

# Transformation in energy, utilities and resources

Strategies to confront rising demand and climate threats



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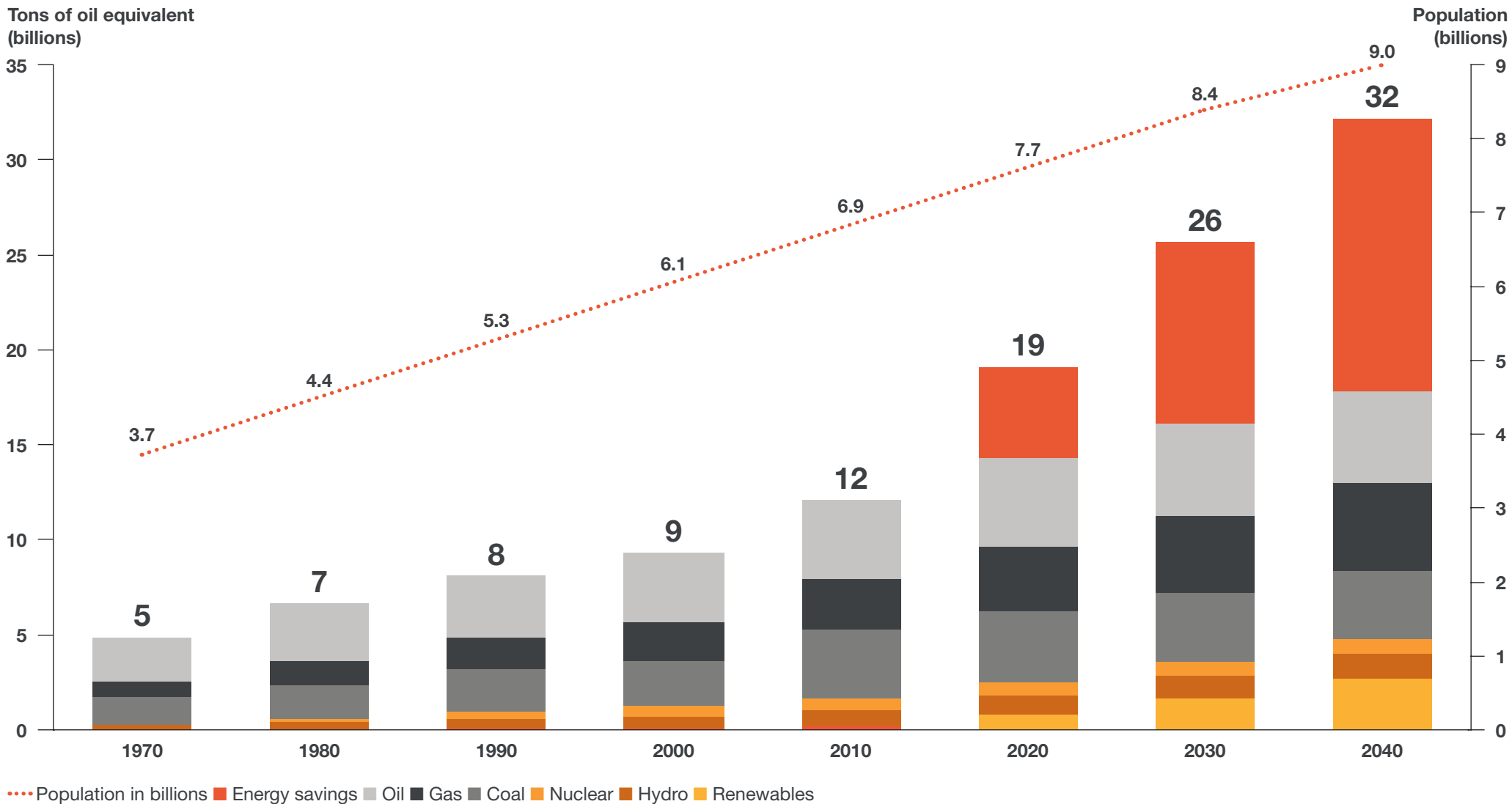
# Introduction

