



## Energy for Sustainable and Inclusive Growth

### Key Lessons for the Definition and Implementation of SDGs Extracted from the Chilean Experience

Julio A. Berdegué (RIMISP) and Jonathan F. Reeves (IIED)

### Introduction: a national dialogue

A diverse group of Chilean senior decision-makers was convened by the Latin American Center for Rural Development (RIMISP) and the Foundation for Democracy and Development (FDD) to look back over the evolution of the country's energy sector from the early 1980s to the present, and to evaluate the country's progress towards the draft Sustainable Development Goal (SDG) on energy.

The group was chaired by Ricardo Lagos, former President of Chile, and facilitated by Alvaro García, former minister of Economic Development, and included nine other leaders from the public and private sectors and civil society. Informed by data and analysis provided by RIMISP and the participants, the group explored the factors contributing to the decisions taken and the results achieved, including the extent to which links between energy policy and economic development, social inclusion and environmental conservation objectives had been taken into account.

The purpose was to draw lessons from the Chilean experience which could serve as input in defining, implementing and tracking progress towards the Sustainable Development Goals (SDGs) for the energy sector. This case study was carried out as part of the Independent Research Forum's (IRF2015) national and regional engagement programme, coordinated by the International Institute for Environment and Development (IIED).

For the purposes of this exercise, the Sustainable Energy for All (SE4All) proposal of three targets and accompanying Global Tracking Framework were used as the reference energy goal, targets and indicators. These three global targets – universal access to modern energy services, doubling the global rate of improvement of energy efficiency and doubling of the share of renewable energy in the global energy mix, all by 2030 – are similar to the three “outcome targets” (7.1–7.3) proposed by the Open Working Group on the SDGs.

In this brief, we draw out the key lessons from this case study that are of relevance to the finalisation and implementation of the post-2015 agenda. We present below lessons for i) grounding the global agenda in national settings and policy agendas; ii) national implementation of the agenda (including specific lessons for the energy goal and general lessons for the whole

agenda); iii) targets and indicators for (and related to) the energy SDG. A more detailed report of the case study with supporting data is also available.

## The importance of national context

One of the key objectives was to test the hypothesis that the approach used in this Chilean case would be useful as a means of turning the global set of SDGs into a set of nationally relevant targets. We also wanted to highlight important policy and institutional changes which need to be made and factors which need to be taken into account in order to achieve these targets.

The case study validated this approach, underlining in particular the value of national multi-stakeholder processes for retrospective analysis of the success or failure in meeting primary policy objectives. It also showed the value of achieving synergies with other policy objectives in determining the policies and institutions required for national implementation of the SDGs. The case study also suggested that the proposed SDGs and outcome targets can be used as a 'template' to frame country-relevant policy analysis, debate and recommendations.

## Lessons for national implementation

In the Chilean case, electricity coverage increased from 52% of households in 1970 to 98% in 2010. This was achieved in large part by privatisation of the energy sector within a strong regulatory framework. Specifically, the State established the policy objective of universal electricity coverage and made it financially attractive for the private sector to achieve this in remote, rural areas through public subsidies. Regulations ensured that energy prices reflected production costs.

At the same time, public subsidies targeted at rural areas and poor urban households ensured access to electricity for many of the least well-off: a universal subsidy would be highly regressive and would have encouraged over-consumption.

However, the targeted subsidies were not entirely successful due to deficiencies in their design and implementation. The trigger conditions for the subsidy proved inadequate (in the context of high and rising energy prices and a high proportion of household expenditure spent on energy among poorer households) and so did not reach all households in need.

The end result was that while Chile achieved near-universal electricity coverage in a short period of time, traditional fuels – in this case, wood – continue to provide 59% of the total energy consumed by Chilean households, with important environmental impacts. If the price of electricity is high, even consumers that have reliable access to it will minimize their use in favour of other sources.

### **Public opposition**

While huge progress was made in electricity coverage, the construction of dams and electricity plants was hampered by increasing civil society opposition to new energy infrastructure. The measures taken to successfully support energy generation and universal access to electricity were not accompanied by an efficient system of rules and mechanisms to involve and inform civil society or take into account legitimate concerns, preferences and opinions. This meant that the measures and investments made did not have adequate support from society.

