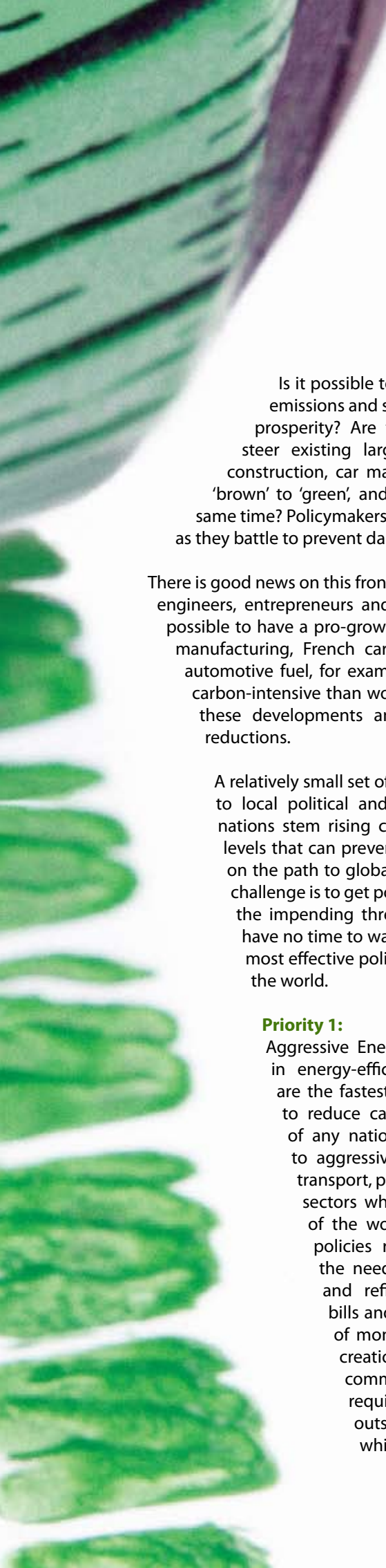


right track

by Hal Harvey



Is it possible to both dramatically reduce carbon emissions and simultaneously achieve low-carbon prosperity? Are there strategies that can reliably steer existing large capital flows — in industry, construction, car manufacturing, and energy — from ‘brown’ to ‘green’, and strengthen the economy at the same time? Policymakers are wrestling with these questions as they battle to prevent dangerous climate change.

There is good news on this front. Around the world, policy makers, engineers, entrepreneurs and investors have proven that it is possible to have a pro-growth low-carbon economy. Japanese manufacturing, French cars, Swedish houses, and Brazilian automotive fuel, for example, are all two to four times less carbon-intensive than world averages. Smart policies drove these developments and achieved the desired carbon reductions.

A relatively small set of such policies — properly adapted to local political and market conditions — can help nations stem rising carbon emissions, reduce them to levels that can prevent climate catastrophe, and put us on the path to global low-carbon prosperity. The great challenge is to get policy design right, and quickly: with the impending threat of abrupt climate change, we have no time to wait. We need an effort to spread the most effective policies quickly and thoroughly across the world.

Priority 1:

Aggressive Energy Efficiency Policy: Investments in energy-efficient technologies and practices are the fastest, cheapest and most reliable way to reduce carbon emissions. The first priority of any national strategy should therefore be to aggressively improve energy efficiency in transport, power, buildings and industry — the sectors which account for the vast majority of the world’s carbon emissions. The right policies reduce energy consumption and the need for new power plants, oil wells and refineries; they cut energy import bills and local air pollution, and save a lot of money. They are also engines for job creation: improving existing industrial, commercial and residential facilities requires skilled labour that can’t be outsourced. Experience has taught us which policies work:

Fuel economy standards for cars and trucks. Existing vehicle technologies enable cars to get 40 miles per gallon (mpg) or better. With volatile oil prices and growing carbon pollution from cars, nations have no excuse for producing cars as inefficient as those of 30 years ago — as the U.S. does today. A firm push to develop technology could easily help tomorrow’s cars get 60 mpg or better. Fuel efficiency standards, with serious, uniform enforcement, make this happen, saving tens of billions of dollars, reducing balance of trade problems, and slashing carbon emissions.

