





Looking to the long-term:

hearing the public interest voice in energy and water

Eight agendas for change

New Energy and Water Public Interest Network
'New-Pin'

Sustainability *first*

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Preface

About Sustainability First

Sustainability First is a think tank that promotes practical, sustainable solutions to improve environmental, economic and social well-being. We are a registered charity that primarily works in the energy and water sectors.

This Report summarises the ground-breaking work carried out by Sustainability First's New Energy and Water Public Interest Network (New-Pin) between 2015 and 2018. For an in-depth view of the outputs of this participative process, see our set of eleven curated project papers listed in Part III of the Report and contained in full on the Sustainability First website – www.sustainabilityfirst.org.uk

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Independence: editorial responsibility for this final New-Pin Report rests solely with Sustainability First.

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Executive summary

> “Today’s decisions significantly impact future generations”

Why is the public interest important in energy and water?

Energy and water are vital services for social, economic and environmental well-being. Today’s decisions significantly impact future generations: directly through bills and services; and indirectly through the environment.

What is the New Energy and Water Public Interest Network (‘New-Pin’)?

Sustainability First’s ground-breaking New-Pin Network was set up in 2015 to build understanding, and where appropriate consensus, on what the long-term public interest is for the sectors and ensure that this ‘voice’ is heard by key decision-makers. It has brought together public interest groups (consumer, citizen and environmental), academics, government reps, regulators and companies to develop a more democratic and inclusive approach to change. To share good practice further, the New-Pin Network’s significant body of work and extensive discussion papers are on the Sustainability First website.

What is the long-term public interest in energy and water?

New-Pin has defined the long-term public interest as the aggregate well-being of the general public, both short and long-term, comprising the combined interests of consumers, citizens, the environment and investors for both today and tomorrow. Through an iterative process, the New-Pin Network has identified six desirable long-term outcomes, which together comprise the public interest: value for money; quality of service; a clean / sustainable environment; long-run resilience; ‘place-based’ well-being; and fairness – both within and between generations. Although there are many ‘win-wins’, these outcomes do not always ‘pull’ in the same direction. There are dependencies and conflicts; some trade-offs may be necessary. New-Pin has developed public interest change agendas to address those trade-offs.

Transformative change is already happening in both sectors

The energy sector, and to a lesser extent the water sector, already faces transformational change- driven by climate, social and demographic transition - and new technologies (including digitisation, big data and artificial intelligence). The need for change is recognised in the National Infrastructure Commission’s Vision and Priorities Report, the government’s Clean Growth Plan, the Industrial Strategy and the aspirations in the 25 Year Environment Plan. Together, these challenges have the potential to break apart existing, often centralised, business models, leading to the emergence of new entrants, services and financing systems. They also represent new opportunities, and risks, for both consumers and for citizens.

Political interest, short termism and decision-making silos

As energy and water are essential services, and are going through such profound change, political interest is unlikely to abate. Although energy and water investments can be very long-term, politicians tend to operate in shorter electoral cycles, often focused on current bills and affordability. For monopoly activities, regulators also operate in fixed regulatory cycles. Together, these factors can lead to short-term pressures and uncertainty (the ‘*tragedy of the horizon*’). Departmental / statutory silos can also make it difficult to provide the leadership needed to deal with some of the social and environmental externalities in these often complex/inter-dependent systems (the ‘*tragedy of the commons*’).

> For companies to become more consumer / citizen focused, change needs to occur *with* people rather than being *done* to people

A more active demand side

Technology and data are enabling more personalised and responsive services, and for companies to shift from selling a commodity to providing a service. This can help consumers to: use resources more efficiently and lower their own bills; and be more proactive, through demand side response and, in energy, distributed generation (as pro-sumers) delivering wider systems benefits. In new build, grey water re-use and rainwater harvesting becomes easier.

Risk of some consumers being left behind

There is a risk that personalisation and 'smart' services could result in the unwinding of cross subsidies leading to distributional impacts and 'cherry picking' of customers. Consumers without broadband access / skills, the resources to invest in new smart technologies or in certain types of tenure (i.e. private renters) may be left behind.

Early clarity is needed on who pays for future investments

Long-run affordability will remain a priority, as both sectors need to make significant investments to replace ageing infrastructure, mitigate and adapt to climate change. Early clarity is needed on who pays and the split between consumers or taxpayers – to ensure that future costs are effectively managed and risks and rewards are shared on a 'fair' basis.

Bottom-up as well as top-down approaches to resilience

Future challenges to resilience include extreme and unpredictable weather, cyber security, terrorism, electricity dependency and potential 'bunching' of events. Approaches have traditionally been top-down and supply side focused. More bottom-up, demand side, cross-sector and diversified approaches are likely to be needed given future uncertainties – and to help respond to, and recover from, shocks more quickly.

Trust, confidence and 'legitimacy' are vital

If the 'primary' drivers of trust (e.g. short and long-term value for money and quality of service) aren't met, consumers and the public are more likely to pay attention to 'aggravator' factors (e.g. profit levels, returns and lack of choice). This may lead to ad-hoc interventions, pushing up the cost of capital, and hence bills, and deterring innovation. Without trust in individual companies, and the sectors as a whole, a more active demand side may also be less likely.

Combination of 'hard' and 'soft' tools needed

Hard tools, such as market approaches, regulation and government interventions, need to be supplemented with soft tools, such as stakeholder engagement and strong governance, if companies are to become more consumer / citizen focused and change is to occur *with* people rather than being *done* to people.

Market-led approaches can and do deliver 'consumer' outcomes

Market-led approaches can be effective in delivering 'consumer' outcomes (e.g. value for money, quality of service and potentially short-term resilience) and can lead to the incremental innovation, diversity and flexibility needed to meet many future challenges. Markets on their own are less effective at meeting 'citizen' outcomes (e.g. around place based well-being, fairness and long-term resilience), so interventions may also be needed. In addition, markets create winners and losers. Government and regulators need to proactively address resulting distributional impacts.

The need for government and regulatory action and innovation

Government and regulatory action may be needed to enable transformative change, using incentives and funding to stimulate innovation and share new approaches (particularly important in networks). Action most needed in those areas where markets on their own cannot deliver the full range of long-term public interest outcomes. Traditionally, much innovation focus has been on technology. Increasingly, innovation needs to focus on consumer facing, commercial and institutional change. Getting the right climate / culture for innovation to thrive and providing clear, predictable, strategic frameworks for decision-making is important.



Consumer and wider stakeholder engagement

Effective engagement can lead to improvements in services, better strategic decisions and help shape future focused governance and business models. Engagement should have a clear purpose and take place sufficiently early to influence decisions. Engagement by providers is crucial but this may need to be supplemented with engagement by regulators / government on systemic and 'big ticket' issues. Companies need to take a holistic and strategic approach – with a golden thread linking intelligence from engagement at different levels and integrating this with board decision-making.

Governance, purposeful leadership, and cultural change

Sustained, senior commitment and leadership are vital, including to deliver cultural change. Energy and water company boards face three key challenges: demonstrating that total returns are 'acceptable'; building better regulator / company relations; and ensuring Non Executive Directors are able to provide assurance on public interest outcomes. There is much that boards (and their investors) can do to ensure that the company risk appetite is *appropriately* aligned with the long-term public interest and that they respect the *spirit* of Section 172 of the Companies Act and the UK Stewardship Code.

Balancing different interests

The needs of different groups of consumers and stakeholders will not always be the same: there will be differences within generations and between generations. In the context of change and uncertainty, a continued public dialogue is needed on how public interest outcomes are best delivered. Sustainability First has begun this dialogue with New-Pin. Trade offs between short and long-term interests need to be addressed in a transparent and accountable way.

A coherent and adaptive approach to delivering public interest outcomes

Simple metrics to evaluate delivery of the public interest are unlikely. Instead, this Report contains eight **Public Interest Agendas** and associated **Levers for Change** for use by energy and water companies, regulators, government and public interest groups. The aim is to help colleagues step back and check *across* key public interest topics that services stay focused on long-term public interest outcomes in a coherent manner. These Agendas and Levers for Change aren't prescriptive and many are 'principles-based', focused on strategic risk and the big picture. They are designed to be adapted and used in an iterative way. Taking a leaf out of the financial services book, adopting a '*comply or explain*' ethos can help maintain focus on what companies, regulators and government are doing to adopt and embed public interest thinking.

Conclusions

> There is value – both cross-sector, within-sector and more broadly- in companies and regulators sharing good practice and lessons learned

Embedding good practice across the business

There is a lot of good work already taking place to ensure energy and water companies deliver long-term public interest outcomes. However, it is often in pockets of a company and does not necessarily get reflected across the business and in strategic plans. Building a more holistic picture of how the public interest is taken into account within companies will help identify any gaps, potentially conflicting signals and future proof the business for change.

The scale of the challenge

The scale of the challenges faced by the energy and water sectors is daunting: the National Infrastructure Commission's congestion, capacity and carbon challenges; the commitments in the Clean Growth Plan; the Industrial Strategy's 'Grand Challenges;' plus delivering on the aspirations in the new 25 Year Environment Plan.

Prepare for disruption

Even well prepared companies are likely to face disruption over the coming years. Companies in the energy sector, and to a lesser extent those in the water sector, have sight of a 'burning platform' for change. Steps can be taken to minimise risk. However, unless handled in a proactive and sensitive way, trust in the company, and potentially in the wider sector, may be eroded.

Common language and agreed framing

Different stakeholder groups still use different terminology. New-Pin has defined basic terms and developed a set of desired long-term public interest outcomes. Given the pace of sector change, and the complex and dependent environments in which energy and water operate, keeping these public interest outcomes continuously at the fore will help to build consensus, frame future decisions and ensure that hearts as well as minds are won over in the change process.

Recognise difference

There are differences between the energy and water sectors, for example, in terms of affordability challenges (greater in energy) and the extent of existing regional / local approaches (higher in water).

Value in sharing

Despite such differences, there is value – both cross-sector, within-sector and more broadly- in companies and regulators sharing good practice and lessons learned / root cause analysis of when things go wrong. This can help improve customer service, avoid repeat mistakes, build sector confidence, and, improve understanding of future change, including public interest responses to this.

The demand side and flexibility

Demand-side flexibility services in electricity already present significant opportunities, including for water companies, who can offer flexibility from onsite generation and water and waste pumping processes. There is also potential to develop commercial and flexibility services for water. To reduce costs, both sectors will need to deliver more demand side efficiency – including at the domestic level. Automation and standards can help.

Social networks and media

Customers expect responsive services, 'information fast', and, for service providers to partner with local authorities and NGOs to deliver these. Social networking sites can get messages out promptly (e.g. on service disruption) and build a richer picture of customer experience, including around resilience. But inaccurate messages are difficult to unpick and social media can quickly become challenging if not proactively managed.

Affordability of essential services

A significant minority of energy and water customers already experience affordability issues. Companies need to get more on the front foot in managing this. Water companies are developing predictive techniques. Signposting support networks, and working in collaboration with them to develop targeted services for customers in vulnerable circumstances that are inclusive by design, is important. Delaying future investments may reduce bills now but could reduce optionality and push up costs for future generations.

Market-led approaches

Market-led approaches can deliver many 'consumer' outcomes. Although they can struggle to deliver long-run 'citizen' outcomes, they can have positive trickle down and indirect effects. However, implementation can be time consuming and difficult to get right and competition will have distributional impacts. It's therefore important to focus markets where the benefits are likely to be greatest, and either way be evidence based and not ideology-led.

Innovation

In both energy and water, innovation needs space and time. It won't always be got right first time around. Government and regulators need to create the right climate to encourage experimentation, where failure is possible and learning is disseminated. Questions over the different approaches to innovation in energy and water (funding, trials etc) are growing.

