ENERGY INNOVATION CENTRE

Innovation Deployment Guidance

In partnership:

nationalgrid

NORTHERN POWERGRID

Scottish & Southern Electricity Networks

Scottish & Southern Electricity Networks TRANSMISSION

SP Energy Networks

UK Power Networks

Northern Gas Networks

Introduction

Transitioning innovation into business as usual (BAU) is essential for delivering net zero while maintaining safe, reliable services and good customer outcomes. However, a successful trial is not enough; innovations need a clear path to deployment, supported by evidence, planning, resources and backing.

This guidance helps innovators and energy networks move from concept to BAU, outlining 15 key readiness indicators and enabling early identification of risks, gaps and dependencies to improve the chances of scalable adoption.

BAU Readiness Indicators

1. Cost Benefit Analysis
2. Senior Business Sponsor
3. Route to Commercialisation
4. Solution Cost & Performance
5. Testing & Trials
6. Policies & Procedures
7. Market Review
8. Standards & Regulations
9. Deployment Strategy & Support
10. Staff Training
11. Type of Innovation
12. Deployment Budget
13. Legal & Procurement
14. Performance & Benefits Tracking
15. Dependencies

Plus:

- Deployment: The Network Perspective

We're delighted to have worked in conjunction with the Energy Innovation Centre (EIC) to develop the Innovation Deployment Guidance.

The guidance sets out key considerations for innovators as they progress from project development through to deployment and adoption. It provides a structured reference point to support planning, assessment and decision-making.

By outlining the core requirements and processes involved, it will help innovators better understand expectations and prepare their solutions for successful implementation across energy networks.

Special thanks to UKPN for their significant contribution to this guidance document.

1 Cost Benefit Analysis (CBA)

Before a project is started, it will require a CBA to be completed.

This is prepared using an estimate of the costs and forecasted benefits associated with the development and implementation of the solution (including non-financial such as environmental, social or those enabling the net zero transition/whole system integration).

The depth of this analysis will depend on the project, and usually the funding networks will lead on completing the CBA (with input from the innovator). For a project to be started and proceed to BAU deployment, the net result should usually be (and remain) positive.

Please note there may be exceptional projects addressing non-financial themes, where other considerations beyond the net CBA result are considered.

Guidance:

Throughout the project lifecycle, check any assumptions or assertions are still valid and consider whether the original CBA has changed. It's important to periodically review the business case to ensure BAU adoption is still worthwhile; don't leave this until just before the expected deployment stage.

2 Senior Business Sponsorship

Most innovation projects are initiated to introduce a change to regular business practices and/or operations which will deliver benefits to the network operator.

Therefore, it's important to have the support of the senior manager who is responsible for the business unit which will realise these benefits and has sufficient seniority within the organisation to help with the resolution of any issues and challenges which may arise during the innovation project.

Often this senior business sponsor will not be responsible for project budget approval; that could sit within the innovation team or at a more senior level.

This sponsor should also be responsible for ensuring sufficient budget has been identified to cover the costs of not just the innovation stages of the project, but also the deployment stage to ensure a successful innovation is able to proceed to adoption as BAU.

Guidance:

Check that every collaborating network has identified a business sponsor for the project. The sponsor should be provided with appropriate information at an early stage, so they clearly understand the anticipated benefits and their significance to the business. Check they are being updated with relevant developments.

Please note the appetite for the project or (further down the line) of the deployment can vary between network companies. This can be down to factors such as business needs, their strategic priorities or internal budgets.

3 Route to Commercialisation

Before starting an innovation project, the networks will require information on the route to market (e.g. manufacturing, logistics, investor engagement). This typically includes the anticipated commercial model(s) and may set out other relevant information, such as the anticipated price per unit, subscription agreement, any licences to other organisations, etc

Guidance:

Consider the estimated cost and scale of both the initial roll out and full-scale deployment across several networks.

Is the anticipated commercial model well defined and are there any commercial or licensing agreements required? Are there any constraints or is support required for deployment or for scaling up?

Ensure that this is discussed with the project team and revisited at appropriate stages during the development of the solution.

4 Solution Cost & Performance

The anticipated cost of the solution (or an indication) will be required during the project conception phase and will be used as part of the CBA calculation. In most instances, the anticipated cost of the solution and specifications will have been discussed and agreed.