Appliance standards. Setting efficiency standards for home appliances, like refrigerators and lights, and for industrial equipment, like motors and compressors, is a ‘no regrets’ winner. Refrigerator standards have cut U.S. energy consumption for food storage by more than 75 per cent while saving money. Adopting widely popular standards, like those from Europe, helps the appliance industry standardise across markets. Every nation should adopt best practices, creating uniformity in the marketplace.

Advanced building codes. Nations with good, well-enforced building codes cut energy use by more than 75 per cent; as codes continue to evolve with best practices and technology development, this will soon grow to 90 per cent. Buildings last for 100 years or longer — so the dividends from strong codes pay well into the future; this is particularly crucial in nations with fast-growing cities. Lack of codes locks in higher energy costs for tenants and unnecessarily large carbon emissions.

Getting utility regulations right. Electric utilities are responsible for more than half the world’s carbon emissions. Smart regulations make them a major source of capital for large-scale clean energy projects and energy efficiency investments. California has pioneered this; its utilities now invest far more in energy efficiency than the U.S. Department of Energy, with huge savings for customers. Regulators can make utilities the engine of the clean energy economy by giving them incentives to find and profit from opportunities to improve efficiency.

Industrial efficiency best practices. The most efficient cement plants emit half the CO₂ per ton of production of their poorly-designed counterparts. The steel, chemicals, aluminium, pulp and paper industries — some of the world’s most energy-intensive — need to adopt global best practices. Many Dutch companies have signed ‘Benchmarking Covenants’ with their government, pledging to move into the top 10 per cent in terms of energy efficiency by 2012 at the latest. This creates a long-term competitive advantage while slashing energy use.

In each of these cases, market flaws that provide incentives for wasteful energy use were fixed by smart policy design. Once these fixes take hold, markets take over — becoming an innovation engine for low-carbon economic development. The policies save money, build jobs, keep the local economy strong and slash global warming emissions.



Priority 2:

Switching to Clean Energy: Shifting power supplies to clean sources is as important as increasing efficiency. Large, conventional coal-fired power plants that don't capture and sequester their carbon emissions are a major threat to the climate. Early, aggressive government incentives for renewable energy and carbon capture and sequestration technology are urgently needed. Clean technologies that generate electricity without carbon emissions are commercially available and scalable — but need a push from policy makers to break into the marketplace. Again, effective policies exist that will usher in a new generation of clean technologies. Each has been shown to drive cost-effective deployment of wind, solar and other low- and no-carbon sources of energy.

Greenhouse gas performance standards for utilities. These are emissions limits, per kilowatt-hour of produced electricity, applied to all generators. They have been used to control SO₂ and NO_x for years; many states are now applying them to CO₂.

Renewable portfolio standards. Now in force in half the U.S. states, across China and in Europe, these make utilities provide a minimum — and annually growing — fraction of their electricity from renewable sources. The market finds the technologies that can most cost-effectively meet the standards, which have already stimulated a \$65 billion U.S. market for clean energy.

Feed-in tariffs. These offer a guaranteed floor price for electricity from clean, renewable sources. Pioneered in the late 1980s by the small German city of Aachen, they have proved highly effective.

Priority 3:

Smart Urban Planning: The world is urbanizing incredibly fast: already home to 3 billion people, cities are expected to double in size by 2050. There is little hope of low-carbon prosperity if urban growth continues to sprawl over farmland, isolate people's homes from their work and make them rely primarily on automobiles.

Cities can get their planning right with five crucial elements:

- **Density:** Avoiding sprawl is necessary for effective transport solutions.
- **Mixed uses and transit-oriented development:** Locating key services close to homes reduces transport demand giving people what they need near where they live.
- **Fast, clean safe transit.**
- **People-friendly streetscapes.**
- **Green buildings designed and built to avoid waste.**

There are variations on this list, but the basics are clear: well-planned cities centred round people, rather than cars, make all the difference.

All these examples are positive proof that the ingredients of low-carbon prosperity are already well-known and established. Modified for local conditions and broadly adopted, they will avoid hundreds of billions of dollars in unnecessary capital expenditures — in power plants, refineries and roads — while reducing pollution and congestion and saving consumers money. Most important, they will give our children a fighting chance of a climate that can sustain our planet's human and natural diversity. 