**The world is at the midpoint of a massive energy-related transformation. By 2040, the global demand for all forms of fuel and power will be four times what it was in 1990. During the same 50 years, the issue of global climate change will have moved from the margins to the centre. Institutions everywhere will be striving to address climate-related problems by dramatically decreasing and mitigating carbon use (see exhibit, next page).**

In the energy, utilities and resources (EU&R) industries, the relationship between these two dynamics — the rise in demand and the recognition of carbon use as a climate threat — is already determining basic strategic choices. And it will continue to do so for years to come. This development will profoundly affect a wide range of companies: producers of all forms of energy; disseminators and sellers of electric power, gas and oil; energy-based process industries such as chemicals and steel; and producers of other extracted commodities. Leaders in all those businesses will need the acumen to make and execute decisions that combine growth with environmental sustainability, often in novel ways.

### Exhibit: Population, energy use and climate

Without savings enabled by efficiency gains, global energy demand could nearly double by 2040. But with energy savings from those efficiency gains, demand is only expected to increase by about 25%. Much of the growth in energy demand is coming from developing economies, led by India and China. Renewables are the fastest growing source of energy. Natural gas use is projected to grow much faster than the use of oil or coal.



Source: US Census Bureau, BP Energy Outlook 2019

The ability to take this new approach to management, especially for companies that have been successful in the past, is not guaranteed. Thus, transformation — the ability to make fundamental shifts in strategy, operating model and day-to-day activity — is on the agenda for EU&R companies this year, with a stronger sense of urgency than before. Fortunately, because of the rise of digital technology, the growing use of interoperable platforms and an emerging consensus about the value of renewable energy, EU&R companies have more tools and opportunities than ever before for thriving through this disruption.

The urgency became clear in the results of a number of surveys conducted recently by PwC — including those of [chemical company CEOs](#), [oil and gas company CEOs](#),

and [power and utilities companies](#) — and it is especially pressing in the utilities sector. For instance, when we surveyed senior executives in Germany’s energy sector in 2018, 77% said that the bulk of their company’s revenues would continue to come from their core businesses over the next five years, yet 57% of them expected those revenues to fall over the same period. Likewise, in chemicals, according to our [22nd Annual Global CEO Survey](#) trends series, the next decade is likely to see the sector come under increasing pressure on a range of sustainability measures. In short, although the demand for EU&R’s elemental commodities will grow and its essentially extractive, capital-intensive nature will not change, business as usual will not be a viable alternative for many companies.

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# 25%

Global energy demand is expected to increase about 25% from 2016 to 2040.





