foregone opportunities. Environmental 'goods', such as the Toolache Wallaby, the Desert Bandicoot, or the 126 other species of Australian mammals, birds, and plants, now extinct, had no price. The 'cost' we and our children's children will pay for their loss exceeds economic calculus. Moreover, future generations do not get to 'vote' with their consumer dollars — the primary form of economic direction to which markets respond.

Free market zealots like Michael Porter at the Tasman Institute in Melbourne argue that environmental degradation can be traced to markets which are too stunted, rather than too free. As they see it, the problem is exactly the inverse of the traditional Left view: not too much but not enough private ownership. Because private property rights to the environment are incomplete, there is no incentive to conserve 'common' or public resources such as the ozone layer, the atmosphere, rivers, or oceans. The answer
is to devise ways people can own environmental resources, enjoying rights of use and exclusion and absorbing degradation costs. In this view, more extensive markets are the saviour of the environment and the key to a green economy. If conservation groups wish to preserve forests for animal habitat, for example, they should be allowed to join other bidders in the purchase of forest land.

The problem with this approach is that it is impossible to exclude other people from enjoying the benefits of certain uses of the environment. If a conservation group does buy the South East forests, everyone will benefit from the protection of habitat and conservation of species, not to mention access to a nice forest walk or just feeling good that the old-growth forests have been preserved. These public benefits mean that environmental amenities can never be exclusively private goods. Their use and disposition must be based not only on market valuation but on ethically-informed public policy.

Moreover, the free marketeers' notion that private ownership itself provides incentives for conservation is suspect. The argument is that, say, farmers or forestry companies would be killing the goose that lays the golden egg if they were to harvest timber unsustainably or use farming practices which degrade the land. Economic self-interest dictates a conservationist stance.

Prima facie, this argument is plausible. The problem is that foresters and farmers can be subject to market pressures which contradict their long-term economic interests in managing a particular resource. In northern California, for example, a timber company recently bought one of the few remaining stands of old-growth redwoods as a way of quickly paying off sour junk-bond debts. The prospect of 1000-2000 year old trees being mined to bail out bad financial planners ignited 'Redwood Summer' — a three-month confrontation between greens, tourist operators and a large part of the general public on one side, and the timber industry and unions on the other side.

There are cases, however, where market expansion can serve green ends. Developing property rights and thus tradable use rights to water, for example, can help to conserve it. As a tradable commodity, it is treated as scarce rather than free good. Breaking the power of state monopolies in energy production can potentially spark private, corporate and community initiatives in providing more efficient and renewable sources of energy.

Government ownership of environmental resources, on the other hand, provides no automatic guarantee of sensitive environmental management. Government-owned national parks are often simply unmanaged and thus subject to incursions of livestock, feral animals or exotic plant species. Proper management would require bigger outlays in training and on-the-spot personpower to enforce regulations — outlays which would have to be fought for bitterly in this era of fiscal austerity.

Sometimes, regulation over publicly owned resources itself is inadequate and use-rights are sold to developers without adequate environmental (or social) guidelines. Some analysts suggest that a system of smallholder-owned national parklands, subject to environmental regulation designed through public consultation, offers a better approach on both environmental and economic grounds than the American-pioneered system of government-owned parks. In Australia, Aboriginal communities could potentially play a much larger role as owner-managers of parklands.

The point is that an ideological stance on ownership, whether public or private, is not a promising foundation for a vision of a green market economy. Market forces — and government ownership — are neither saviour nor enemy. The key to a successful strategy is to find ways to channel market forces toward environmental (and other social) goals. The 'channels' are the social rules and mediating institutions which structure the day-to-day investment, production, consumption, and conservation choices made by people both in markets and governments.

Markets never operate in an institutional or cultural vacuum. The way that market processes work in a particular society is structured by social constructs, including: laws, especially with regard to taxes, tariffs, contracts, and regulations; state fiscal, monetary, and industry policies; the structures of political governance; economic institutions such as the banking system and unions; the legal and education systems; and social history and mores. These rules and institutions form the economic infrastructure of a market society. Channelling market forces toward green ends will require at least an examination and likely a creative reshaping of all aspects of the infrastructure.

Since the 70s, most efforts towards greening the infrastructure in Australia have focused on regulation: creating laws which simply constrain businesses in certain ways, such as limiting allowable polluting emissions, not allowing logging within a certain distance of streams and watersheds, and so on.

A drawback of the command-and-control regulation approach is that it is only as good as the policing system which enforces it. In certain cases, a cheaper and potentially more effective way to achieve the same end is to design a system of market-based incentives. Environment taxes, for example, add the cost of environmental degradation to a product or service. Widely embraced in Europe, such taxes provide incentives to consumers to switch to greener products, and to producers to seek technological and product alternatives. Scandinavian countries have adopted a carbon tax on all coal and oil-based products as a way of cutting greenhouse-causing carbon dioxide emissions. The aim is not to 'get the price right' in the sense of actually costing something as uncertain as the greenhouse effect, but rather, to affect people's behaviour in markets.

