

# INTRODUCTION

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The fight for ecological transformation is waged across multiple fronts: decarbonizing the economy, preventing or processing pollution, recycling wastewater and waste, and combating soil sealing are just some of them. There is no doubting that, in many respects, this transformation resembles other major industrial revolutions that have marked technological progress, such as the arrival of the steam engine or electricity.

But why do we talk of transformation rather than transition? Because the scale and urgency of the climate challenge facing humanity are such that half-measures are simply not enough. We have to embrace far-reaching, radical and sweeping changes to our modes of production and consumption. We have to adopt an approach that is faster, more ambitious and more resolute than simply a transition. Another reason for choosing the term transformation is that we need to engage in a movement based on substitution and replacement, not addition. This sets it apart from previous energy transitions, where oil then renewables were used as energy sources in addition to coal and biomass, supplementing but never supplanting them.

Current projections paint a gloomy picture for the future of matters like biodiversity, natural resources and the planet's livability. Whatever happens, the future will be all the more alarming if we fail to prepare for it. Ecological transformation is not optional. It seeks to limit the excesses humanity is responsible for and a victim of: excessive plundering of nature's resources, causing scarcity; excessive discharges into the environment, causing pollution. Happily, many solutions for remedying these ills already exist. What we need to do now is roll them out massively and invent those that do not yet exist.

We also need to find ways to finance them until financially viable models are created, because if we have to wait for green technologies to become competitive before mass uptake occurs, it is likely we will have to wait for a long time. For the truth is that green transition requires enormous investment. It will lead to the sudden obsolescence of countless facilities and infrastructures, which will have to be replaced with newer technologies. This will in turn lead to large price spikes, for energy in particular, which is why economists have coined the term *greenflation*. But how can the price be made manageable to those who, ultimately, have to pay it?

*Ecological transformation involves a fundamental reappraisal of our societies' relationship with nature*

And how can these solutions be made socially acceptable? This is one of the largest hurdles to ecological transformation, because to be accepted it has to be just, and seen to be just. Otherwise it will lead to massive social upheavals. Take one emblematic example, abandoning coal, the most polluting of all fossil fuels. This is an industry that employs over 70,000 people in the USA, over 100,000 in Poland and over 200,000 in Germany. Most of these jobs will disappear, and ways will have to be found to compensate for the losses. Other industries, such as automotive, oil and gas, will also lose countless jobs, while yet others, like renewables and insulation for buildings, will create plenty of new ones. But this is not a like-for-like process. The jobs will not require the same skills and will not be offered in the same locations. Massive efforts will be needed in terms of workforce reskilling and mobility. Social measures to accompany ecological transformation will be essential, compensating for loss of employment and supporting vocational retraining.

Ecological transformation involves a fundamental reappraisal of our societies' relationship with nature. It forces us to alter our choices and behaviors as citizens, consumers, and professionals. Are we truly ready for this? And what are the real-life incentives needed to help us make the leap? Day in day out, through countless tiny daily decisions, we constantly say Yes or No to ecological transformation. If the greatest possible number of people are to adopt environmentally beneficial behaviors, it is critical that such behaviors should be as easy and inexpensive to them as can be.

For their part, businesses have to learn to think of their products and services not only in relation to the market, but also in relation to ecosystems and how much they can bear in terms of resources removed, and accept in terms of residual pollution. In parallel, businesses must also create a multi-capital accountability model that reflects financial, social and natural capital.

How can we make ecological transformation deliverable and acceptable from the social and economic standpoints? These are the issues explored in this latest issue of the *Veolia Institute Review - FACTS Report*, offering a mix of cross-disciplinary studies and field reports from emerging and developed economies. It looks at a variety of topics, including employment and the restructuring of different areas of the economy, governance and the role of policy-making, green finance and training. Contributions from across the spectrum give us a glimpse of the seeds of change, introducing us to another world, a world so different from ours and so necessary, so near and yet so far away.