Guidance:

Throughout the project lifecycle, ensure any changes to the anticipated cost or specification are discussed with the project team. Also remember to identify costs such as testing and/or accreditation (if appropriate).

5 Testing & Trials

Network companies require evidence that the deployment of any solution will not have an adverse impact on the performance of the gas and electricity networks. This is crucial if there is any possibility of a safety concern, a breach of the regulations and statutes which apply to the networks or any potential customer impact.

As solutions are developed to a higher Technology Readiness Level (TRL) (with increased confidence in their viability and performance as observed in controlled environments), it may be necessary to perform trials or testing at approved testing facilities such as the Power Network Demonstration Centre and / or on the network.

This should be discussed and agreed as part of scoping and included in the project programme.

Guidance:

Consider all the testing and/or trials required to fully build confidence in the solution prior to deployment on the network. Are there plans in place to address these requirements? Consider whether engagement with an external test and/or network facilities will be required.

Visit our testing facilities map for more information.

6 Policies & Procedures (New or Amendments)

Network companies maintain extensive libraries of policies and procedures which govern all aspects of their business and operations.

Any innovations to be deployed onto the network that have safety and/or environmental implications require rigorous attention.

Early identification of necessary or impacted policies and procedures is crucial. This allows sufficient time for the implications to be fully considered, plus the development and authorisation of appropriate documentation.

Guidance:

Network companies often have a separate department responsible for the development of policies and procedures. Establish who will be responsible for the development and/or amendment of required policies and procedures.

7 Market Review

A competitor analysis should be performed to identify similar solutions which are available in the marketplace and include solutions in development (or solutions that have become available since the project started).

If another solution exists that can deliver the same benefits, when it comes to the decision to proceed to deployment your innovation will be assessed in a competitive tender, regardless of a successful trial. This could prevent your innovation from progressing to BAU.

Guidance:

Has a competitor analysis been conducted to identify any comparable solutions available in the market? Network companies expect innovators to be aware of similar products and also to evaluate the strengths and weaknesses against the one being developed.

8 Standards & Regulations

The relevant external standards and regulations (e.g. technical, operational, cybersecurity, health and safety, data protection, etc.) should be identified at an early stage in the project.

Consideration should be given to the following:

- Who will be responsible for ensuring they are met?
- Does the solution require completion of assessments e.g. data protection impact?

Some network assets are classed as critical national Infrastructure in the UK and increased due diligence will be necessary to ensure that security considerations are not compromised. Cyber security compliance will be of particular importance, especially for digital innovations involving data collection or remote access.

Guidance:

The time and cost involved in gaining accreditation can vary significantly depending on the innovation. Ensure that this is understood and factored into the CBA.

9 Deployment Strategy & Support

Early in your project, consider what steps will be required to ensure that the solution is successfully deployed into BAU so that there are no surprises when it comes to the final decision.

Be aware the nature of your innovation will have a bearing on the resources required for the deployment stage. This can vary widely and may require significant time and resources from more than one department within the network company (see indicator 11 'Type of Innovation').

Some Ofgem funded projects will require a deployment plan that outlines how network operators use allocated funding to trial and implement innovative projects.

Deployment strategies can be structured around the following five phases:

1. Scoping & Feasibility: Define objectives, stakeholders, and success metrics

2. Pilot & Trial: Implement small-scale tests to validate concepts

3. Evaluation & Learning: Analyse performance, risks, and obtain stakeholder feedback

4. Scalability & Integration: Transition successful pilots into business-as-usual operations

5. Reporting & Transparency: Publish annual summaries and benefit tracking reports.

Guidance:

In addition to securing sponsorship from a senior manager (see indicator 2), it's important to identify and secure the commitment of the relevant manager who will ultimately be using the solution. They are best placed to understand the implications of implementing the solution within the business. This will typically be done in conjunction with the network company.

10 Staff Training

Introducing a new innovation inevitably impacts staff who work in the business. It's crucial that relevant personnel are identified and wherever possible, engaged in the process.