## Opportunities for change

### Four factors are combining to change the dynamics in EU&R — and provide tools for response:

- **Decarbonisation and the sustainability agenda.** No matter how EU&R companies view climate change, it is clear that their stakeholders (customers, financiers, employees, regulators and the wider public) are increasingly insisting that energy and related products be cleaner and less carbon-intensive. For instance, the International Energy Agency (IEA) subtitled its latest outlook for the petrochemicals industry “Towards a more sustainable chemical industry.” The value placed on sustainability will also continue to increase in adjacent industries such as industrial manufacturing, automotive and agriculture. Fossil fuel-based mobility is coming under scrutiny, especially in Western Europe and China. EU&R companies that find ways to contribute solutions will be recognised and rewarded in new ways.
- **Pressure on resources.** Resources in high demand include both the natural resources that EU&R companies supply and the financial resources available to them. The increasing population along with the global growth of a middle class ensures that high demand will continue to be an issue if supply does not expand accordingly. As a consequence, the pursuit of energy and resource efficiency is coming to the fore. Examples include (1) ‘cradle-to-cradle’ approaches to commodities (also known as circularity), in which provision is made for disposing of commodities sustainably, and (2) the creation of less resource-intensive products and services, for instance, through digital printing or virtual solutions.
- **Digitisation and technological advances, along with urbanisation.** Digitisation (e.g., data analytics, artificial intelligence [AI], augmented and virtual reality, digital printing) and other technological advances, such as renewable energy (wind, photovoltaic, biomass); battery storage; power to X (conversion among gas, hydrogen and electric power); and carbon capture, utilisation and storage (CCUS) are adding to the EU&R industry’s skill set. Even more significant opportunities for transformation occur when these technologies are combined. For example, smart grids enable real-time trading, usage and pricing of volatile renewable energy from wind and solar while at the same time keeping the grid in balance. The ongoing trend of urbanisation adds demand for these kinds of sustainable, efficient and intelligent infrastructures. Digitisation and technology are also disrupting the competitive landscape in EU&R, providing an opening for new entrants and cost advantages for competitors from outside the sector.
- **Decentralisation and customisation.** Advances in renewable energy technology, combined with storage, enable individuals and local communities to produce, use and sell their own energy and create new access to energy (and other resources such as desalinated water). This democratisation of energy and resources goes along with a stronger focus on the end customer. It gives EU&R companies an opportunity to leapfrog the traditional value chain and move away from commodities into higher-value specialty products and services. Looking upstream, there is pressure to satisfy growing demand for key metals used in energy storage, including nickel, lithium, lead and cobalt.

As a result of these factors, many EU&R companies are grappling with a mix of challenges that can't be satisfied with tactical responses. To ensure that their company is environmentally sustainable, executives need to re-envision product portfolios and foster links with a more inclusive community of stakeholders. To ensure that their company is financially sound, leaders need to better manage price volatility, free cash flow and drive out costs. To ensure that their company is properly positioned for long-term growth, those in charge need to rethink business models and more effectively deploy [capital](#).

EU&R industry executives have made advances in each of these areas, but now it is time to bring them together. The resulting transformation might be undertaken in a single major initiative. Or it could be planned through a sequence of smaller initiatives, each building on the ones that came before. In both cases, the goals are the same: to shift the company's operating practices and culture enough to enable it to make money in ways it couldn't before, and to develop an ongoing mastery of further change among leaders and employees.



# Sector-specific strategies

The forces driving transformation will have somewhat different effects on each industry within EU&R.



In **oil and gas** (O&G), profitability is threatened by decarbonisation over the long term and lower oil prices in the short term. O&G companies that do not adjust their investments to align with emissions targets could end up with **stranded assets** — sidelined by relative costs and prices, natural events like flooding or drought, or changes in government policies. Examples of the latter include high impairment charges on fossil fuel-fired power stations in Western Europe and driving bans on diesel cars in Norway, Germany, the UK and France. Investors and financial regulators have also started to encourage companies to **consider and disclose** climate-related risks. One result is the accelerating shift to cleaner sources of energy. Another is the ongoing quest for more efficient, more cost-effective operations.

In **chemicals**, the impact of resource and material substitution, decarbonisation, renewable energy and waste elimination are top of mind for CEOs. Beyond the wariness these trends invoke, they give chemicals companies the opportunity to shift from being ‘product sellers’ to ‘solution providers’, which means that chemicals companies have to collaborate with customers. Meanwhile, low feedstock prices, especially for natural gas, are attracting new players to the industry, including some from the O&G sector. Chemicals incumbents are moving up the value chain from commodity chemicals to higher-margin specialty chemicals. To succeed in this more demanding arena, chemicals companies need to not only transform their product portfolios, but seek to become more customer-centric providers of B2B solutions.

In **utilities**, decarbonisation, along with the commoditisation and decentralisation of power generation, is disrupting the industry’s traditional boundaries, especially in the European Union. Many utilities are refocusing their strategies on the network and the customer. New value pools are forming in areas as diverse as energy management, electric vehicle charging and home automation. Instead of simply charging a fixed price to deliver electricity, utilities are rolling out pricing models and services that have typically been more closely associated with consumer goods and industrial companies.

