Books

A Bright Future by Joshua Goldstein and Staffan Qvist

A punchy polemic in praise of nuclear power

Flamanville, France. Attempts to build new nuclear reactors in Europe and the US in recent years have proved ruinously expensive © Bloomberg

Review by Ed Crooks JANUARY 7, 2019

A Bright Future starts with a bang. "Few books can credibly claim to offer a way to save the world, but this one does," the psychologist Steven Pinker writes in his foreword. That is a bold assertion, but by the time I had finished the book, I was half-convinced he was right.

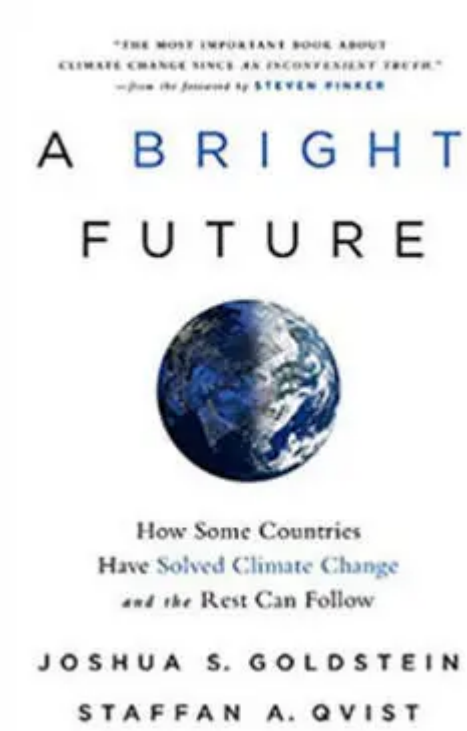
The threat from which the world needs to be saved here is catastrophic climate change, and the solution propounded is a huge expansion of nuclear power. Authors Joshua Goldstein and Staffan Qvist argue that only a massive investment in new reactors can simultaneously allow both the reductions in greenhouse gas emissions that are needed to limit global warming, and the increased access to energy needed to raise living standards in lower-income countries.

The book is a punchy polemic that spends its first four chapters making the case for nuclear; another five knocking down alternatives and any objections; and a conclusion setting out how to make the vision a reality. It is unfortunate, but probably unavoidable, that it gets progressively less convincing as it goes on.

It is a distinction of the authors' position that they reject conventional wisdom on the political left, right and centre. The determination to ignore global warming on much of the right means taking a "terrible gamble" with the planet, they suggest, while the left's insistence on fixing the climate by fixing capitalism is divisive and counter-productive. Yet ideas that are broadly popular in the

political centre, including support for renewable energy and efficiency, also seem inadequate given the threats we face.

As Sherlock Holmes observes, when you have eliminated the impossible, whatever remains, however improbable, must be the truth. Having dismissed the other responses to the climate threat, Goldstein and Qvist are left with a proposal for large-scale construction of new reactors, perhaps at a rate of 115 a year, to make electricity generation worldwide completely fossil-fuel-free by 2050.



Some of the obvious objections are swiftly dispatched. Public anxiety over the safety of nuclear power is wildly out of proportion to the reality of the risks, they suggest — and they have the numbers to support their point. The accident at the Fukushima Daichi nuclear plant in Japan, caused by the earthquake and tsunami of 2011, may have led to a few additional deaths from radiation exposure. By contrast, the “panicked” decision to shut down Japan’s reactors after the accident, replacing their output by running fossil fuel plants for longer, is believed to have led to the deaths of more than 10,000 people from lung disease caused by increased air pollution.

Waste is another issue that is overblown in the public imagination, the authors believe: spent nuclear fuel has been stored around the world for nearly 70 years, “with barely an incident”. Their argument begins to come apart, however, in the discussion of another issue: the problem of the proliferation of nuclear weapons. Civil and military nuclear developments have often been closely linked. The concerns over Iran’s programme, despite government assurances that it is intended for peaceful purposes, show that activities such as uranium enrichment are highly sensitive. The idea

that a trusted organisation could provide reactor fuel to countries that undertake not to enrich their own uranium has gained little momentum.

The other fundamental problem with nuclear is one that Goldstein and Qvist barely address: economics. Attempts to build new reactors in Europe and the US in recent years have proved ruinously expensive. At a time when coal and gas are cheap, and the costs of solar and wind power are falling fast, it is very hard to make a commercial case for new nuclear. The huge international construction programme advocated by the authors might cut costs through economies of scale, but it would also put enormous pressure on the global supply chain.

The book ultimately leaves a sense that although nuclear power can be part of the answer to the climate threat, it cannot be the silver bullet. If greenhouse gas emissions are to be reduced, it will have to be through a mix of technologies including renewables, efficiency, energy storage, nuclear power, carbon capture and many others. If not, one might conclude more gloomily, they will not be reduced at all.

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