At the start of innovation projects, network operators should identify and contact the future users of the deployed solution. Input and feedback should be sought from end-users at key stages of development. They should be updated regularly with the progress of the project and involved in trials where applicable to help identify any issues at an early stage and to help ensure end user acceptability.

Guidance:

Who will the end users of the solution be? This might be a mixture of internal or external staff, such as contractors. How, when, and by whom will staff be trained?

If network operational staff are involved, consider that their availability may be limited. If more than one department is involved, then extra time for co-ordination is likely to be required.

11 Type of Innovation

The nature of your innovation will have a bearing on the complexity of the deployment.

Internal tools which are only used by internal DNO staff or contractors are much easier to deploy. More complex digital functions that overlap with existing systems, or innovations that depend on markets, regulation or UK-wide standardisation, are harder to implement.

Innovations that need to integrate with internal ICT systems are very likely to require significant time and resources. This is especially true where interoperability with legacy infrastructure, such as enterprise information systems or supervisory control and data acquisition systems, is required

Similarly, organisational change management may be straightforward or complex and resource intensive.

Guidance:

Confirm your innovation type early with the network and tailor your deployment plan accordingly. Ensure you engage with the right stakeholders across the organisation to map out both internal and external dependencies.

12 Deployment Budget

Developing the deployment strategy and support (see indicator 9) will provide insight into the resources and budget required for successful deployment into BAU operations.

Network companies have different governance structures for approving project budgets and approving deployment budgets; understanding these upfront from the senior business sponsor is vital.

For example, in an Ofgem-funded project that successfully trials a new customer service approach, the senior innovation manager may have approved the project budget in line with their requirements. However, the costs of deployment would sit with the senior manager responsible for the customer service team where it will be rolled out.

Make sure to ask:

- How will deployment be funded and who is the deployment budget owner?
- Are they being kept informed of progress?
- Is there commitment to fund deployment?

Guidance:

Processes can differ across network companies. Check if the deployment budget holder is an innovation manager or a senior business sponsor that sits outside of the innovation team.

13 Legal & Procurement

Ensure the relevant legal and procurement teams have been involved to establish the requirements associated with BAU deployment.

One aspect to consider during project inception is intellectual property rights.

Guidance:

Have the relevant legal and procurement teams been involved? It's important to understand whether a formal tendering exercise will be required as part of the BAU deployment process.

14 Performance & Benefits Tracking

Once a solution has been deployed by the networks, the financial and non-financial benefits will be tracked and reported internally and externally to Ofgem.

Guidance:

Processes can differ across network companies.

15 Dependencies

Is the deployment of the solution dependent on any other projects or business initiatives which are required to be successfully completed to allow or facilitate your innovation to proceed?

Guidance:

Ensure that any relevant dependencies have been identified.

Deployment: The Network Perspective

This section was written by Stewart Reid, former Head of SSEN Future Networks, and offers additional guidance on how to prepare effectively for the final executive approval stage from a network perspective.

The final executive approval is the critical stage where most innovation projects face robust examination and challenge from a higher level of management or an innovation steering board before final approval to proceed to deployment and adoption as BAU. This is the last, crucial step where creative enthusiasm meets hard-nosed business scrutiny.

As an innovator, your focus must be on fully answering every question within your control during the earlier stages of the innovation project. This evidence is the foundation of your deployment paper. Don't be ‘pipped at the post’ by competing solutions. The cooperative enthusiasm of an innovation project or trial is a stark contrast to the hard-nosed, rational, and procedurally compliant deployment decision.

Be ready for the difference.

The points made earlier in this document are those you can have the most impact on.

Network companies will have several layers of governance which will determine the viability of the solution to be deployed. The decision makers will have competing demands to consider such as benefit and deployment case, operational viability, competing solutions, in year budget, sponsorship, strategic demands/priorities, etc.

Once you get closer to the assessment to progress to deployment the most important considerations are:

The Critical Role of the Decision Makers

- Does the deployment decision have a clear decision maker or makers within the network operator?
- Check that your senior business sponsor (see indicator 2) is either part of the decision-making group or has direct input to it
- Your sponsor must be able to present your case, facts and benefits accurately and eloquently
- Action: Secure time with your senior business sponsor at the right stage (engage at appropriate intervals).