In **mining**, strong operating and financial performances are not translating to higher market values. Investors have reservations about the industry’s ability to create and realise value in a sustainable manner. Capital spending has begun to increase but is largely self-funded through operations, as equity raisings remain scarce. Miners need to change their reputation from being viewed as efficient ‘converters of dirt’ who pose omnipresent environmental risk to be seen as prominent builders of economic and societal capital. Prioritising greener and consumer-centric strategies, enabled by technology, will help earn the trust of stakeholders.



# The four building blocks of an EU&R transformation

There is no single blueprint that applies to every corporate transformation. The specific steps, stages and organisational designs will vary from one enterprise to the next. But four basic building blocks do appear in any successful transformation, including those at companies in EU&R.



## Create a strategic identity

Articulate a single desirable future for your enterprise and focus all your efforts on achieving it.

## Design for trust

Develop ways to merit the commitment of everyone related to your enterprise — particularly customers and employees.

## Master the pivot from sprint to scale

Test new practices in an intensive, experimental, startup-like manner. Pick the approaches that work, and rapidly implement them throughout the larger system.

## Treat your legacy as an asset

Save the best of your past, divest the rest for advantage and use the income to fund the future.

Below, we detail how you, as the leader of an EU&R company, can use these building blocks to design a successful transformation initiative.

1



## Create a strategic identity

Traditionally, EU&R companies have defined themselves using terms such as resource extraction, power generation and commodities. But if you are an executive facing the challenges of this industry, you will need to redefine the way your company creates value.

This is not an exercise in brand building, ‘going green’ or fulfilling others’ demands. It is an effort to better understand your role in enabling the advance of civilisation. Energy and natural resources, wisely used, make daily life possible, including the [rise of technological advances](#). These include, for instance, refrigeration, the search engine, smartphones, and 3D printing — to name just a few that would not be possible without advances in energy and the production of new materials.

What is your company’s unique role? How can you incorporate into your strategies the concepts that the times demand, such as a lighter environmental footprint, low- or no-carbon energy, safety and sustainability in all its forms, the delivery of energy to places of greatest demand, and the provision of experience and knowledge that will keep customers coming back to you? Even if you define yourself as a commodity producer, you may not be able to count on future viability. You may need to create

a different kind of strategic identity, in which your value proposition, core capabilities, customer and employee experience, and culture all reinforce one another. As we analyse successful transformations in this industry, we find that they tend to follow a few common principles. Companies should take the following approaches.

**Be aspirational and ambitious.** Your new strategic identity should be a genuine stretch that is challenging to fulfil, yet feasible and capable of delivering the right level of payoff. For instance, Norway’s Equinor, like many other oil and gas companies, is embedding the need for a low-carbon future into its strategy. The company is [directing an increasing part of its investment](#) towards new energy solutions, aiming at 15% to 20% by 2030. Taking that a step further, Denmark’s Ørsted has left behind its core businesses in coal-fired power generation and upstream O&G to [pursue a new identity](#) as a global leader in renewable energy, saying: “Our vision is a world that runs entirely on green energy. It is deeply rooted in what we do, and who we are as a company. We want to be a company that provides real, tangible solutions to one of the world’s most difficult and urgent problems.”

For others, the big vision may be to stick with the products and services they already offer, but provide them to other regions or to new industries. In 2016, Shell completed a US\$50bn acquisition of BG Group, giving Shell a strong foothold in the Brazilian O&G market. The deal also represented a strategic pivot to gas, considered a bridging fuel to a low-carbon world.



Our vision is a world that runs entirely on green energy. It is deeply rooted in what we do, and who we are as a company. We want to be a company that provides real, tangible solutions to one of the world’s most difficult and urgent problems.”