Public engagement

Energy networks have learnt from water Customer Challenge Groups (e.g. use of independent auditors and looking beyond consumers, to citizens). Both sectors have shared lessons on using engagement to achieve culture change e.g. with senior leadership. The key changes needed are the shift from broadcast to listening mode and to link engagement with purposeful leadership.

Boards and governance

Public engagement activity and findings do not always systematically feed into board decisions – in both sectors. In both sectors, in the absence of this insight, boards can find it difficult to develop a strategic view of future consumer and stakeholder needs and to ensure their board risk-appetite is appropriately aligned with the public interest. Investors need to understand these issues. Hearing directly can help and enable them to develop a more informed idea of the political and regulatory risks they may be running.

Implementing change through our New-Pin Public Interest Agendas and Levers for Change

The New-Pin Public Interest Agendas and Levers for Change set out in this Report have been extensively road-tested with the members of the New-Pin Network over three years. They provide highly practical frameworks for boards and management teams, along with regulators, government representatives and stakeholder groups, to put public interest thinking into practice, embed outcome-focused change and judge and measure progress. **This isn't a 'black box' that is too difficult to open. The New-Pin Agendas and Levers for Change are in your hands.**

> "The New-Pin Agendas and Levers for Change are in your hands"



What is the New Energy and Water Public Interest Network?

Sustainability First's pioneering **New Energy and Water Public Interest Network ('New-Pin')** focuses on the long-term public interest for the water and energy sectors. It has brought consumer, citizen and environment representatives together with regulators, government, energy and water companies. Since 2015, New-Pin has worked through an inclusive, deliberative and meaningful engagement process, where members of the Network have set the agenda and framed the work programme.

New-Pin has helped to develop a common language across the energy and water sectors and, where appropriate, has built consensus on the desirable long-term public interest outcomes. New-Pin has worked to develop a **strong voice** for the long-term public interest in the energy and water sectors by:

- Building understanding between the energy and water sectors and their stakeholders, particularly in terms of how short- and long-term pressures can be balanced in an acceptable and legitimate way;
- Strengthening stakeholder engagement through a 'learning through doing' approach; and
- Putting the public interest at the centre of long-term decision-making – for companies, regulators and government.



During the last three years, the New-Pin Network has involved senior decision makers from:

Regulators	Ofgem, Ofwat, the Water Industry Commission for Scotland, The Environment Agency and the UK Regulators Network
government	BEIS, DEFRA, the Scottish government, the Welsh Assembly government and the National Infrastructure Commission
Public interest groups	Citizens Advice, The Consumer Council for Water, Which, Customer Challenge Group Chairs for water, Green Alliance, The Centre for Sustainable Energy, WWF, Waterwise, The Local government Association and ShareAction
Water companies	Affinity, Anglian, Southern Water, South East Water and United Utilities
Energy companies	Electricity North West, Northern PowerGrid, npower, Scottish and Southern Electricity Networks, Western Power Distribution and EnergyUK
Universities	I-Gov team, University of Exeter, and the Centre for Competition Policy at the University of East Anglia
Other groups	PA Consulting

Outline of Report

As the New-Pin project draws to a close, this final Report summarises the major findings of the project, looking back over its eleven detailed project papers, our ten day-long New-Pin workshops, our extensive research and bi-lateral interviews and other outputs. The in-depth New-Pin papers have been extensively 'road-tested' with the members of the Network. They are listed in Part III of this Report and can be found on the Sustainability First website www.sustainabilityfirst.org.uk.

In particular, this Report aims to highlight **New-Pin's eight Public Interest Agendas** – and a set of practical and accessible **Levers for Change** for use by energy and water companies, regulators, government and public interest groups to stay focused on long-term public interest outcomes, and monitor progress, in the energy and water sectors:

Part I

Part I of the Report covers our definition of the 'long-term public interest'; and a set of suggested Public Interest Agendas designed to tackle the 'hard' public interest topics of affordability, resilience and trust. It contains the following Levers for Change:

- Decision-making framework for considering how future costs could be paid for and recovered in a 'fair' way;
- Approach to securing long-run resilience and risk management – info-graphic;
- A set of principles for securing long-term resilience; and
- A 'how to' build and maintain positive spirals of trust info-graphic.

Part II

Part II of the Report sets out key 'change-agendas' for delivery of long-term public interest outcomes in energy and water. By turn, these include: market-led approaches; innovation, regulation and government intervention; meaningful customer and citizen engagement; better and more purposeful board governance; and, in the radically changing context for the energy and water sectors, their customers and citizens, better-informed approaches to planning for 'future' services'. It contains the following Levers for Change:

- Decision-making framework for considering market-led approaches to deliver public interest outcomes;
- Principles for government and regulators for transformative innovation;
- Decision-making framework for public interest engagement in energy and water;
- Board effectiveness check-list for meeting future consumer and wider stakeholder needs; and
- Check-list for planning services around the needs of future consumers and citizens.

Part III

Part III of the Report concludes with how the New-Pin network has put deliberative engagement into action in energy and water. It lists and very briefly summarises the eleven New-Pin project papers. The Report concludes by introducing Project Compact- Sustainability First's next major project. This final part of the Report contains the following Lever for Change:

- Using deliberative engagement to build understanding and consensus – a mini-guide.



Part I –
Tackling the ‘hard’ public interest topics in energy and water [1]

Definition of the long-term public interest

In 2015, New-Pin developed a 'straw-man' definition of the long-term public interest for the sectors, which has been tested and refined over three years: *The public interest is the aggregate well-being of the general public, both short and long-term. It comprises the combined interests of consumers, citizens, the environment and investors for both today and tomorrow.*

Subsequently, we developed our initial public interest definition into a useful New-Pin public interest dashboard. This sets out our desired long-term public interest outcomes – see **Figure 1**. The outcomes on the left-hand side are typically seen as 'consumer' outcomes- easier to deliver through market-led approaches. The outcomes on the right-hand side are more widely viewed as 'citizen' outcomes – which are likely to need some form of intervention as markets alone may struggle to deliver them. Our desired public interest outcomes have been widely tested over the course of the project. They are explored in this section in turn through the topics of affordability, resilience and trust.

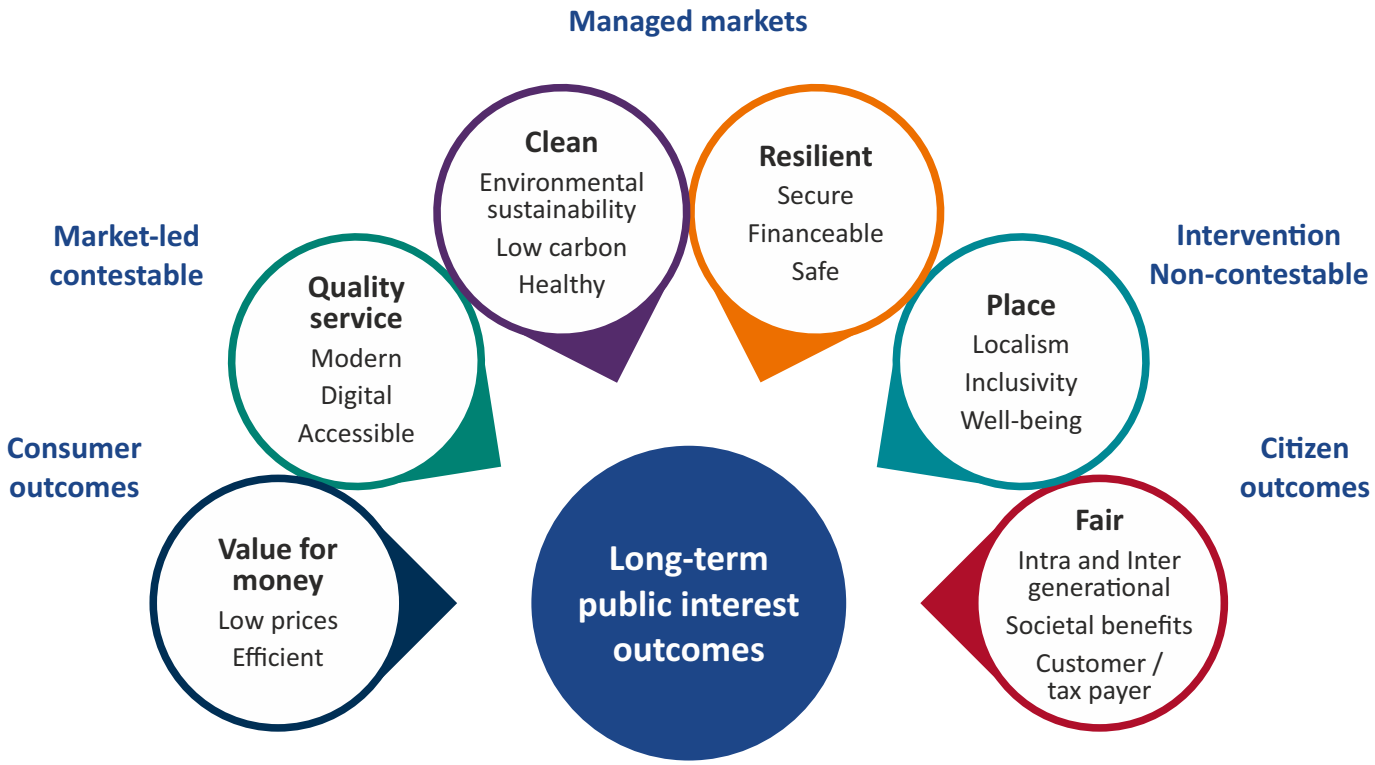


Figure 1: New-Pin 'Dash-board' of desirable long-term public interest outcomes
Source: Sustainability First

Public Interest Agenda 1: Long-run affordability [2]

Affordability *in energy and water, at the individual household level, is the share of income that is spent on energy or water services or, the share of these bill payments in household expenditure. This is sometimes referred to as the 'affordability ratio'[3]. As energy and water are used on an on-going basis, affordability clearly has short and long-term dimensions.*





Future investment costs: The 2016 National Infrastructure Plan (NIP) estimated an infrastructure pipeline of £117bn for energy and £20bn for water and waste by 2020/21[4]. Ofwat expects £44bn to be invested in the water sector between 2015 and 2020 to improve services and resilience and to protect the environment[5]. The costs of at least two thirds of the total future infrastructure investment needed in energy[6] and potentially all future water investment will be met via customer bills to 2020[7].

Why affordability is important: A significant minority of people already struggle to pay their energy and water bills. In 2015, 10% of households in England, 30% in Wales and 39% in Scotland were estimated to be in fuel poverty and 11% of households in England and Wales were at risk of affordability problems in water. Affordability is more pressing in the energy sector, where bills are higher and where disconnection for persistent non-payment still occurs.



Four practical steps for maximising long-term affordability



Manage future costs

Predictable policy and regulatory frameworks (that are able to adapt to change with clear and transparent trigger points for review) and a more coherent approach to 'systemic risk' can help a better forward-view of future costs. Reducing costs through market-led approaches and, where appropriate, through regulation / government interventions, can enable greater efficiency and innovation, while addressing the needs of all consumers. Delayed investment could lead to costs falling on future generations and reduce optionality. All actors need to be open about the consequences of inaction, including how any resulting costs may fall and how future risks and rewards can be shared 'fairly'.