### **Involving civil society**

The case study suggests that it is important that the State has appropriate mechanisms in place for involving civil society in decision-making, and that civil society needs to be well informed about the pros and cons of different policy options and well organised in order to be capable of engaging effectively. The issue has become so important that even some representatives of major private sector energy companies have declared that they would prefer negotiated binding agreements with stakeholder groups on energy development plans, to avoid the risk and long-term costs of compromising major projects because of case-by-case public protests.

### **Need for a long-term strategy**

A clear lesson from the Chilean experience is that it is necessary to have a long-term national energy strategy, i.e. a strategy that transcends successive governments and is able to place the national interest above local interests and above politics. This strategy must integrate the objectives of economic growth, social justice and environmental responsibility.

### **Need for an institutional framework**

It is also essential that there is an institutional framework to carry it out. A mere plan without effective and capable institutions is doomed to failure. This includes not only the institutions directly related to the energy sector, but the overall national institutional framework.

In fact, the Chilean experience is significant in highlighting the importance of having the right laws, regulations and processes in place, and effective enforcement capacity. On one hand, its successes are largely explained by a regulatory framework that created the conditions to significantly increase private investment in the sector, combined with a strong private-public collaboration over many years and across governments. On the other, the weakness or absence of institutions and regulations guiding environmental impact assessments or community participation, generated mistrust and contributed to a loss of public support.

This has become a very serious barrier to the development of the sector, affecting the quality of the energy matrix and impacting on the cost of energy. As a result progress on goals such as coverage and generation were accompanied by shortcomings in others such as making the energy matrix cleaner, more sustainable, more diverse and more cost-efficient.

An inclusive, evidence-based process can help to identify these trade-offs and seek a balance between objectives. This process needs to be on-going and dynamic, not only to be able to respond to changes in energy technology and economic context, but also because the preferences of societies also evolve and new objectives appear and become important.

## **Lessons for targets and indicators**

The case study analysis was based on the three SE4All targets and the [SE4All Global Tracking Framework](#). In formulating lessons learnt from the work regarding targets and indicators, in this briefing, we have applied the results of the Chilean case study to the Open Working Group's (OWG's) goals and targets proposed in [its outcome document](#), adding the proposed UN compilation of SDG indicators (February 2015).

### **SE4All target: Universal access to modern energy services**

OWG Target 7.1: By 2030, ensure universal access to affordable, reliable and modern energy services

- *UN proposed indicator 1: Percentage of population with electricity access (%)*

- *UN proposed indicator 2: Percentage of population with primary reliance on non-solid fuels (%)*

The Chilean experience, in which increasing electricity coverage was accompanied by high fuelwood consumption and a high proportion of poor households' expenditure spent on energy, highlights that it is important to measure access to modern energy services not only through electricity coverage, but also by looking at reduced reliance on solid fuels and cost (or affordability) of electricity/energy.

(The SE4All Global Tracking Framework report acknowledges that an extension to the basic pair of indicators that includes affordability would be ideal.)

A further indicator of whether energy prices reflect production costs would be useful, given the experience of several Latin American countries in which the wrong types of subsidies end up leading to all sorts of unwanted economic, social and environmental consequences

Failure to include all three of these indicators could stimulate the wrong policies and the wrong results. As the Chilean cases shows, it is possible to obtain complete electricity coverage without replacing traditional solid fuels, and the experience elsewhere has shown that it is possible to achieve low energy prices through regressive universal subsidies that enhance inequality and stimulate energy over-consumption. The two additional qualifiers "affordable" and "reliable" introduced by the OWG are helpful.

#### **SE4All target: Doubling the share of renewable energy**

OWG Target 7.2: By 2030, increase substantially the share of renewable energy in the global energy mix

- *UN proposed indicator 1: Renewable energy share in the total energy final energy consumption (%)*
- *UN proposed indicator 2: Enabling legislation and framework for renewable energy production established by 2020*

The Chilean analysis showed the need to differentiate global targets to fit different national contexts: in this case the starting point in terms of the energy matrix and the share of renewable energy. The target is very sensitive to the baseline: doubling the share of renewable energy will be much harder for countries that start from a high share.