Ørsted, Denmark



**Link the new strategic identity to distinctive capabilities.** Sustainable success requires capabilities that are truly superior and distinctive enough that others cannot rapidly copy them, and thus cannot overtake your competitive advantage. In EU&R these capabilities might include volatility management, big infrastructure management, business model forward integration, and efficiency optimisation. Your own distinctive mix of capabilities — those you have now and those you can profitably develop — will help you differentiate your company from competitors and consistently execute more effectively than they can.

For instance, the utilities sector is already engaged in acquiring new capabilities to meet the emerging needs of customers. These capabilities incorporate new technological advances, new offerings and new channel requirements through a mix of partnering relationships, equity investments and outright acquisitions, often in combination with established venture capital players. Partnering of this sort happens across EU&R.

One independent exploration and production company with expertise in geology, lease acquisition, land management and capital allocation combined these capabilities to identify and lease promising drilling sites. Then it partnered with oil-field service companies to design and operate wells. By focusing on what it does best and leaving the rest to other companies, the private company has gained several of the most productive wells in the US, side by side with oil majors.

**Identify and incorporate the 'critical few' cultural traits.** Culture can be the reef on which your EU&R transformation founders, or it can be the tide that carries it to safe harbour. Don't try to change your culture wholesale. Instead, look for the three or four cultural traits that already exist in your organisation that support your strategic direction, find the people within the enterprise who exhibit those traits and engage them in helping move the company forward.



When Enel CEO Francesco Starace sought to promote innovation as a critical trait, he created [a digital platform](#) where employees were encouraged to share how they used their mistakes in order to seize the chance to learn and start again with greater impetus, with the ten best entries receiving prizes.

One way that utilities companies are shifting their culture is to become more customer-centric. In the industry, customer service was not traditionally a priority for most companies. It was viewed as, at best, a ‘nice to have,’ and at worst, a burdensome hit to the bottom line. But in the past few years, that has changed as consumers have begun demanding that their utilities provide cleaner and less expensive energy. As a result, providing this type of customer service is now seen as a profit generator. About a decade ago, the number of chief customer officers at utilities companies could be counted on one hand. Now they are far more prevalent and have a rising profile in the C-suite.

**Engage the whole enterprise.** New strategic identities should be communicated in vivid, clearly understandable terms and symbolic gestures, and the challenges they entail should be named to ensure that everyone sees how their jobs contribute and why each element of the transformation initiative matters. Enel’s Mr. Starace uses the downward cost curve for renewables, such as wind and solar power, to make the case for the electric utility’s ongoing transformation. “The global total invested in renewables development has been fairly stable at around US\$300bn every year since 2010. In that year, that US\$300bn bought us 87 gigawatts of installed renewable capacity. In 2017, that same US\$300bn bought us 176 gigawatts,” he pointed out in a [2018 lecture](#) at the University of Oxford. “If we are seeing the marginal cost of

generation tending towards zero, for a business that has built its success in part on power generation, this presents a major challenge to overcome.”

## 2 Design for trust

The human side of transformation in EU&R requires particularly hard choices. You must choose among many difficult options as you reshape your company and its business model. These probably include selling businesses, reducing staff and making radical shifts in strategic direction. Your employees must enlist in the new strategic identity that you propose and support it with their heads, hearts and hands — with decisions, commitment and implementation.

Further, you must engage in the practices that build trust. All stakeholders, both internal and external, including employees, customers, vendors, financiers, regulators and the general public, must have confidence in the choices you make and your ability to execute them. That includes trust in your ability to avoid the kinds of catastrophic mishaps that plague this industry. Many EU&R companies are already taking the right steps, addressing their stakeholders as a whole and promoting such ideas as sustainability, in-depth engagement with employees on maintenance and safety issues, and working with the community on environmental matters. In O&G for example, Ben van Beurden, Shell’s CEO, has defined customer trust as one of the company’s three key ambitions. Another example is the recent support BHP CEO Andrew Mackenzie has expressed for a referendum to give a First Nations voice to the Australian Parliament. BHP has about 1,500 Aboriginal and Torres

Strait Islanders in its workforce and has spent more than US\$40m with indigenous business in the past fiscal year.