Early clarity on who should pay

Ideally, costs of resilience, renewal and the move to low-carbon should be met by: those who benefit from the services; cause pollution; and those best able to manage associated risks. A clearer framework is needed to decide who should pay for future investments. The New-Pin Lever for Change in this section provides an example. Taxation can facilitate more 'progressive' cost recovery, pool risks and spread costs over time. Until recently, this was considered by many to be politically difficult. Since privatisation, consumers have met most costs of energy and water services and capital investment through their bills on a broadly 'socialised' basis (except in Scotland where householders pay for water through their council tax bills). Paying for future investment via bills has distributional impacts – especially for those who cannot use energy and water flexibly and / or are in vulnerable circumstances. Across essential services, when deciding who should pay for future investment, a joined-up approach to long-term affordability is vital.

Public say in decision-making

The public should have a say in who should pay for significant investments. Companies need to engage their customers on decisions that impact on them and their communities. Regulators and the government also need to engage citizens and wider civil society in debates in a meaningful way, including on what future long-term sector efficiency should look like and how to deal with systemic issues. Future costs and profits must be transparent. The decision making process must be clear and accountable.

Target and support consumers in vulnerable circumstances

Energy and water companies have a continued role in identifying and supporting consumers in vulnerable circumstances, including through partnerships with NGOs, community groups and trusted intermediaries. Companies need to proactively understand problems, develop and deliver targeted information, advice and support, as well as more innovative tailored services that are inclusive by design and where appropriate meet the needs of specific groups.

Levers for Change: New-Pin decision-making framework for considering how future costs could be paid for and recovered in a 'fair' manner

Our New-Pin decision-making framework is for use by government, regulators, energy and water companies and wider stakeholder groups when deciding who ultimately should pay for future costs so that decisions in this area are made in a fair, transparent and consistent manner.

Type of costs	Who pays?	Recovery mechanism
Maintenance costs	Current consumers. Risk /reward sharing mechanisms can help balance who pays between companies / investors and consumers	Current consumer bills (and future consumer bills through depreciation)
Capital enhancement costs	Generality and specific groups of current consumers and developers	Current consumer bills and specific bill payer / developer charges – eg connection charges (and future consumer bills through depreciation)
Natural capital repair costs	Specific current consumers, citizens, asset owners or developers - if known. If not, possibly taxpayers	Polluter based fines, levies and compensation arrangements (polluter pays principle)
Natural capital maintenance costs	Mix of current asset owners, consumers, developers and citizens	Mix of current consumer bills (internalised environmental costs), innovative funding (eg Payments for Ecosystem Services) and tax - in exceptional circumstances and if basis cost allocation unclear
Strategic investment costs	If required by legislation, either current generations as consumers or citizens and/or future generations	Either through levies on bills or, for projects of national importance, tax or through government transparently underwriting key risks
Institutional / transition costs	If to support legislative change, current generations as consumers or citizens and/or future generations	Either through levies on bills, tax or government borrowing

Known → Less clear

Current users → Current and future citizens

Bill payers → Tax-payers

Source: Sustainability First



Public Interest Agenda 2: Long-run resilience [8]

Resilience *in energy and water is the ability to: anticipate future trends in the resources and other factors that impact on services and systems; and withstand problems and maintain services and systems for people and protect the natural environment now and in the future. It would not be possible to remove all risks to services and systems, and it would be extortionately expensive to try, so the focus must be on managing risks.*

Existing approaches to resilience: traditional approaches tend to be top-down and supply side focused, such as capacity and resource planning, networks and storage. This is changing with increased emphasis on demand side approaches, which can be more flexible, commercial or customer-led (e.g. smart meters, tariffs, behaviour change and efficiency measures). Technologies and data analytics can help anticipate trends, identify problems and enable demand side response.

Who is responsible: Responsibilities for resilience in energy and water are different.

For energy, the Secretary of State and Ofgem are required to carry out their functions having regard to the need to secure that all reasonable demands are met for electricity and gas (conveyed through pipes)[9]. Licensed actors have responsibilities to deliver and to coordinate on security of supply. National Grid, as System Operator, is responsible for keeping supply and demand in balance at all times in the system. The shift from a top-down national transmission-connected electricity system, to a more bottom-up distributed system with bi-directional flows, poses new challenges. National Grid has been working to promote demand side flexibility through its Power Responsive programme[10].

For water, the integrated nature of the water sector means that much of the responsibility for resilience in water supply primarily sits with individual companies. Standards for drinking water and environmental quality are set nationally, but not defined in detail, instead determined on a company and catchment basis. DEFRA sets the parameters for drought planning. The Environmental Audit Committee suggest that government's approach to flooding is *reactive rather than proactive*[11]. Companies prepare Water Resource Management Plans (WRMPs) setting out how they will manage their resources over minimum 25-year periods. There is no equivalent to a system operator to balance water supply and demand, and trading between companies is limited (water is a 'heavy' good that is expensive to transport). The wastewater system is extremely complex with ownership split between multiple actors making assigning responsibility for resilience challenging.

Future challenges: climate change can lead to shocks to the system from extreme and unpredictable weather, such as severe droughts and intense rainfall. 'Bunching' of different events can lead to a cumulative impact greater than the sum of its parts. In water, a drought can all too easily be eclipsed in the public mind by the impact of a flash flood. Advancements in IT and digital communications increase the importance of cyber security and risk of attacks. Companies must plan extensively to ensure provision of water and energy during an emergency or security event. Local resilience forums can ensure 'community' focal points (such as schools) have back-up power and water resources and make best use of local knowledge.

The twenty first century also faces new resilience challenges. These include: increasing dependency on electricity as an 'enabler' for other services (e.g. communications); the complex dependencies within the energy and water sectors and between them; the emergence of new actors that challenge existing systems and processes (e.g. loss of command and control over national or local energy grids should more people go 'off grid', reducing the number of people among whom the fixed costs of retaining the grid can be shared; and 'new' types of extreme risk, e.g. terrorist events, solar storms or Artificial Intelligence). Customer and citizen expectations are also changing, impacting public tolerance for service-lapses, poor reliability and the speed at which a response may be necessary to avoid public disturbance.

Five practical steps for delivering resilience



Bottom up (as well as top down) approach

Embrace a more decentralised landscape that can provide diversity and be tailored to meet local resource and community needs. Draw on local community knowledge and encourage active demand side participation. Understand what level of risk is acceptable and the impact of unwinding current cross subsidies.

Cross-sector approach

Information and data sharing, stakeholder engagement, and education can help identify cross-sector opportunities to improve resilience. The National Infrastructure Commission is now starting to develop a more coherent/holistic approach. All actors need to share lessons from shocks to the system in their areas.

Role of markets and innovation

Better understand when market-led approaches may encourage, or reduce, resilience. Provide frameworks for markets to stimulate innovation to improve resilience and develop services to enable people to recover more quickly from shocks.

Rethinking standards

Government and regulators need to work with stakeholders to design standards frameworks that are fit for the twenty first century. In energy, this may mean moving from a deterministic, universal approach to a more risk-based, bespoke approach. The impact of Brexit on standards that may directly and indirectly affect resilience also needs to be addressed, particularly when these need international agreement.

Resilience metrics

Develop new outcomes-based metrics, including cross-sector, for long run resilience, to track progress over time and enable comparisons between areas.

Levers for Change: New-Pin approach to securing long-run resilience and risk management in energy and water – info-graphic

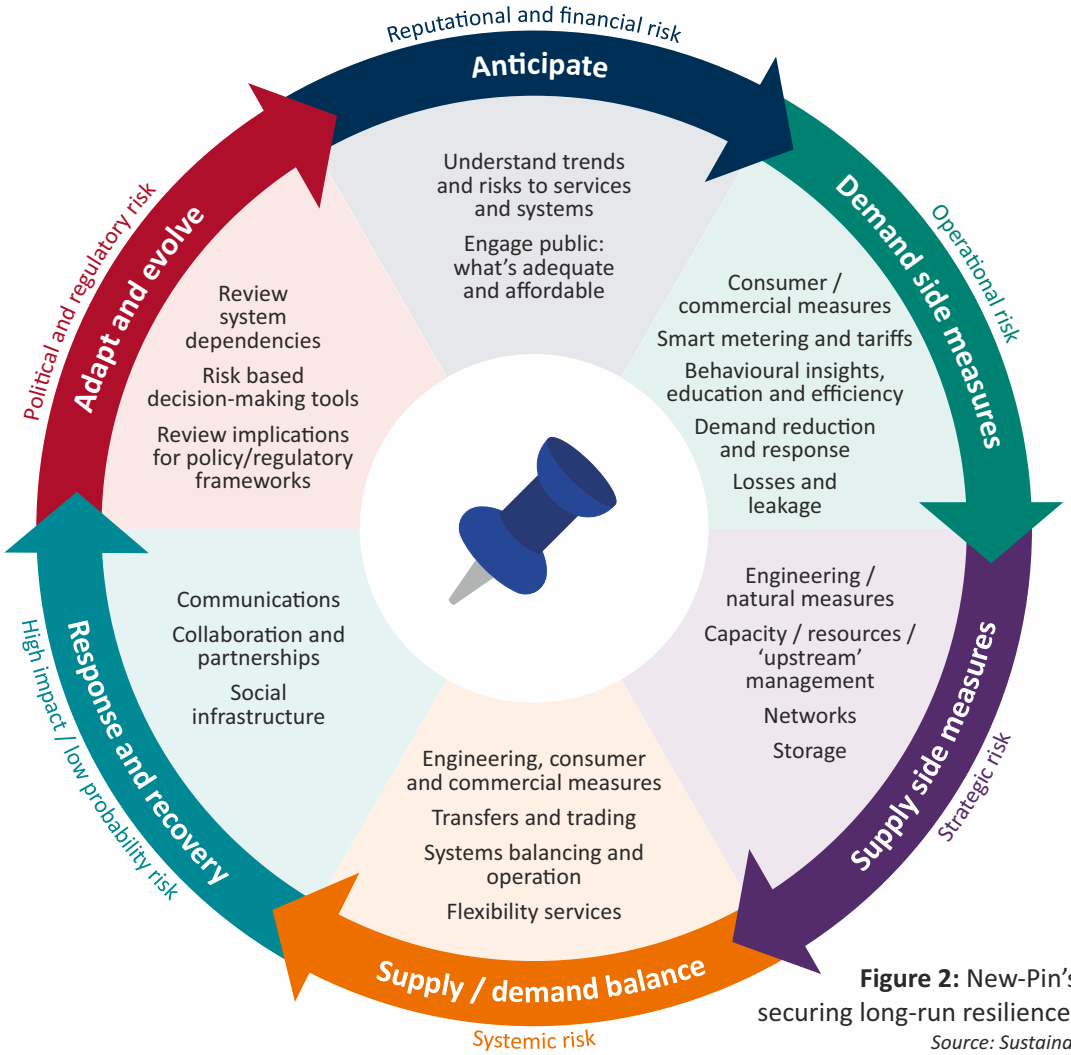


Figure 2: New-Pin's 'Approach to securing long-run resilience and risk management'
Source: Sustainability First

Levers for Change: New-Pin principles for securing long-term resilience

- **Risk based:** take into account the full range of risks (including systemic risks).
- **Agile:** be flexible and adaptive, keep options open and prioritise those delivering multiple benefits.
- **Engaged stakeholders:** involve citizens and customers in cross-sector issues.
- **Understand affordability:** account for fairness, including between generations.
- **Cross sector view:** joined up technically, commercially, across systems and from citizen / consumer point of view.
- **Partnerships and collaboration:** build connections to promote diversity, develop capacity for response and recovery and to spread good practice.
- **Transparent:** share assumptions, clarify responsibilities and explain reasons for decisions to build confidence in decision-making.

