Scientists estimate that to maintain a 50% chance of averting catastrophic climate change the global average temperature must not increase by more than 2°C by 2050. This equates to a global greenhouse gas concentration of 450 parts per million of carbon dioxide equivalent, or 565 gigatonnes of carbon emissions. But the global carbon emissions locked into fossil–fuels forecasted for combustion until 2050 exceed this allowance five fold.

This has been emphasised by the International Energy Agency, who recently stated that the door to staying below 2°C is closing. Paradoxically, while a sizeable proportion of the world is addicted to fossil–fuels that exacerbate climate change, over 1.3 billion people currently have no access to electricity—disproportionately those who are poor and from developing countries.

The importance and urgency of the global energy challenge has been recognised by the United Nations General Assembly, who declared 2012 the International Year of Sustainable Energy for All. In an attempt to ameliorate the status quo, the United Nations Secretary-General Ban Ki-moon established his Sustainable Energy for All initiative (SE4A). SE4A, which is not legally binding in nature, is targeted at modifying energy generation and use activities within states.

SE4A contains three ambitious objectives to be achieved by 2030:
1) Ensuring universal access to modern energy services;
2) Doubling the rate of improvement in energy efficiency; and
3) Doubling the share of renewable energy in the global energy mix.

These objectives interlink and self-reinforce. For example, distributed and off-grid renewable energy is a particularly sound option to advance access to energy.

While much of the energy changes will occur domestically, it can only be facilitated through international cooperation, especially for developing states that require financial and technical assistance. Achieving the SE4A objectives necessitates unprecedented cooperation at the international, regional and national levels, by government, business and civil society stakeholders. A vital question then, is how to galvanise the needed international cooperation? More specifically, what is the role, if any, of international law in facilitating SE4A? In exploring this question, this post looks primarily at energy obligations within the climate change regime.

Since 1972 ‘soft’ (non-binding) and ‘hard’ (binding) international environmental law has proliferated in relation to both principles of general application as well as specific regimes regulating the atmosphere and climate governance. Punctuated by global mega-conferences, international environmental law has evolved to set the parameters of soft law concepts such as sustainable development, though its legal status and content is equivocal. While undoubtedly of normative influence, sustainable development and the various principles have a limited capacity to advance SE4A. One reason for this is that they only indirectly apply to energy-related activities and thus fail to incentivise, compel or enforce behavioural change.

In relation to hard law, upon the establishment of the United Nations Framework Convention on Climate Change the deleterious consequences of energy generation were recognised by the international community. Yet the Convention, and its progeny the Kyoto Protocol, does not create binding obligations for States Parties in relation to energy generation. That is, the beginning of the energy cycle is not regulated at the international level. Rather, the Convention and Protocol seek to regulate the end of the energy generation cycle, or the consequences of energy generation: greenhouse gas emissions, or more crudely, pollution.

By becoming party to the Convention, and especially the Protocol, developing states agree to reduce their national greenhouse gas emission levels according to quantified targets. But those states essentially have complete discretion as to how they reduce national greenhouse gas emissions. Moreover, developing states do not have the same obligations. While theses treaties do make reference to energy efficiency and renewable energies, for the most part the text is couched in non-binding hortatory language that merely invites consideration of policy suggestions. Further, even though the climate change regime has evolved considerably since its genesis, obligations to use renewable energy and energy efficiency remain scant.

In practice, renewable energy, for example, does constitute a large proportion of the projects under the Clean Development Mechanism, created under the Kyoto Protocol to facilitate compliance with legal obligations. This is due less to legal compulsion than to financial and economic considerations. However, the scale of renewable energy projects still remains

inadequate to achieve either SE4A or the ultimate objective of the Convention, that is, prevention of dangerous anthropogenic interference with the climate system.

As opposed to international politics, the role of international law is underdeveloped in directly facilitating SE4A.

Beyond the climate regime, in 2009 a new intergovernmental organisation was established to promote widespread, increased adoption and sustainable use of all forms of renewable energy, namely the International Renewable Energy Agency (IRENA). While IRENA arguably constitutes a significant advancement under international law, its competence and powers are limited. IRENA primarily serves as an information-sharing and cooperation-building forum. It has no power to mandate renewable energy generation or energy efficiency uptake obligations. While it is hoped that IRENA's contribution to SE4A will be substantial, this remains to be seen.

Because of the scale of the needed energy revolution and transboundary nature of climate change, an international approach is essential to effectively advance SE4A. This can be facilitated through international law, which is the only mechanism to establish binding goals and targets, on a global scale, with parameters that include timeframes. Such obligations could practically be manifested through an independent energy treaty or a Protocol to the climate change regime. Whatever option is chosen, the international community needs better international energy regulation.

Rio+20 failed to galvanise the necessary action
Finally, it was hoped that the 2012 United Nations Conference on Sustainable Development (Rio+20) would usher in a new age of international environmental consciousness. Instead, the Conference agreed an outcome document, The Future We Want, which is littered with motherhood statements, reaffirmations of past promises and hortatory objectives for the future. Civil society, almost universally, has lamented the absence of political progress and legal obligation. Accordingly, Rio+20 may not spur the global effort required to effectively advance SE4A, despite a process being commenced to develop sustainable development goals.

What next for international law?

It seems possible that international law is set to play a limited role in facilitating SE4A. But that

need not be so. It is only through international cooperation, facilitated through international law, that catastrophic climate change can be averted and SE4A attained. The barrier is, and remains, political will.
Whether this barrier can be surmounted before it is too late is anyone's guess. But the clock to 2°C is ticking.
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This post argues that unless there is a global energy decarbonisation revolution, underpinned by international legal regulation, the future of the world is a fait accompli. This has been emphasised by the International Energy Agency, who recently stated that the door to staying below 2°C is closing. Paradoxically, while a sizeable proportion of the world is addicted to fossil–fuels that exacerbate climate change, over 1.3 billion people currently have no access to electricity—disproportionately those who are poor and from developing countries.

Sustainable Energy for All through global cooperation

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International law has a greater role to play

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