In successful transformations, employees and other stakeholders diligently invest their time and effort in building the new identity. They do this because they have reason for hope and they trust that the enterprise will deliver on the promise inherent in the new identity. To achieve this in your company, design trust into the transformation in the following ways.

**Start at the top.** Employees take their cues from their leaders. Subscribe to and model the changes that you are asking of employees. In EU&R, this often will require the adoption of more resilient values, such as agility, participative decision making, reliability, global exchange and a down-to-earth, sleeves-rolled-up attitude. This has to start with top management and then must cascade down throughout the organisation.

**Redesign your HR motivators.** Employee commitment may seem intangible, but it is supported by tangible incentives, such as salary, promotion and perks. Some energy companies are already experimenting with work-life balance perks. At US energy provider Direct Energy, workers are entitled to 12 weeks of paid maternity or paternity leave, far more than the national average. Flexible work hours are also an option, supporting a healthy work-life balance. Additionally, the company offers in-house health and wellness programs for all employees and encourages both fitness and giving back to the communities in which it operates by sponsoring charitable partnerships. For example, the company and its employees have raised funds for Children’s Miracle Network hospitals, with Direct Energy donating funds for each mile an employee walks, runs, bikes or swims.

**Treat resistance with respect.** Inevitably, there will be people — sometimes key influencers — who will not enlist in the new strategic identity and may not have a place in the company. How they are treated, however, is one of the litmus tests of trustworthiness. When their resistance is treated fairly and with respect, others will find more reason to commit wholeheartedly.

**Give customers more reason to trust you.** In EU&R, where transformation often involves changing customer relationships and a shift in mind-set from commodity supplier to energy-solutions provider, customer trust is essential. European utilities such as E.ON, Enel and EDF Group have shifted their thinking from a customer service-based model to one that emphasises the customer experience. For instance, through the installation of sensors, controllers and intelligent data platforms, digitisation offers energy brokers, aggregators and demand managers resources — such as price comparisons — that help them [provide services that customers value](#).

3



### Master the pivot from sprint to scale

Typically, EU&R companies isolate innovation efforts, as much to safeguard the company against failure as to nurture the innovation itself. But to successfully transform a company, innovations that work must not only be developed and tested, but also be quickly implemented across the company as soon as they are proven — much like shale oil technology was a decade ago. Leaders of successful transformations master this pivot.

To be sure, transformation in EU&R tends to take more time than it might in other industries. That's because EU&R innovations often involve physical assets and great amounts of financial capital, which makes it difficult for them to be spearheaded by one player alone. Typically, several technological, regulatory, financial and operational factors have to come together. For example, the rapid rise of shale oil and gas was enabled by a combination of

horizontal drilling, hydraulic fracturing and a favourable financial environment. Another example is the rise of renewable energy sources such as wind and solar. In Germany in particular, subsidies gave renewables a push starting around 2008 and brought prices down thanks to economies of scale. Later, Chinese companies stepped into the renewables market and pushed prices further down and proliferation up, a development that continues today. As you look for early wins, invest first in those innovations where you have a high level of influence and experience.

**Adopt the methods of agile innovation.** To power the sprint to innovation, bring on board new methods for quickly developing ideas in small groups. The urge to develop new business models is especially pressing in the utilities sector, which sits at the forefront of the energy transition. In a play to pursue new business models, German utility EnBW set up an innovation campus, bringing employee knowledge to help launch internal



startups. The innovation campus supports this ‘inside-out’ process beginning in the incubation phase, with programs for ideation and piloting, and then helps scale the more advanced projects. The company also uses an ‘outside-in’ approach, whereby it enters into venture capital investments with external startups.