Public Interest Agenda 3: Trust and confidence[12]

Trust *is belief in the ability (competence), benevolence (motives and interests) and integrity (honesty) of a person or organization*[13]. Trust has to be earned, built and maintained over time between customers / the public, companies (including between company management, their employees and supply chains), regulators, government and investors (see **Figure 3**). Getting the balance right between these relationships is critical. In the past, many companies gave too much attention to managing their relationships with government, regulators and investors – and too little focus was given to relationships with consumers and their wider stakeholders. The size of the outer circles in Figure 3 gives an indication of their importance in terms of trust.

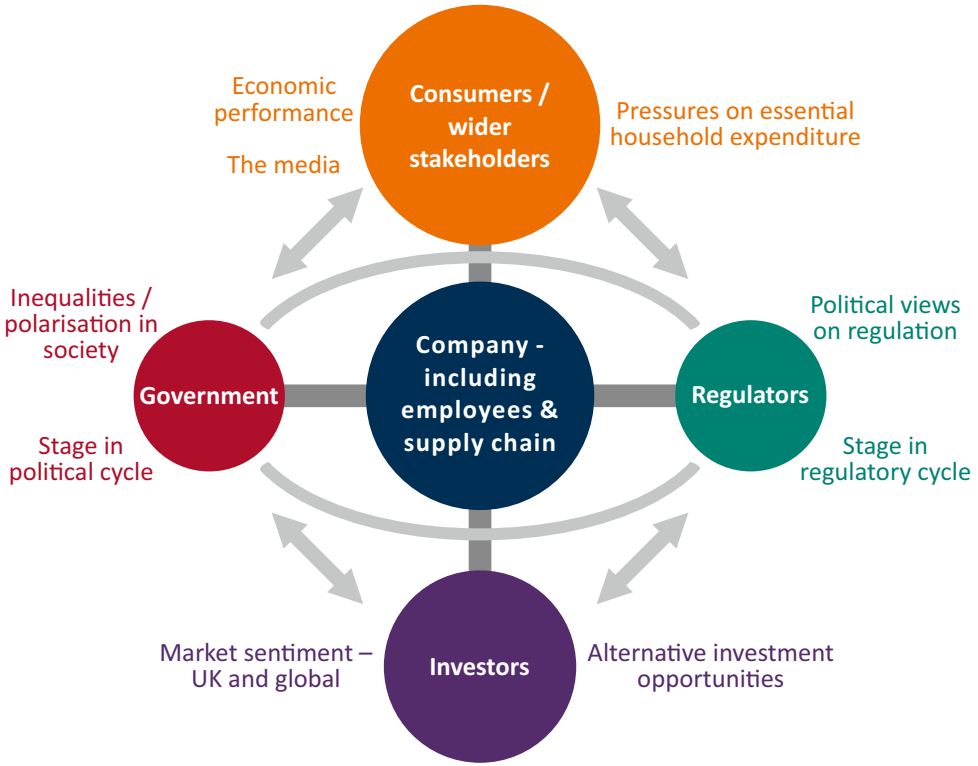


Figure 3: New-Pin diagram of key relationships a company needs to manage to build trust in the energy and water sectors

Source: Sustainability First

Why trust is important: Trust in existing systems and processes is imploding: in the UK, barely 1 in 10 people believe 'the system' is working for them (Edelman trust Barometer). Without trust, in individual companies and in the wider sectors, political and regulatory risk increases. This can push up the cost of capital and deter long-term investors and innovation. It can also make it more challenging to encourage an active demand side and consumer behaviour change for public interest goals.

Trust in energy and water companies: In the electricity supply market, low or declining standards of service and rising prices in 2013 caused levels of trust in energy retailers to hit new lows. This was heightened by a lack of clear messaging on the make up of bills and reasons for price changes. This led in 2017 to a political decision to re-introduce price caps. Although some water companies had problems with a lack of trust in the mid-1990s (leakage and drought), more recently both the energy networks and water companies have largely been able

to avoid the reputational hits suffered by energy retailers. When dissatisfaction does occur in water, it has primarily been driven by problems with quality and sewerage[14]. However, political pressures for change, driven in part by concerns around excessive returns and executive pay and short-termism in business, persist in eroding trust in the sectors and is now prompting calls from some for nationalisation.

Building trust: Trust cannot easily be reset. It is built on constantly maintaining a complex web of relationships, and in energy and water is shaped by: unplanned service disruptions; ownership; long-run stewardship and returns; competition, choice and price in retail markets; and the media. The manner and timeliness of response to issues and complaints is also critical. A service problem, if handled sensitively, can actually build trust.

Drivers of trust: The 'primary' drivers of trust for consumers and the public are value for money and quality of service – along with continuous, predictable, stable service delivery and prices – and fair and 'just' treatment. Investors seek appropriate returns and low regulatory and political risk. For companies, employee satisfaction can help drive consumer satisfaction. To maintain confidence, any policy and regulatory change should be clearly signalled, without retrospective impact.

If the 'primary' drivers of trust aren't right, consumers and the public are more likely to pay attention to 'aggravator' factors (e.g. profit levels, lack of choice). This can lead to a downward spiral of trust: increasing regulatory and political risk; and reducing investor confidence.

Four practical steps for building and maintaining trust

Leadership, culture and values

All sides need to be realistic about what can be achieved and move beyond blame to discuss what behaviours different parties can expect from each other. Consistency between deeds and actions is key.

Long-term outcomes

Need to develop a shared view of long-term outcomes, be honest about uncertainty, and manage expectations in the short-term.



Stakeholder engagement

Engagement must be focused and timely. With clarity on how feedback will be taken into account- '*you said: we did*' approach is crucial. Stakeholders need to be involved in discussions about what is fair and acceptable. Understanding their risk appetite is important to build long-term relationships.

Clear and proactive communications

To enable an honest conversation with consumers, develop a sense of organisational purpose and strong collective narrative on what the sectors do, and changes needed. Communicate this plus a forward view on future investments, social and environmental costs and the impact on consumer utility bills for today and tomorrow.

Levers for Change: How to build and maintain positive spirals of trust – info-graphic

New-Pin's positive spiral of trust info-graphic guides decision-makers through the steps that they can take together to build and maintain trust.

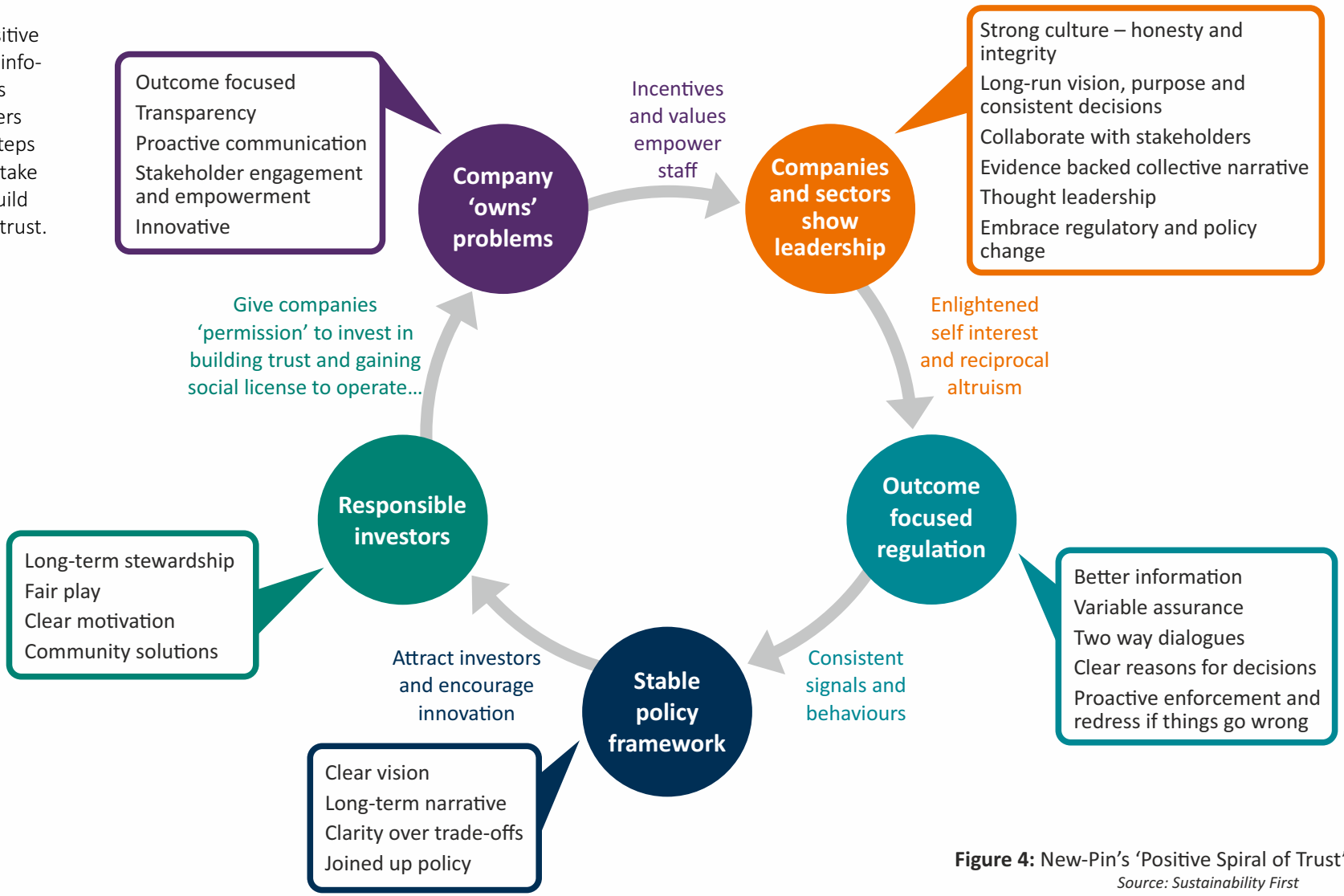


Figure 4: New-Pin's 'Positive Spiral of Trust' info-graphic
Source: Sustainability First

Part II – Delivering public interest outcomes for energy and water





Public Interest Agenda 4: Market-led approaches to public interest outcomes[15]

Market based approaches *There are a range of tools available for decision makers to deliver the desired long-term public interest outcomes via market-led approaches (see **Figure 5**).* Competition *in the market* is only one way of introducing contestable approaches – although much of the debate about market approaches in the sectors has focused on this and upon retail switching metrics.

Competition in the market	Competition for the market in monopolies	Incentives for co-operation and collaboration	Interventions to enable markets
New entrants	Competitive tendering	Local / community approaches	Market frameworks and rules
Individual consumers exercise direct choice	Direct contract procurement	Bilateral contracts	Correcting market failure CMA
Individual consumers exercise choice through Third Party Intermediaries or services	Auctions & competitive appointments	Supply chain relationships	Regulation e.g. Comparative competition
	Competition for solutions	Partnerships & joint ventures	Government / policy measures
		Information sharing 'market place'	

Figure 5: Some of the tools for delivering long-term public interest outcomes via market approaches
Source: Sustainability First

Competition and regulation in energy and water: Energy generation; parts of wholesale water; and energy and water networks are *open to competition for the market*. Competition in the market is limited to energy supply and non-household water retail markets. Given the strong monopolistic characteristics in both sectors, regulation continues to play a key role in delivering public interest outcomes: *directly* in terms of price controls for tackling the significant asset costs in electricity and gas (transmission, transportation, distribution networks and system operation) and water and sewerage systems; and *indirectly* in terms of creating the market rules, frameworks, principles and enforcement mechanisms for competition in and for the market.