Competition Law & Commercial Strategy

- **Risk:** If another solution exists that can deliver the same benefits, your innovation will be assessed in a competitive tender, regardless of a successful trial. Hopefully you will have addressed this risk at the market review stage indicator 7) and kept this up to date to identify any alternative or competing solutions coming onto the market
- **Opportunity:** This opens the door to competing in other network companies that didn't run a trial with you
- **Your Mitigation Strategy:**
  - Don't put all your eggs in one basket. Market to multiple network operators and think internationally
  - Register on platforms like Achilles to ensure you see relevant tenders
  - Leverage your innovation project evidence to open doors in other sectors and countries.

Existing & Competing Solutions

- Is your deployment chasing benefits that are already fully or partially realised by a solution the business is deeply invested or investing in?
- Benefits are Finite: Your solution does not exist in a vacuum and will interact with other innovations
- **Action:** Do your homework. Network operators have slightly different solution portfolios. Move fast and have this conversation early to reduce the odds of conflict with other deployments later.

Organisational Capacity for Change

- All organisations have a limit to their capacity for change; pushing beyond it risks failure on core deliverables
- If your innovation requires a major change programme (eg extensive training or process overhaul), it will be queued alongside other business priorities
- **Key to Success:** The strength of your CBA and the importance of the issue you are solving is the best method to get to the top of this list
- Throughout consider how you can make deployment simpler.

Risk Tolerance & Mitigation

- Every organisation has a defined risk tolerance across areas, such as commercial, legal, regulatory, reputational, safety and asset
- If your innovation increases any of these risks, it will heavily influence the deployment decision
- **Action**: Understand the risks as perceived by the network operator early in the project and work diligently to mitigate them before the deployment decision.

Scalability of Data Assumptions

Warning: Many innovations depend heavily on data availability. Data acquisition and cleansing often consume a significant proportion of trial effort.

A constrained trial environment is not always scalable. If your innovation is data-heavy and that data is not readily available across the network, you must answer two critical questions:

1. How will this scale?
2. Are there alternative, less data-heavy ways to deliver the benefit?

Market Need: Timing & Scale

Not all challenges are imminent; many are projected to emerge over years

- **Risk**: You might prove the case, only to receive unsustainably low orders (or the reverse and your supply chain struggles to meet sudden demand)
- **Action**: Have early and detailed discussions about the required scale and timing of deployment

- **Crucial External Variables to Understand:** Regulatory decisions, consumer behaviour, government policy and other market trends. This allows you to identify risks and mitigations (eg international markets, cross-sector applications).

Conclusion: Shape Your Own Success

Bringing an idea from concept to deployment is complex and the outcome is uncertain... that's why trials exist.

Yet, the fundamental truth remains - the industry critically needs innovators and new solutions. By deeply understanding the considerations detailed above, you can proactively shape your solution, business model and engagement strategy to significantly increase the odds of your innovation becoming adopted as an industry-wide solution.

Stewart Reid
Former Head of SSEN Future Networks

Conclusion

We hope that the knowledge shared in this guide empowers you to get started on your own journey of innovation.

For more guidance and advice for innovators on navigating the energy sector, visit www.ukeic.com where you can:

- Explore our list of industry opportunities
- Join our community of innovators
- Access a host of support and resources.

Version Information

The Innovation Deployment Document was originally developed as part of the 2023 Innovator Action Plan. In early 2026, the guidance was updated as part of the latest Innovator Action Plan which has been informed by feedback from over 200 innovators.

The update was led by UK Power Networks, and the revised guidance has undergone a rigorous review by several networks, industry experts, innovators, and wider stakeholder organisations.

The original guidance set out 14 key BAU readiness indicators for innovators and networks to consider when developing and deploying innovative solutions.

The revised document adds a further indicator and a new section on the critical stage in any successful innovation project when a rigorous assessment is carried out to decide if it will progress to deployment and adoption into BAU.

Key updates made:

- Added “Type of Innovation” to consider how the route to deployment is impacted by the type of innovation
- Augmented the previous “Senior Business Sponsorship” indicator with more insights and guidance.
- Added “Additional tips for deployment” focusing on the executive level governance and wider strategic, commercial, and organisational considerations that influence final level approval
- All original 14 indicators have been revised to align with current BAU and business practices