Similarly, other utilities have set up separate entities. E.ON has created the Connecting Energies program. In one case, E.ON helped Binero Group, a Swedish provider of digital infrastructure services, turn the heat produced by a data centre, which is normally wasted, into electricity for the surrounding community. Enel X, a subsidiary of Enel, aims to help customers use technology to transform energy into new opportunities by applying smart, simple and fast technologies.

Companies can also tap larger innovation ecosystems via open innovation, incubators and corporate venturing. EDF Pulse Croissance, a company set up as part of EDF to develop new activities and professions of tomorrow within the overall organisation, invests in startup projects to accelerate innovation — as do many other players in the industry. EDF Pulse Croissance regularly launches calls for projects including pitches for how to make decommissioning nuclear sites safer and more efficient and ways to help keep older people living safely and independently in their own home.

**Plan for scale.** New ideas need to be protected and nurtured. But once they are proven, they must be replicated quickly throughout the enterprise, upgrading or replacing existing operations where needed.

Develop messages for key stakeholders — employees and shareholders included — explaining how you intend to turn your enterprise into an innovative competitor with distinctive capabilities. Don’t just focus on operational innovation through technology adoption; achieving a culture of innovation takes time, and attention must be paid to both skills and organisation. If you are building a robust innovation platform, be prepared for sustained investment and constant executive leadership visibility.


The case for scaling is especially relevant in renewables, specifically in the solar and battery markets. Renewables have seen a significant cost reduction over the last decade due to economies of scale. In solar technology, Swanson’s Law — a rule similar to Moore’s Law in the tech industry — describes the current learning curve. There has been a 20% price reduction for every doubling of solar installations, which means roughly halving prices every ten years.

As for batteries, the auto manufacturers are leading that development with applications for electric cars. The first wave of these batteries was designed to hold a charge for short-range travel. A second wave, capable of holding more energy and thus enabling a longer drive

time, is expected in the next few years. As costs drop and capacity grows, batteries will be increasingly used for other purposes, including building power stores and maintaining grid reliability.

Downstream energy companies can capitalise on this opportunity by providing charging stations for batteries. Some companies in Germany, Italy and the Netherlands are already doing so. Starting in 2012, they began installing charging stations, similar to traditional fuelling stations in town and city centres, near restaurants and retailers, where it is convenient for drivers to leave their vehicles for the hour-or-so charge time. Currently, these stations are not realising much revenue, but it is believed that volume will increase as environmental laws require the curbing of greenhouse gases, sparking demand for electric vehicles.

Another opportunity is batteries that hold power for households. With an eye towards this technology, Shell acquired Sonnen, a maker of smart-energy storage systems and energy services for homes. With the acquisition, the company says it aims to “accelerate the building of a customer-focused energy system in support of Shell’s strategy to offer more and cleaner energy solutions to customers.” The agreement is intended to accelerate Shell’s ability to offer innovative, integrated energy services, electric vehicle charging and grid services.



In order to drive sustainability initiatives, chemicals companies will have to collaborate with their customers, who will increasingly demand bespoke and innovative answers that transform their products to meet specific weight, waste and functionality metrics.

**Build your personal knowledge of customer needs.**

In EU&R industries such as utilities and chemicals, companies undertaking transformations need to forge stronger and closer connections to the wants and needs of customers. For instance, in order to drive sustainability initiatives, chemicals companies will have to collaborate with their customers, who will increasingly demand bespoke and innovative answers that transform their products to meet specific weight, waste and functionality metrics. To achieve this, you can adopt the practices of design thinking and in-depth customer research.

You could also form partnerships with telecom companies – another industry with a utility-oriented past that has reason to accumulate data and customer consent, and a robust customer network that could be complementary to your own. One example of such a partnership is French energy company Engie’s partnership with French telecom Orange to bring electricity to rural parts of Africa. Access to energy is a major challenge for the African continent; about 90% of the population of sub-Saharan rural Africa lacks access to the electricity grid. To address this need, Engie and Orange have teamed to develop the electrification of rural areas and to optimise the supply of electricity to telecommunications infrastructure in Africa.