Will market-led approaches deliver long-term public interest outcomes? Market-led approaches tend to be more effective at delivering what are normally considered to be 'consumer' outcomes (e.g. value for money, short-term efficiency and quality of service) rather than 'citizen' outcomes (e.g. 'place', fairness and long-term resilience). In neither sector are market-led approaches alone seen as able to deliver the full range of public interest outcomes. Approaches to delivering public interest outcomes are not, therefore, a question of either markets or interventions, but a case of both.

Where should market-led approaches be focused? It is important to focus market-led activity where the net benefits are likely to be greatest. This is likely to be where the costs are highest (wholesale and upstream costs in water and network costs in water and energy) and where the activity in question is likely to meet New-Pin's 'four tests' as outlined in **Figure 6**.

Market-led approaches can inject dynamism – innovation, creative packaging of activities and products, and a step-change in service delivery. This can lead to beneficial 'trickle down' effects into other areas. But markets are in many ways a journey of discovery and the process of establishing them can lead to unintended consequences, challenge legacy businesses, unwind cross subsidies and lead to stranded assets. Market-led approaches can also involve multiple 'hand-offs', a distraction from other activities, and implementation can be difficult.

Markets create winners and losers. Given the essential nature of energy and water services, these distributional impacts need to be recognised from the outset. Government and regulators need to introduce market-led approaches with their 'eyes open' as to the potential opportunities and risks and not be led by ideological conviction either way.

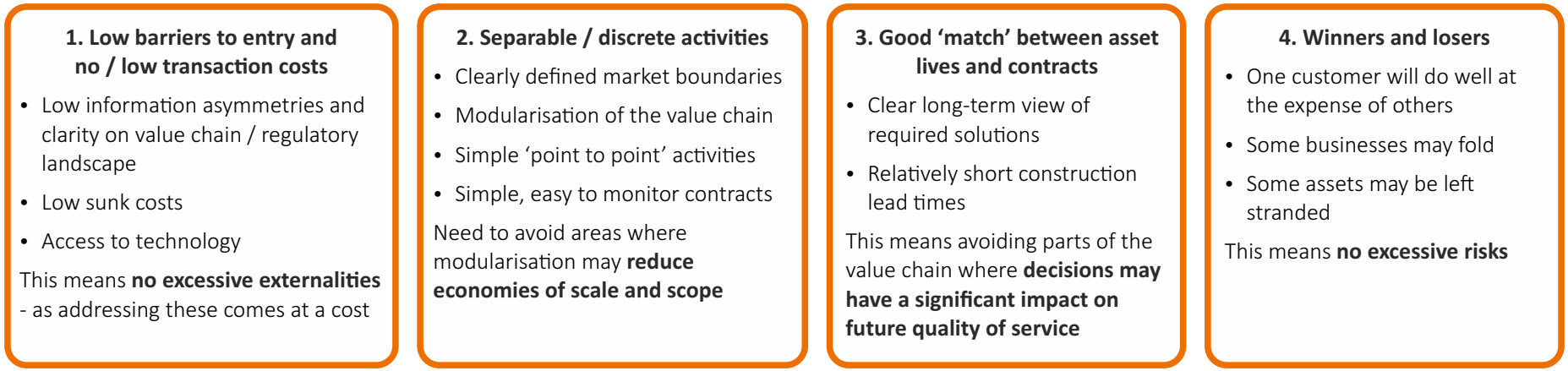


Figure 6: New-Pin's 'four tests' for market-led approaches to deliver long-term public interest outcomes in energy and water

Source: Sustainability First

Levers for Change: New-Pin decision-making framework for considering market-led approaches in the energy and water sectors

Case for change

Is there consensus that there is a problem and what the solution is? Would the **threat** of change be sufficient?

Market framework

Is there a policy framework in place that sets out the long-term public interest goals?

Create the market

Markets in energy and water need to be created. Focus on areas: where net benefits are greatest; that meet New-Pin public interest tests; and choose right mix of tools to achieve these

Understand winners and losers and prepare what you will do with them

Will you put protections in place in advance or only once problems emerge?

Accept markets unlikely to deliver everything

- especially public interest outcomes around place, fairness and long-term resilience. What will you do here?

Prepare for unintended consequences

Will you let market situation run to an outcome? Gather more evidence? Wait for others to step in? Intervene?

Agree market rules

What does success look like?

What are the red-lines? What is the risk tolerance and risk appetite on price, resilience etc? How will you measure market health?

Monitor markets and enforce rules

Use leading indicators to identify emerging problems and proactively enforce breaches of rules

Explain the reasons for decisions and actions

Communication is important, even if you choose not to act

Learn from your experiences

Learn and share lessons across and between sectors. Review your approach as a result

Source: Sustainability First

Public Interest Agenda 5: Innovation, regulation and government interventions for public interest outcomes [16]

Innovation *involves experimentation and developing and realising new and novel ideas, beyond 'business as usual' operations. Innovation can be incremental (doing things better), disruptive / transformative (doing things differently) and enabling (facilitating change elsewhere). It can be technical, consumer facing, commercial (process and business model), institutional and/or financial.* Innovation activity and funding in the sectors has traditionally focused on technical experimentation. With the need for more flexibility to cope with uncertainty, greater focus is needed on consumer, commercial and institutional innovation.



Innovation in energy and water In competitive markets, companies innovate to maintain or grow their market share. These innovations often relate to value for money and quality of service. Markets struggle to innovate in areas that are difficult to put a price on, and that may have social and environmental externalities, including innovations to deliver outcomes relating to place, fairness and the long-term elements of resilience. Sustainability First's *Project Inspire* has identified that innovation for those on low incomes and / or in vulnerable circumstances has also been neglected in energy[17]. For price-controlled monopoly activities, the price reviews are designed to give incentives to innovate.

Innovation challenges: Disruptive innovation and new business models often come from new entrants, but they can face onerous or complex market rules. Price controls can act as a disincentive for monopoly companies to innovate, if they know that the regulator will recoup any efficiency gains at the next price control.

The need for regulatory / government action: There are various reasons why innovation in energy and water sectors may require regulator or government intervention, including: structural rigidity; silo approaches; policy uncertainty; information asymmetry; scale; long pay backs; technological lock-in; and a risk-averse, compliance-focused culture. Companies can more easily lead on short-term (~5 year) innovation, than medium-term (~10 years) or long-term (~15 years +) innovation, which straddles price control periods and electoral cycles. **Figure 7** raises questions about where regulatory / government action may be most appropriately focused to enable innovation in the water and energy sectors.

Regulator and government supported innovation: In energy, digitisation and the low carbon transition have created a burning platform for change. Ofgem has set up *Innovation Link* and *Sandbox* to enable businesses to discuss and trial innovations without the usual burden of regulatory requirements[18]. Between 2010 and 2015 a total of £250m was spent on innovation through the Low Carbon Network Fund (LCNF) / Electricity and Gas Network Innovation Competition (ENIC and GNIC). Funding is predicated on companies sharing their learning, helping the industry as a *whole to* change their culture and practice. There is also significant funding available from government through the Clean Growth Plan and Industrial Strategy Challenge Fund[19]. A cross-departmental Energy Innovation Board has also recently been established.

In water, the need for transformative change is not as clear (except in resource constrained areas). Although the Strategic Policy Statement for Ofwat gives the regulator a priority to '*promote markets to drive innovation*'[20] there are no equivalent funds of the magnitude seen in the energy sector for stimulating and sharing, innovative approaches. This latter point is important in networks and where the same activities are repeated elsewhere – as it can help avoid repeat mistakes and spread learning about what works and what doesn't more quickly.

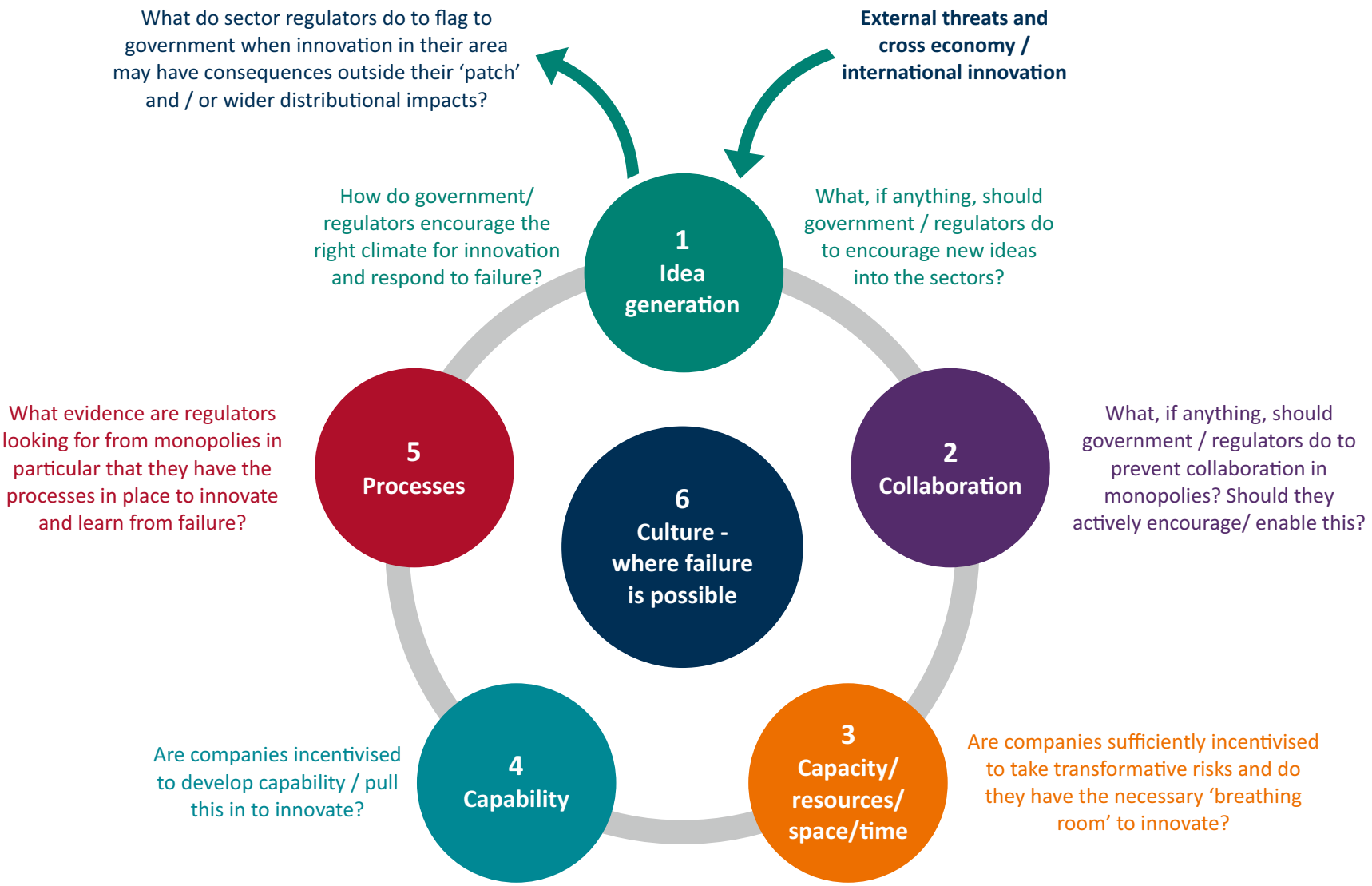


Figure 7: Iterative innovation: what is an appropriate role for government and regulators in energy and water?
Source: Sustainability First

Practical steps for government and regulators for innovation in energy and water



Frame the challenges, identify desired outcomes and signal high level priorities

Government needs to send signals that meet Sustainability First's **'5 C's**'. They need to be: *Culturally* supportive (give permission, time and space for companies to think creatively and to test ideas, accepting these may not always work); *Clear* (give investors a firmer footing for their plans); *Consistent* (more predictable, setting our how they will adapt to change); *Coordinated* (across government and with regulators); and *Collaborative* (clear when co-operation is and isn't permissible).