Other market-based incentives include tradable permits and deposit return schemes. Tradable permits involve setting a pollution target and issuing rights to pollute to that limit. Private or public companies who pollute less can sell the remaining permit to another buyer. The advantage of tradable permits over regulatory standards alone is three-fold. First, they are more flexible, allowing com-
economics entail effective mixing of the two.

Many businesses, including the Business Council of Australia, have embraced the market-based incentive approach. Unfortunately, they have often posed it as a substitute for, rather than complement to, regulation. In reality, regulation and market-based incentive work hand-in-hand. Both affect how markets work. Some of the most creative approaches to green economics entail effective mixing of the two.

The Scandinavian carbon taxes, for example, were designed to help implement emission reduction targets of 20-50% set by public policy. In Italy, a tax on plastic bags at supermarket check-out counters ‘warmed up’ consumers and producers for a complete phase-out. Tradable permits are often set to step-by-step declining pollution thresholds in a progression toward ever lower emissions. Setting desirable environment targets and then designing public policies to meet them — including market-based incentives — is a strategy gaining momentum in Europe.

Environment taxes, tradable permits or other types of environmental regulation can stimulate innovation in new non-polluting products and technologies. Rather than stifle market forces, strong environmental ‘channelling’ can help position companies for new commercial opportunities. West German waste management companies, for example, have received a boost in international competitiveness from having to meet some of the world’s toughest environmental standards.

Many environmentalists have already gone beyond the regulation versus market-based incentive debate. They recognise that the better strategy is to use both in tandem to generate a process aimed toward ecologically-oriented change in production and consumption. Such a process seeks enhanced energy and resource efficiency; alternatives to fossil fuels; minimal or zero waste emissions; enhanced recycling and re-use; reduced and re-useable packaging; sustainable use of renewable resources; and conservation of species habitat.

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Regulation and market-based incentives can alter the direction of market forces. Environmentalists worry, however, that markets drive a process of economic expansion which entails an ever-growing scale of production for the society as a whole, especially in the context of a growing population. Economic growth would mean an ever greater throughput of environmental resources into the economy, effectively using up the environment. This is why some greens have called for a no-growth or negative growth economy.

Debates about growth and no-growth, however, obscure the kind of initiatives which could help to green the economy, at least in the medium term. Moving toward much higher energy efficiency, for example, and eventually to a greatly reduced dependence on fossil fuels, will stimulate lots of growth — creating jobs, companies, income, and potentially foreign exchange related to the manufacture, fitting, and conversion of energy products. The result will be much lower per capita energy consumption, a goal very high on the ecological priority list, while at the same time promoting a potentially higher level of overall employment.

The central issue is not growth versus no-growth but what kind of growth. Greening a market economy requires a strategy to channel market-based dynamism toward resource-reducing or even environment-enhancing ways to earn our quid. Besides reduced resource inputs per unit output, it is clear that products and services of the future will have a higher value-added component of skill, design, and intelligence. Environmental conservation itself is a form of value-added, as green consumers around the world have indicated. Directed expansion of such products will put a lower burden on the environment.

In the longer term, however, and especially if population continues to grow, market-based economic expansion — even if it is environmentally sensitive — could push up against absolute environmental limits. One way to deal with this is for public policy to set economy-wide ceilings on the use of certain environmental resources such as oil, coastline, scarce minerals and forests, and distribute or auction the rights to them. The social throughput ceiling could work like the tradeable permit system. Indeed, tradeable pollution permits themselves auction rights to a scarce resource — the capacity of the environment to absorb waste.

Of course, growth is an elusive and ideologically-loaded concept. Formally, growth is measured by changes in the Gross National Product as indicated in national income accounts. When per capita GNP goes up, the society is supposedly better off economically and vice versa.
But the accounts exclude many aspects of economic activity, including unpaid household labour and environmental degradation. They measure only cash flows and do not take account of stocks of resource assets. They also count as income monies spent protecting against or cleaning up after industrial activity. Increasing health expenditures, for example, count as social improvements when perhaps they measure deteriorating health. The billions of dollars spent cleaning up after the devastating Exxon Valdez oil spill off the coast of Alaska showed up as an enlarged American GNP. Few would argue that it enhanced social welfare.

New ways to measure overall economic well-being are emerging. These include attempts simply to add environmental resources to existing national income accounts; satellite accounts of environmental resources; and various indices of economic welfare. Herman Daly and John Cobb’s ‘Index of Sustainable Economic Welfare’, for example, adds in the value of household labour and public expenditure on health and education; and subtracts expenditures on advertising, air pollution, and long-term environmental damage. It also incorporates an index of distributional inequality.

Greening the economic infrastructure entails greening traditional infrastructure activities such as transport, communication, and information. Raising the price of petrol to reduce carbon emissions will work only if there are reliable, affordable alternatives to travelling by car. If there are not, the main effect will be to impose a burden on the poor. Since efficient infrastructure systems reduce resource requirements, environmentalists are potential allies of micro-economic reform.