The target also does not include any sustainability criteria and the target applies to all energy and not only modern energy services. This creates a risk that it will not incentivize a shift from unsustainable traditional bioenergy and that it may even incentivize a move towards unsustainable modern bioenergy.

It would therefore seem preferable to use an indicator of greenhouse gas emissions from energy together with an indicator for share of renewable energy (as suggested by SE4All), but excluding firewood. The UN proposed indicator of net carbon intensity within the energy sector (OWG target 7.a) is useful – although it is important that emissions due to land-use change are appropriately incorporated.

#### **SE4All target: Doubling the global rate of improvement in energy efficiency**

OWG Target 7.3: By 2030, double the global rate of improvement in energy efficiency

- *UN proposed indicator 1: Rate of improvement in energy intensity (%) measured in terms of primary energy and GDP*
- *UN proposed indicator 2: Composite Energy Efficiency Improvement Index built up of sub-indicators measuring transport energy efficiency, industrial energy efficiency, power generation energy efficiency, buildings energy efficiency and agricultural energy efficiency*

The Chilean analysis of this target again showed the need to differentiate global targets to fit different national contexts. The experience of both developed and developing countries shows that in the initial phases of economic growth, there is positive elasticity in energy consumption in relation to gross domestic product, and, that in more advanced phases, it is negative.

A developing country may lose "efficiency" and simultaneously be more efficient than a developed country. This shows that it is necessary to differentiate the energy efficiency target according to the stage of development, and that the proposed target is not suitable for all countries and particularly not for the least developed ones.

More suitable targets for developing countries could include:

- i) Levels of theft of power and overall power losses in transmission and distribution;
- ii) percentage of reduction in energy consumption due to energy-saving measures introduced; and
- iii) the ratio of installed capacity to actual generation.

### **Means of implementation targets**

The Chilean experience also has implications for the OWG's "means of implementation (Mol) targets" under the proposed SDG 7 (on energy) and other targets that are essential to enable the energy outcome targets.

The OWG proposed two Mol targets under Goal 7, which focus on international cooperation to enhance access to research and technologies and investment in infrastructure and technology upgrading, especially in developing countries and particularly in LDCs and SIDS.

The Chilean case study suggests that it is helpful to include in target 7.a a focus on "promot[ion of] investment in energy infrastructure", as proposed by the OWG.

Policies to promote energy access should also include incentives for a more diverse and sustainable energy matrix (including removing incentives/disincentivising unsustainable forms of energy) in order to ensure energy security and environmental objectives, although the types and levels of such incentives need to take into consideration their economic and social effects.

The Chilean case study suggests that the OWG's proposed target on rationalising fossil fuel subsidies (12.c) and the UN proposed indicator for target 7.b, "*Enabling legislation and framework for renewable energy production established by 2020*" are heading in the right direction.

However, given that the Chilean case shows that interaction between environmental and social inclusion objectives can be complex, a key lesson is that development plans need to go beyond enabling legislation and a framework for renewable energy production to ensure broader public support, including from the communities that may be most directly affected. This is why the energy sector must include the objective of effective community involvement and buy-in.

The OWG has proposed two targets that are very much linked to this last recommendation under SDG 16:

- Target 16.6: develop effective, accountable and transparent institutions at all levels;
- Target 16.7: ensure responsive, inclusive, participatory and representative decision-making at all levels.

The Chilean case study suggests that these two targets are not only of value to civil society, but also to the private sector. Indeed they could be seen as critical to achieving national policy objectives.

The OWG also proposed a target (17.7) to encourage and promote effective public, public-private and civil society partnerships, building on the experience and resources strategies of partnerships.

Indicators for this target would need to be very carefully defined. The Chilean experience shows that much good can be done on the basis of effective public institutions, targeted subsidies and strong private investment supporting each other through an effective framework of public-private partnerships. However, civil society was not a significant part of that arrangement.

The medium-term consequence is that the strategy that Chile followed for over 30 years is now deeply questioned and cannot be sustained; the credibility of public institutions has been damaged; and the private sector and energy consumers have had to pay a heavy cost. In modern societies, broad-based societal support for the energy strategy and for specific investments are a critical and core element of energy development.