Develop enabling frameworks to facilitate change

Simplify, clarify and better communicate basic rules for existing players and new entrants to innovate. Regulators and policy makers are addressing many barriers to innovation. Focus is needed on: access to central hubs; consumer and 'open' data; and evolving consumer protection.

Put appropriate incentives and funding mechanisms in place

These need to be aligned with and deliver the full range of public interest outcomes. Funding should support consumer facing, commercial and institutional innovation – not just technological change – and be high-level and not prescriptive. Separating out riskier innovations from the price control cycle can help: ex-post funding challenges / prizes (i.e. after the fact) for innovation in more competitive areas; or ex-ante innovation funds / incentives (i.e. based on forecasted rather than actual results) for more monopolistic areas.

***Direct* intervention if necessary**

Government and regulators may need to intervene in certain areas to change or evolve licences that are unduly rigid or fail to enable sufficient 'adaptive' change. Or, if evidence shows 'the public' are unwilling to accept risks of change.

Levers for Change: New-Pin principles for government / regulators when considering transformative innovation

1. Innovation activity needs to be focused on desired long-term public interest outcomes.
2. Incentives for innovation need to align with these outcomes.
3. Interventions for innovation activity need to incentivise collaboration across and between systems.
4. The outcomes sought should be framed in terms of tomorrow's problems, not todays.
5. Access to innovation support, incentives and funding needs to be transparent, simple, clear and co-ordinated.
6. The timing, form and durability of any innovation interventions need to be clear. Interventions should be time limited.
7. To enable evaluation, innovation activity needs to be measurable against a counterfactual, assessing positive and negative quantitative and qualitative impacts.
8. The potential distributional impacts of any innovation interventions need to be recognised and taken into account by Government and regulators.
9. Clear red lines are needed of where interventions for innovation do not serve the wider long-term public interest / are outside the public 'risk-appetite' for change.
10. Government and regulators need to be able to articulate what success and failure look like in terms of innovation in the sectors / systems.

Public Interest Agenda 6: Purposeful engagement and understanding the public interest[21][22]



Engagement *of consumers, citizens and stakeholders covers a wide range of activities, including: direct engagement of 'real' people in their individual capacities; consumer research (including through individual behavioural 'experiments'); minimal 'listening exercises'; engagement of representatives and experts; and full collaboration between different parties.*

Purpose of engagement: decision-makers (at every level) need to set clear objectives for any engagement exercise. New-Pin proposes three over-arching objectives for consumer, citizen and stakeholder engagement in long-term issues in the energy and water sectors: consumer outcomes (efficient value for money services); cultural (to alter behaviour and culture in sectors and with consumers); and legitimacy (shaping service levels or packages and helping to ensure decisions are seen as legitimate / acceptable). These are summarised in **Figure 8**.

A golden thread is needed to link engagement on the public interest across the business over time

Type of engagement	Episodic customer engagement	Embedded consumer / citizen engagement	Deliberative and collaborative
Focus in company	Operational level	Strategic level	Governance and corporate structures
Purpose of engagement	To improve current customer outcomes / efficiency	To get cultural / behaviour change in company and with consumers	To determine / shape future outcomes and increase legitimacy / acceptability

Figure 8: Three over-arching objectives for consumer, citizen and stakeholder engagement in long-term issues in the energy and water sectors

Source: Sustainability First

Current landscape for engagement: There have been differences in the past between engagement practices in energy and water. Examples of engagement include: Ofgem's Consumer Challenge Group (CCG) for the first round of 'RIIO' price controls; Water Company Consumer Challenge Groups (CCGs); and the Customer Forum in Scotland. Engagement in both sectors is evolving and lessons are actively being learnt. The disaggregated value chain makes it difficult to get a single or system over-view of public needs and preferences in energy. For water, the environmental context means involving a wide range of stakeholders and linking engagement for price controls to engagement for Water Resource Management Plans. Engagement on short- and long-term issues needs to be coordinated to build a fuller and richer picture of the public interest.

Building capacity for a public interest voice: New-Pin has sought to develop a public interest voice for energy and water that is coordinated and heard in debates. The Levers for Change in this Report should help build the capacity of organisations to engage more effectively with consumers, and ensure their views are better represented, including strategically and in governance terms. Sustainability First commissioned a research paper by BritainThinks and London Economics on approaches to direct engagement to further build capacity in this area. However, without adequate resource to have a sustained interaction, the effectiveness of engagement can be undermined.

Practical steps for meaningful engagement



Clear purpose

Clarity about the objectives/purpose of engagement, and measuring its impact, are important if expectations are to be managed.

Tailored and inclusive

There is no single best approach to engagement. It should be tailored, inclusive and transparent. Combining direct research and views from public interest advocates important to build a holistic view of future needs. Need to think creatively how to give a 'voice' to future generations. This may require specific funding as there is no direct short-term self-interest to motivate people to engage on this.

Sectoral view

Company engagement with current customers and communities may need to be supplemented by policy-maker and regulator led engagement on wider, systemic and long-term issues for the sectors, and on key decisions such as the cost of capital (even if only to explain why approaches may differ between sectors).

Carefully framed, recognising current / future differences

Thought is needed on how questions are 'framed' and conflicting views are resolved, taking account of intra-generational issues (e.g. between different geographies / places and between different sizes of consumers) and inter-generational issues (e.g. between current and future consumers).

Levers for Change: Decision making framework for public interest engagement in energy and water

New-Pin has created the following Decision Making Framework for companies, regulators, public interest groups and policy makers to use when designing engagement approaches for long-run issues in the energy and water sectors. This builds on the UK Regulators Network's (UKRN's) Principles for Effective Engagement and Ofwat work in this area.



Objectives

1. Why do you want to engage? What is the objective of the engagement exercise?
   - What's the problem or weakness that you hope engagement can help you address?
   - Why do you think that the people that you intend to engage with will be able to help you?
   - What other ways may there be to address this issue (Eg could in-put be gained from other sources such as complaints data, talking to staff elsewhere within the organisation)?
2. Who owns the decision and the engagement process?
   - Who will be responsible for setting the agenda for the engagement activity? Will this be regulators, companies or those engaged?
   - Is the issue that you want to engage on within your control / sphere of influence?
3. What are the policy, regulatory and company 'red lines' as to what you should / shouldn't engage in and are these clear?
   - Why has the engagement exercise been 'framed'as it has?
   - Where have the social and environmental policy lines been drawn?
   - Should you assume that what is currently 'reserved' for policy makers, regulators and companies is fixed? Is there any flexibility?

Inclusive

4. How will you ensure that the people that you want to engage are sufficiently representative?
   - What balance do you want to strike between engaging *individual* consumers / stakeholders directly and engaging consumer / citizen / stakeholder *representatives* or experts?
   - How will you bridge the gap between consumer and citizen in-put and, where appropriate, local, regional and national views?
5. What barriers to engagement do those you seek to involve face and what measures have you put in place to help overcome these?
   - How will you 'nurture' and build capacity amongst your stakeholders over time?
   - How will you enage with those that may not have 'a voice' – eg people in vulnerable circumstances, young people / future generations, the wider environment?
   - What steps have you taken to address the technical language and processes that can act as a barrier to engagement for many stakeholders?

Tailored

6. When is the right time to engage?
   - How will you ensure early engagement for strategic, long-term and upstream issues so that people can understand and shape the future decision making process?
   - How will you co-ordinate your engagement activity to prioritise the big issues, avoid consultation fatigue and link in with any cross-sector decisions that may need to be made (possibly at different geographical levels)?
7. What are the most appropriate / proportionate engagement approaches for the circumstances?
   - How have your engagement approaches taken into account behavioural insights?
   - How will the out-puts from engagement be used by decision makers?
   - How will different stakholder in-puts be weighted / triangulated? *Who* will be responsible for balancing these?
   - How will you deal with trade-offs between short and long-term interests, resilience and affordability, the needs of one community over another?
   - On what basis will you make your judgements? What ethical values / principles (eg fairness) will you refer to? Will you engage others on these?
   - Who is best placed to carry out the engagement? Policy makers / regulators / companies / third parties? Depending on who asks 'the question' there may be different results.

Transparent

8. What are the roles, responsibilities and Reporting arrangements for the engagement process?
   - How are these set out in governance arrangements and what checks and balances are in place to ensure independence? How will you arrange recruitment, payment, appraisals, terms of office etc to avoid 'consumer capture'?
   - How is the board demonstrating support for the engagement process?
   - What has been done to ensure that those that will be engaged understand what impact their involvement may have and what could change as a result?
9. How are you ensuring that those you seek to engage have adequate and timely access to information and is it clear how this is best provided to them and they are resourced to anslyse it?
   - Is it clear what the 'vision' for the organisation is, the behaviours that are being encouraged and how engagement can feed into these?
   - Should comparative/contextual information (eg on long-term issues and challenges faced by the sectors) best be provided by policy makers, regulators, companies or third parties?
   - What is an 'adequate' amount of information?
   - How will you ensure that information is robust, objective, sufficiently comprehensive (including on long-term issues) and impartial so that it is trusted by those engaged?
   - Do those engaged have full access to the necessary staff and resources (eg admin support or a discretionary research budget) to be able to make an informed contribution?
10. What feedback arrangements are place between those engaged and those doing the engaging, and between those engaged and wider stakeholders, to build understanding and legitimacy?
    - Is it clear to those engaged what the 'golden thread' linking their in-put into key decisions is?
    - When you have not taken account of the views of stakeholders, have you made the reasons for your decisions clear?
    - How will you maintain feedback over a longer period (given that the energy and water sectors have long-term planning horizons)?

Developing

11. Is there agreement on how the impact of engagement be assessed and who will do this?
    - What outcomes will the engagement deliver?
    - What mechanisms are in place to assess the pros and cons of the exercise in a timely manner? Is there a balanced scorecard to measure the total impact of the activity?
    - How will the engagement be benchmarked against similar activity?
12. What arrangements are in place to embed and refresh engagement as appropriate following this exercise?
    - What will be done to ensure that there is sufficient turn-over of those engaged to ensure continued challenge and prevent capture?
    - How will engagement be 'future proofed'?
13. What have those undertaking the engagement done to take any wider findings from this exercise into the organisation's policies and procedures?
    - What knowledge management systems are in place to improve ongoing business intelligence and develop a more holistic picture of the end-to-end customer experience and views?
    - What wider lessons from the engagement process are being fed back into the future decision-making processes?

Source: Sustainability First





Public Interest Agenda 7: Board governance & public interest outcomes [23] [24] [25] [26]

Governance *The future success for a water or energy company – for investors, management teams and employees alike - depends on the board's firm grasp of consumer and wider stakeholder requirements today – and a clear future view of how those needs are changing given more flexible, responsive and decentralised models of service delivery.* This bears directly on compliance with the letter, and spirit, of Section 172 of the Companies Act (in which companies must have regard to the promotion of environmental, social and governance objectives), how directors should best promote the success of the company overall and on the UK Stewardship Code.

Governance in energy and water
Companies in these sectors deliver essential services and are stewards of critical infrastructure. A focus at board level on meeting future customer and wider stakeholder needs, including those of the environment, is therefore vital. Many boards are already active in this area and there is some good practice.