4

## Treat your legacy as an asset

In EU&R companies, legacy businesses and assets are an essential element in transformation success. As an EU&R leader, you need to decide which assets to hold on to and which to let go, with a clear and effective plan for harvesting the best of your past while divesting anything that will distract you from the company's new strategic identity.

**Maximise value throughout the enterprise.** Appraise the value of all your businesses and assets with a gimlet eye. Sometimes, that appraisal will reveal assets that have a place in the company's future. Sometimes it will turn up assets that contribute to revenues or market share, but do not serve the company's new strategic identity and would make more sense as part of a different company. The unique deal that rival German utilities E.ON and RWE engineered in 2018 is a notable example of such an appraisal. In a complex asset swap, RWE will take ownership of E.ON's renewables businesses, making it the third-largest producer of green energy on the continent. In return, E.ON is taking over RWE's retail and distribution networks to focus on these areas and foster its position as a relevant European player.

**Balance nostalgia and foresight.** Back in 1964, Peter Drucker could have been talking about transformation when he wrote, "If we want the new to have a chance, we must be willing to prune the old that no longer promises

results." Transformations often require that companies stop doing many of the things that served them well in the past. When faced with that reality, leaders need to communicate their appreciation for the value that the people associated with those activities have created, and try to ensure there is a path available for those who want to work in service of the company's new strategic identity.

Reorganisations have proven to be a successful strategy in the EU&R industry. They enable firms to stop doing the things that no longer tie into the strategy of the firm and help to ensure a fresh focus. One such example is the 2006 creation of Evonik Industries, which was carved out from then-conglomerate RAG AG. RAG retained its coal mining operations and moved its chemicals, energy and real estate business to Evonik. Other examples include Bayer's spinoff of its specialty chemicals business, Lanxess, in 2004, and its polymer business, Covestro, in 2015, as part of a portfolio readjustment. E.ON moved its fossil fuel and trading business together with its Swedish nuclear power operations into Uniper, which since 2016 has operated as an independent listed entity. E.ON has also sold its significant minority stake to Fortum. RWE separated its distribution grid and retail and renewable generation businesses into Innogy, a listed entity, in which RWE still holds a majority stake. And Dow and DuPont, following their merger, carved out their agriscience activities into Corteva Agriscience.

**Put bold and talented people on the front lines of legacy management.** The management of legacy assets is critical to transformation success, but too often it gets short shrift as company leaders look to the future. Companies need to identify executives who have the critical-thinking skills and dispassionate temperament to maximise the value of legacy assets.

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**If we want the new to have a chance, we must be willing to prune the old that no longer promises results.”**

Peter Drucker

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## The transformation bottom line

More and more leaders in EU&R companies, and adjacent energy and resource-heavy industries, recognise the unavoidable need for full-fledged transformation, but the complexities remain daunting. That's because EU&R transformations tend to be multifaceted. They include a fundamental and lengthy revamping of long-established resource portfolios. All the while they must also take into account the increasing expectations of stakeholders for sustainable development, the clean-sheet redesign of global business and operating models, and digitisation initiatives that reach into every corner of a company.

Because energy and resource transformations entail investments in assets, infrastructure and human beings, they take time. This is simultaneously an opportunity and a threat.

The opportunity lies in the chance to learn from others and wait for technology to advance and get cheaper. The threat comes if companies react too slowly and then have to adapt the hard way when and if the public, politicians and regulators force them to alter their strategies. The learning curve is quite steep, and we've seen companies scale back ambitions.

The four building blocks of transformation offer EU&R leaders the means to avoid these pitfalls. No matter how they are assembled, the building blocks ensure that the vision for the future is ambitious and aspirational, and that it actually delivers on its promise. If you have these factors on your side, you are far more likely to succeed.

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