Beyond affecting how prices work and how we measure economic welfare, greening the economic infrastructure requires the reorientation of industry policies toward the production of environmentally friendly goods and services. Such policies would look for synergies between economic and ecological goals. Eco-tourism, for example, would not only conserve but enhance environmental health while boosting foreign exchange. A much expanded market economy. Nurturing policies include standards, labelling, and marketing, as well as more direct strategies such as identifying industries and providing long-term credit. In California, a ‘Sustainable Fund’ was established in the late 1970s to provide grants and loans to companies or communities to seek renewable alternatives to fossil fuel energy sources. By the late 1980s, over 10% of the electricity in the Californian grid came from renewable sources.

Besides serving the domestic market, ‘green’ industries will also be needed for export. Some argue that Australia itself could become a ‘centre for environmental excellence’, leveraging its relatively abundant environmental resources into internationally competitive industries which succeed because they conserve the environment. Environment management skills, for example, and the new products and services which they require, could be part of the forward and backward linkages of a green market economy.

The rules which govern international trade will themselves need to incorporate ecological principles. The General Agreement on Tariffs and Trade, for example, could provide a forum to generate international agreements on minimum acceptable environmental standards. It is important that such agreements set floors, rather than ceilings, for standards. The United States is currently pushing a ‘harmonisation’ approach which would lock all countries into a common ceiling on the use of agricultural chemicals. Any country which enacted tougher standards would be subject to trade retaliation on grounds of erecting ‘non-tariff environment barriers’. Such an approach is harmful not only on ecological grounds but, by foreclosing market opportunities for cleaner producers, on economic grounds as well.

Markets can serve the social good, provided that the rules and institutions which govern them are designed to do so. The key question is: who defines the social good and who designs the rules and institutions? There are two broad answers. On one side, the severity of the ecological crisis has led some environmentalists to argue that only authoritarian methods will give the economy the jolt it needs to get off its destructive course. In rich countries, this typically means getting consumers to adopt lower standards of living. In poor countries, it means forcing population controls. In this view, only a strong state or system of states and a curtailed democracy and market system can provide ecological deliverance.

Against this neo-Hobbesian perspective is a noisy populism which asserts that it is precisely through the expansion of democracy that a green economy is possible. Formal and informal institutions which allow consumers as groups to help design investment strategies, for example, can help save time and resources in waiting to see what consumers as individuals want. Consumer and community groups could usefully work with governments and businesses in developing environmental standards which also meet their aesthetic and convenience requirements. They can also articulate wants for products or product changes which simply cannot be expressed through buying decisions.
Moreover, expanded community participation in regulation and investment decisions would help overcome debilitating social conflict over environment and economic development. Greens and businesses can often stalemate economic projects or environmental initiatives; yet there are no institutions in which they seek to find common ground in designing policies and projects or developing industries which are both ecologically sensitive and economically sound. Governments tend to intervene to ‘resolve’ a dispute by choosing one side or the other, typically in an ad hoc fashion which is primarily geared toward the ballot box. This ad hoc approach is conducive neither to longterm investment — so crucial in developing a vibrant and efficient economy — nor to building momentum toward environmentally sound practices.

Negotiation, adjustment, and participatory design add up to economic institutions which expand the potential for longterm, strategic planning. The transition to a green market economy will require decades of initiatives, some of which will bear fruit slowly. Such a transition will be made difficult in a stop-and-start context of constant confrontation.

Participatory, ‘round table’ style institutions would involve community, green, business, trade union and government groups in designing the rules which govern industries and the economy as a whole. Such institutions could take many forms and be placed at various levels throughout the society: at local, state and commonwealth governments, as well as within businesses, trade union, and community groups. In early steps, some businesses have put environmentalists on the board of directors where they regularly participate in investment decisions. Community input at the design stage would reduce the likelihood that projects have damaging environmental or health impacts, as well as the probability that they will be blocked by local opposition after construction has begun.

Most important, expanded popular participation in economic decision-making would help to develop adjustment strategies out of activities and industries which are environmental ‘baddies’ and toward the ‘goodies’ — in ways which do not impose hardship on workers and the poor. There is a gain not only in social justice terms but also in political terms, since losers typically try to block otherwise socially desirable initiatives. In Southern Oregon, for example, a local Labor Council accepted a forest industry strategy based on regrowth forests once a labour-green coalition developed the principle of minimal hardship adjustment.

The populist approach to a green economy offers both economic and political advantages over its authoritarian opposite. While some worry about the cost of participatory institutions, there is no doubt that coercion is more expensive — and brittle — social glue than democracy. The costs of supervision and punishment, let alone stifled initiative and rebellion, would likely be high in both resource and financial terms. Savings in personal resource consumption would be made up in policing and military costs. Politically, a participatory society is more stable, since public authority enjoys greater legitimacy.

Of course, democracy is far more desirable socially and culturally than authoritarianism. Populist participation in economic decision-making would revitalise public life. If this direction is successfully taken, then attempts to green the economy will have provided the boost for a transition not only to an economically sustainable but also to a democratic economy.

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