Changing expectations Current approaches to board effectiveness, however, are being disrupted by wider societal change, diminishing trust in business, and the particular complexities this poses for regulated sectors. Some companies have a way to go before they can provide sufficient evidence that they are 'doing the right thing' in terms of long-term public interest outcomes. Regulation is also evolving; with the Price Review 2019 in water, the introduction of Principles Based Regulation in energy retail and the RIIO2 price controls for energy networks.

Board approaches to governance need to evolve to ensure consumer interests sit at the heart of how the company is run. Boards will clearly behave in their own fiduciary interests. However, those that fail to adapt will not be able to maximise the opportunities of the new world and even risk failure.
A more proactive stance by boards that seeks to shape and influence technological and structural change in the sectors is therefore essential.

Energy and water company boards face three major challenges:



Challenge 1 - How to demonstrate that total returns are 'acceptable'.

The monopoly characteristics of the sectors and shortcomings with retail competition make this the key challenge for board effectiveness in energy and water. Acceptable returns ensure a fair balance of interests across different stakeholders; in business plan submissions to regulators for monopolies and when considering pricing strategies for a particular geography / country for retailers.

Challenge 2 - What boards can do to build better regulator/company relationships.

The complex, and sometimes disputed, web of responsibilities in the sectors along with opaque group structures can lead to an undue compliance mind-set and company inertia. Relationships between companies and regulators need to mature. Companies that can demonstrate they are ready for more autonomy should be given more space to lead. Energy and water regulators should work with the Financial Reporting Council and investor groups as they implement the BEIS corporate governance reform framework for company / regulator dialogue to focus on strategy and the 'big' picture.



Challenge 3 - The important role of the Non Executive Director.

Around the energy and water board table, NEDs have a key role in: providing assurance on the delivery of long-term customer outcomes; fulfilling fiduciary duties; and dealing with political and regulatory risks. Chairs and NEDs need to be able to show that they have responded in a fair, transparent and accountable way to future customer and wider stakeholder requirements.



Levers for Change: New-Pin Board effectiveness checklist for meeting future customer and wider stakeholder needs

Working with executives, board members, regulators, consumer and civil society groups, Sustainability First has developed a short check-list designed specifically for energy and water company boards to assess how effective they are in meeting 'future customer' and wider stakeholder needs.

- ☐ 1 Within your corporate structure, is it clear where responsibility sits for current and future UK customer needs across each part of the ownership chain?
- ☐ 2 How does your 'TopCo' (or equivalent group / parent board) demonstrate due consideration to ethical / fair behaviour and conduct and how to deal with different interests – current / future consumers, the natural environment, different communities in which you operate etc.?
- ☐ 3 How are you strategically engaging with your customers and wider stakeholders to ensure your board risk appetite is appropriately aligned with the public interest and your risk framework captures any resulting issues?
- ☐ 4 Does your board have an agreed set of criteria as to what it means to be a 'respected corporate citizen' in the water or energy sector (e.g. in terms of gearing, tax etc.) and does it assess how it measures up against these?
- ☐ 5 What is your board doing to 'reclaim strategy' and move from an undue focus on compliance, in the process demonstrating that you are embracing the spirit of Section 172 of the Companies Act (even if not listed) and acting as long-term stewards for the company and the sector?
- ☐ 6 Where appropriate, are you developing 'safe spaces' for board/regulator and board/sector dialogue, to discuss difficult issues such as the level of regulatory intervention/company autonomy, strategic/systemic issues and wider sector responsibility?
- ☐ 7 What is your board doing to create effective feedback loops to link the different parts of the complex system in which you operate?
- ☐ 8 Does your board have the appropriate skill-mix to understand current and future customer and wider stakeholder needs and does director induction sufficiently cover these issues?
- ☐ 9 How does your board set 'the tone from the top' to ensure that public interest values percolate down throughout your business, that staff are engaged on these issues and that reward and recognition practices take these into account?
- ☐ 10 The public is increasingly open to radical and new ideas for the energy and water sectors. How does your board address not just opportunity, but also 'difficult' risk (e.g. public ownership, difficult relationships etc.)?

Public Interest Agenda 8: Planning for 'future' services with a focus on public interest outcomes [27]

The energy and water sectors provide essential services, under-pinning every aspect of UK economic life, as well as social and environmental well-being.

They require significant future investment to prepare for climate, socio-demographic and technological change and to replace ageing assets – what the National Infrastructure Commission has termed the 'capacity, carbon and congestion' challenges – and to meet the aspirations of the 25 Year Environment Plan. They must also keep up with changing consumer expectations and tackle the major 'societal disruptors' that are challenging governance and business models across the economy. The sectors are already changing rapidly in the face of these pressures; maintaining the status quo is not an option. But the needs of 'present' and 'future' consumers and citizens must be balanced. Short-term considerations on price, company returns and efficiency play strongly among today's consumers, reflected in government, regulatory and company decisions – perhaps at the expense of longer-term strategy and plans.



Future consumers and citizens	
Population growth	Increase of **7.3%** by 2025 to **69 million** (from 2015).[28]
Ageing population	Over 60s will make up **26.1%** of UK population in 2024 (**18.1 million**).[29]
Modest economic growth	Over the next 5 years (OBR, IFS) predict average growth of Gross Domestic Product (GDP) per capita of **1.7% per year**.[30]
Increased inequality	Incomes may fall for the poorest by **15%** by 2020-21 (from 2014-15).[31]
Essential services	Low elasticity of energy/water consumption to income or price.[32]
Squeezed incomes	House prices continue to rise. Household spending and debt to income ratio has increased (OBR). Utility bills have risen.
Changing state benefits	Changes to private rental and housing benefit could put **1m** households at risk of homelessness by 2020.[33]
More households, smaller size	Number of households in England is projected to rise to **28 million** in 2039. Average household size is projected to fall to **2.21** in 2039.
More private renters	Additional **1.8 million** households become private renters by 2025 in England and Wales. Almost **1 in 4** of UK households will rent privately.[34]
Efficiency and technology	Higher levels of efficiency (supplies, usage, appliances) and new technologies may help offset increased demand.
Data and personalisation	Targeting of more cost reflective products (e.g. supply at peak). Customers willing to share personal data in return for ease of use.[35]
Switching tariffs and provider	'Switched on' consumers tend to be from higher socio-economic groups.[36] 'Sticky' energy customers not switching.

Societal disrupters

Three societal disruptors are challenging governance and business models across the economy:

1. Data, digital services and new technologies

Increasingly, customers expect more personalised services, and this expectation will grow. Smarter, more interconnected systems mean traditional boundaries are being challenged, between: supply and demand; asset based and retail activities; and consumer and citizen issues. Changes in data and technology lead to the need for a radical rethink in how risks and rewards are shared between service users, service providers and government (local, regional and national). New business models are emerging that enable a greater focus on service. Data access, cyber security and who sets the rules for data platforms will become ever more important.

2. Rapid emergence of new voices and channels

With the rise in social media, and more devolved power (to nations and mayors in large cities), stakeholder groups are becoming more fragmented and sometimes polarised. Decision-makers can seem remote. Existing governance and engagement approaches need updating – to incorporate more social, collaborative, plural and 'place-based' approaches. Increasing interest in the value that civic society can add through voluntary affirmative action.



3. Public sector austerity, companies expected to deliver more

Affordability remains a major issue following a decade of static or falling real-incomes – but with rising utility prices and bills. There is a common expectation that companies will deliver more for customers, whilst being leaner, more agile and efficient. Across the political spectrum, the role of the state and its relations with the corporate sector is being re-assessed. There is limited collective memory of the original arguments for privatisation, competition and regulation. Some suggest that the energy and water sectors provide public goods – and may serve us better in public hands. Either way, a growing regard for 'public service' and for public interest values leads to fundamental questions on how best to deliver universally desired outcomes.

Future outlook for water and flooding

Water deficit	With uneven distribution of population / resources[37], some water zones predicted to have modest deficits (between **5%** and **16%** by the 2050s[38]), presenting a risk of drought within the short to medium term.
Drought and scarcity	There are a range of predictions; **12%** chance of 'severe' drought in East / South East of England over a 25 year period.[39]
Water metering	Around **40%** of households now have a water meter. The majority should have one by 2020.
Water quality	Increased abstraction can impact on water quality, environmental standards and the aquatic environment.
Leakage	Average of **22%** leakage of total water supply in most water resources zones (despite recent reductions).[40]
Flooding	**1.8 million** people live in properties at significant risk of flooding.[41]

Future outlook for energy

Uncertain electricity demand	Under National Grid's 'gone green' scenario, total demand could increase to **346TWh** in 2030, from **334TWh** in 2015. Or remain at a similar level at **331GW** for 'consumer power' view.[42]
Smart meters	Aim for these to be installed in every home by 2020.
Demand side flexibility	'Smart power' i.e. interconnection, storage and flexible demand – could save consumers up to **£8bn** a year by 2030[43]. Storage capacity could increase from **3GW to 4-11GW** by 2030[44].
Decarbonisation	Target to cut greenhouse gas emissions to **80%** below 1990s levels by 2050.
Electrification of heat	Could lead to falling gas demand. Under consumer power scenario there will be **1 million** heat pumps by 2025[45].
Energy efficiency	Efficiency of homes, transport and appliances continues to increase. Domestic energy demand has fallen by **19%** since 2000, despite a **12%** increase in number of households and **10%** rise in population.[46]

Emerging opportunities

Collaboration	New collaborative approaches to sharing risks and rewards. E.g. catchment management in water, local flexibility schemes in energy.
New technologies	Smart metering, appliances and systems. Machine to machine learning, artificial intelligence and robotics leading to predictive and remote asset maintenance. Battery storage. New materials (e.g. graphene) and biological approaches (e.g. in gas and waste).
Digitalisation and data	Better insights and ability to target and segment consumers. More accurate cost-allocations and greater cost-reflection. Opportunities for greater demand side flexibility and development of 'service' companies.
Integrated services	Potential to control multiple services from one app. Billing could be linked to the customer (smart phone) not the meter (e.g. for EV charging). Bundling of energy / water with other services (e.g. home security).
Decentralised approaches and prosumers	Energy: distributed generation, combined heat and power, ultra energy efficient buildings and electric vehicles. Water: local slow water, grey water and rainwater harvesting schemes. Both: consumers more self-sufficient offering services back to the system through demand side response.
New finance systems	Such as blockchain[47] could enable customer trading peer-to-peer, without third parties.[48] Crowd sourcing of funds for local initiatives.

Levers for Change: Check-list for planning services around the needs of future consumers and citizens

Through a joint *Tomorrow's World* event with the National Infrastructure Commission (attended by 75 plus stakeholders with experience of working with different socio-demographic groups), New-Pin considered the potential needs and expectations of future consumers and citizens, and behaviour trends in the UK, out to 2030. Building on the discussions at this key event, Sustainability First has developed a check-list for change to 2030 for companies, government and regulators to use to ensure that future services are planned around the needs of consumers and citizens for both today and tomorrow.

1. Convenient and targeted services and support

- ☐ **Companies**- what are you doing to provide more convenient and personalised services/support in terms of: simplicity by design; customer segmentation; support for those without broadband access / skills; and integrated services?
- ☐ **Regulators and government** - have you understood and prepared for the wider impacts of personalization and convenience in terms of: broadband access / skills; 'inconvenient' changes e.g. away from gas central heating; accurate algorithms; data protection, security and ownership; and joined up regulation and consumer protection?

2. Attitudes and values

- ☐ **Companies** – do you understand what motivates your customers and how to get behaviour change in terms of: consumer / citizen attitudes; acting as a 'listening' company; competitive / collaborative behaviours; and outcome focused and timely communications?
- ☐ **Regulators and government** – what are you doing in terms of behaviour change to facilitate wider long-term public interest outcomes in terms of: interventions and mandatory approaches; when people have experienced significant service disruption; and how regulatory and policy interventions are 'framed'?

3. New affordability challenges

- ☐ **Companies** – what are you doing to ensure services are as affordable as possible in terms of: upfront costs; energy / water efficiency; charging arrangements; and opportunities for sharing?
- ☐ **Regulators** – what are you doing to ensure future smart energy and water services work for all in terms of: distributional impacts of personalization; developing understanding of the implications of change for customers that may be 'left behind'; fostering / enabling new business models which wish to focus on affordable services – including for the vulnerable; building an evidence base and corresponding narrative; and dealing with failure for people in vulnerable circumstances?
- ☐ **Government** – what are you doing to ensure that future energy and water services are fair for all consumers and citizens in terms of: energy / water efficiency programmes; and policy development in related areas?

4. Who is in control? Complex web of decision makers

- ☐ **Companies, regulators and government** – do you understand who the decision maker is and are you influencing and supporting them in the most effective way in terms of: landlord / tenant responsibilities; the change from commodity to service provision; devolved, regional and local approaches; collaborative / community opportunities; carers; pro-sumers; and control of 'the system' as a whole?

5. Trust in dynamic markets

- ☐ **Companies** – are you building trust and where appropriate working with new entrants, third parties, intermediaries and partner organisations- including through supporting the development of intermediaries to help address specific problems in smart markets?
- ☐ **Regulators –** what is the appropriate approach for regulators to new entrants, third parties, intermediaries and partner organisations and how far do you understand their motivations, and potential conflicts of interest?



Part III –
New-Pin: how, what and next steps

New-Pin – a participatory process

Levers for Change: Sustainability First mini-guide to using deliberative engagement to build a public interest 'voice'

The New-Pin Network has pioneered a form of participatory engagement in the energy and water sectors to build a stronger and more purposeful public interest 'voice.'

The following guide summarises the deliberative and inclusive approach taken by New-Pin to building understanding and consensus on public interest issues in the energy and water sectors. This can be adapted to help tackle other deep-seated public interest issues in the energy and water sectors – and for other services operating at the public / private interface.



Key steps

1. Build a network of those groups that have a legitimate interest in the issue – short and long-term. An independent convenor may be able to help navigate between different interests, maintain momentum and build confidence in the process
2. Develop a 'Straw-man' of what the overall public interest is in that area to get the ball rolling
3. Network members design the overall agenda and work programme
4. Create a 'safe space' to agree approaches to difference (eg short / long-term, national / local trade-offs) and confidentiality
5. Facilitated workshops unpack key issues in a systematic and constructive way
6. Papers and practical levers iterated on back of workshop discussions. Aim = accessible, inclusive, 'road tested'
7. Ask network members how they have promoted the change agendas, what they have done differently as a result of their involvement in the network and how this is embedded and shaping board agendas

Top tips

- Include stakeholders without a strong 'voice' eg those in vulnerable circumstances, future generations or nature / the environment. Identify and resource these groups where feasible
- Tease out different perspectives. View via different 'lenses'. Respect alternative views
- Revisit. This is likely to be an iterative process. New issues and understandings may emerge over time
- Chatham House? What values / approaches will you adopt in meetings (respect, active listening etc)? How will you overcome cognitive biases (eg present bias, optimism, loss aversion)?
- Network inputs on scope and priorities for workshops and papers. Speakers from inside and outside the network share their experiences through case studies
- Language and framing of outputs is central. Clarify misunderstandings – but differences will persist
- Network outputs widely shared and transparent



New-Pin Project Papers

The following list contains links to the final set of New-Pin discussion papers and key documents.
For each of the discussion papers, there is also a summary briefing paper on the Sustainability First website.

- Suggested framework and process to explore long-term public interest issues in New-Pin workshop papers and discussions (August 2015)
- Towards a definition of the long-term public interest: A New-Pin background working paper (August 2015)
- Long-term affordability: who should pay for our infrastructure resilience, renewal and the move to low-carbon? (October 2015)
- Long-run resilience in the energy and water sectors (June 2016)
- What does trust and confidence mean for the different stakeholders in the energy and water sectors? What can be done to build and maintain this? (March 2016)
- How far will market-led approaches deliver the desired long-term public interest outcomes for energy and water? (February 2017)
- Innovation in energy and water: What is an appropriate role for government and regulators in delivering long-term public interest outcomes? (December 2017)
- Consumer, citizen and stakeholder engagement and capacity building in the energy and water sectors: Is the long-term public interest sufficiently represented? (November 2016)
- Research Approaches Overview: Stakeholder Engagement on Complex and Long-run Issues in the Energy and Water Sectors. Paper commissioned by Sustainability First from BritainThinks and London Economics (November 2016)
- How effective is your board in meeting 'future customer' and wider stakeholder needs? Key conclusions for energy and water company boards (September 2017)
  - New-Pin check-list for energy and water board effectiveness- key research findings
  - New-Pin check-list for energy and water board effectiveness- Annexes- Corporate governance in energy and water
  - New-Pin check-list for energy and water board effectiveness- Annexes- Detailed research findings
- Tomorrow's World for Energy and Water: What will consumers and citizens want in 2030? A check-list for change. (September 2017)

Next steps - Sustainaility First and Project Compact

In 2018 Sustainability First is launching a new project, Project Compact, which will build on the foundations laid by New-Pin. Project Compact will help future-proof energy and water companies and increase their corporate resilience. It will work intensively with companies to:

- Develop a better grasp, with respect to fairness and the environment, of the cost of reputational, regulatory and political risk and communicate this to investors, businesses and wider society;
- Provide in-depth case studies of private, public and third sector / not for profit companies that have successfully sought to build trust and manage reputational, political and regulatory risk on social and environmental issues;
- Using the case study insights, develop strong strategic narratives for change in the form of a new tool – **Public Interest Compacts** – for embedding policy and practice committed to fairness and to the environment within the company, ensuring a sharp focus is maintained on the outcomes that are essential to 'future proof' business;
- Help energy and water companies develop new approaches to strong, sustained stakeholder interactions that can re-shape governance and business models, enabling them to 'manage their way' through the often dramatic scale and pace of change faced; and
- Assess what more government and the economic, environment and quality regulators can do to enable companies to look to the decades ahead with more confidence, enabling less intrusive and prescriptive regulation and reducing the risk of ad-hoc government interventions.

> "Develop a better grasp of the cost of reputational, regulatory and political risk with respect to fairness and the environment"



Footnotes

1 Sustainability First (Aug 2015) Towards a definition of the long-term public interest: A New-Pin background working paper

2 Sustainability First (Oct 2015) Long-term affordability: who should pay for our infrastructure resilience, renewal and the move to low-carbon? New-Pin – Workshop 1

3 UKRN (Jan 2015) Understanding affordability pressures in essential services.

4 Infrastructure and Projects Authority (March 2016) National Infrastructure Delivery Plan 2016–2021.

5 The NAO (Oct 2015) The economic regulation of the water sector.

6 The NAO (Nov 2013) Infrastructure investment – the impact on consumer bills

7 HM Treasury and Infrastructure UK (2015) National Infrastructure Pipeline

8 Sustainability First (Jun 2016) Long-run resilience in the energy and water sectors New-Pin – Workshop 3

9 Gas Act 1986 and Utilities Act 2000.

10 www.powerresponsive.com

11 Environmental Audit Select Committee (Jun 2016) Flooding: cooperation across Government.

12 Sustainability First (March 2016) What does trust and confidence mean for the different stakeholders in the energy and water sectors? What can be done to build and maintain this? New-Pin – Workshop 2

13 Dietz, G. and Glimpse, N. (Feb 2012) The Recovery of Trust: Case studies of organisational failures and trust repair. Institute of Business Ethics.

14 Consumer Council for Water (2014) Water matters.

15 Sustainability First (Feb 2017) How far will market-led approaches deliver the desired long-term public interest outcomes for energy and water? New-Pin presentation – Workshop 5

16 Sustainability First (Dec 2017) Innovation in energy and water: What is an appropriate role for Government and regulators in delivering long-term public interest outcomes? New-Pin, Workshop 7

17 Sustainability First's Project Inspire – www.sustainabilityfirst.org.uk

18 Ofgem's Innovation Link and Regulatory Sandbox.

19 BEIS (Apr 2017) Business Secretary announces Industrial Strategy Challenge Fund investments.

20 Defra (Sep 2017) The Government's Strategic Priorities and Objectives for Ofwat.

21 Sustainability First (Nov 2016) Consumer, citizen and stakeholder engagement and capacity building in the energy and water sectors: Is the long-term public interest sufficiently represented? New-Pin – Workshop 4

22 BritainThinks and London Economics (Nov 2016) Research Approaches Overview: Stakeholder Engagement on Complex and Long-run Issues in the Energy and Water Sectors. Paper by commissioned by Sustainability First for New-Pin

23 Sustainability First (Sept 2017) How effective is your board in meeting 'future customer' and wider stakeholder needs? Key conclusions for energy and water company boards

24 Sustainability First (Sept 2017) New-Pin check-list for energy and water board effectiveness- key research findings

25 Sustainability First (Sept 2017) New-Pin check-list for energy and water board effectiveness - Annexes- Corporate governance in energy and water

26 Sustainability First (Sept 2017) New-Pin check-list for energy and water board effectiveness- Annexes- Detailed research findings

27 Sustainability First (Sept 2017) Tomorrow's World for Energy and Water: What will consumers and citizens want in 2030? A check-list for change. New-Pin – Workshop 6

28 ONS (2015) National Population Projections: 2014-Based Statistical Bulletin

29 ONS statistics (2014) National Population Projections UK mid-2014 to mid-2114

30 Office of Budgetary Responsibility (2017) Fiscal Sustainability Report

31 IFS (2017) Living standards, poverty and inequality in the UK, 2016-17 – 2021-22

32 NIC (2017) Economic growth and demand for infrastructure services

33 Shelter (2017) Shut out; Households put at risk of homelessness by the housing benefit freeze

34 PwC (2015) UK Housing Market Outlook: The Continuing Rise of Generation Rent.

35 The Institute of Customer Service (2016) The customer of the future.

36 Ofgem (2017) Future Insights Series- The Futures of Domestic Energy Consumption.

37 Yorkshire Water and PwC (2016) The water and wastewater sectors: The long view.

38 WaterUK (2016) Water Resources long term planning framework (2015-2065).

39 WaterUK (2016) Water Resources long term planning framework (2015-2065).

40 NIC (2017) The impact of the environment and climate change on future infrastructure supply and demand.

41 NIC (2017) The impact of the environment and climate change on future infrastructure supply and demand.

42 National Grid (2016) Future Energy Scenarios: Gone Green – wealthy, environmental sustainability top priority; Slow Progression – long-term environmental strategy; Consumer Power – wealthy, market-driven; No Progression – low-cost solutions.

43 NIC (2016) Smart Power.

44 National Grid (2016) Future Energy Scenarios.

45 National Grid (2016) Future Energy Scenarios.

46 DECC (2015) Energy Consumption in the UK.

47 A blockchain is a distributed digital database that automatically tracks transactions across a network and is the basis of the Bitcoin.

48 Ofgem (2017) Future Insights Series- The Futures of Domestic Energy Consumption.

49 Sustainability First (Aug 2015) Suggested framework and process to explore long-term public interest issues in New-Pin workshop papers and discussions

Sustainability First is a think tank that promotes practical, sustainable solutions to improve environmental, economic and social well-being. We are a registered charity that primarily works in the energy and water sectors.



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