Digital–Energy
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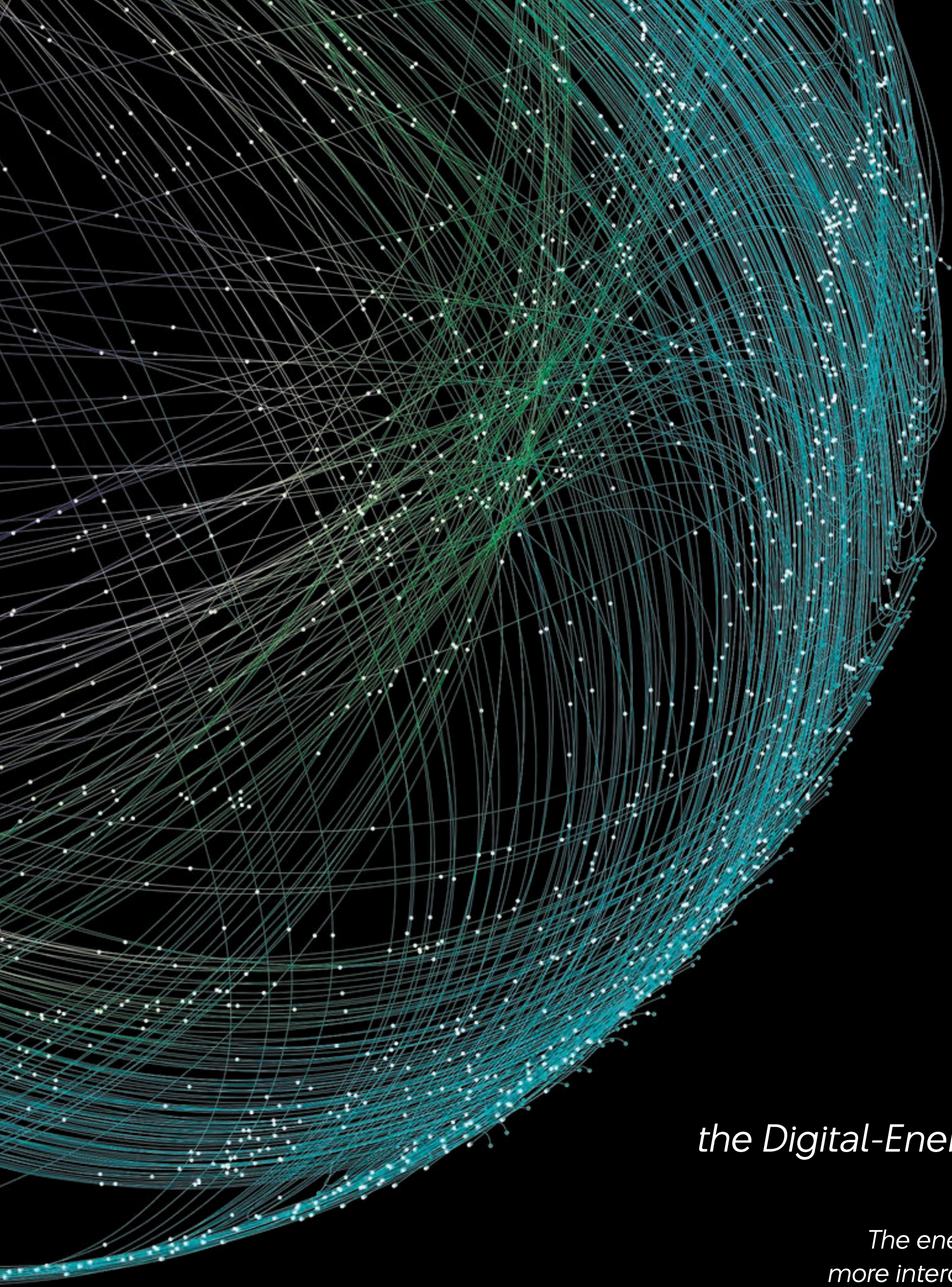
Making the Most of Digital-Energy Connections: Recommendations for Host Communities



Atlantic Convergence
White Paper:

Recommendations from
the Digital-Energy Nexus Working Group

The energy and digital sectors are becoming more interconnected. The Atlantic Convergence Digital-Energy Nexus Working Group of senior business leaders and public officials, scholars and think tank experts from across the Atlantic space addresses the opportunities and challenges arising from these growing connections. This White Paper presents integrated digital-energy models that can benefit both digital and energy services providers and local communities. Lead authors are Rim Berahab, Peter Garforth, Daniel S. Hamilton, Paul Rendek, and Herbert Sinnock. While the White Paper reflects Working Group discussions, its conclusions are those of the lead authors alone.

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TRANSATLANTIC LEADERSHIP NETWORK

ATLANTIC — CENTRE —

Executive Summary

The energy and digital sectors are becoming more interconnected. Yet different digital services have diverse energy demands, just as different types of energy and energy services have different digital needs.

One size does not fit all. Communities and countries start from different places when it comes to digital and energy resources. Some have plenty of energy. Others benefit from strong internet connections, reliable electricity, good locations, or established digital systems. Each can leverage its strengths by aligning energy resources, digital infrastructure, and long-term economic goals.

Artificial Intelligence is changing both digital and energy infrastructure and the geography of digital and energy investment. Until recently, most AI investment and its accompanying energy demand was driven by Generative AI. Experts project that by 2030, around 70 percent of all digital infrastructure demand will be driven by Inference AI.

This trend matters because Generative AI and Inference AI have different energy and geographic needs. Generative AI clusters can be anywhere there is abundant power. Inference AI, in contrast, must be close to the people it serves. Although Inference AI operations use less power than Generative AI processes, their total energy use can still be high because they occur frequently and have so many users. At the same time, integrating today's AI applications into power plant operations and maintenance could yield potential cost savings of up to $110 billion annually worldwide by 2035.

As AI evolves, countries and communities can leverage their respective strengths to participate in different AI ecosystem areas. Some may be best for large-scale Generative AI; others could be better for supporting distributed AI services, strong digital connections, and low-latency inference environments.

Data centers are just one part of the larger digital world, but they have become a major focus for many communities and countries. Since Inference AI must be near the people it serves, working closely with local communities is now even more urgent and important.

The Digital-Energy Nexus creates opportunities to move past siloed digital infrastructure projects and instead build integrated digital-energy models that benefit both digital services providers and their local communities by creating jobs, reducing emissions, boosting local suppliers, promoting technical skills, innovation, and advanced digital services. As decision-makers plan new digital and energy policies, they should:

- Integrate digital and energy planning.
- Recognize the diversity of digital infrastructure.
- Recognize the diversity of community needs and opportunities.
- Plan for both energy availability and resilience.
- Build on local strengths.
- Prepare for the evolution of Artificial Intelligence.
- Strengthen public–private partnerships.
- Assess digital-energy investments not just by how much infrastructure is built, but also by the benefits they bring to local economies.
- Establish differentiated Atlantic Partnership Roadmaps.
- Create an Atlantic Digital-Energy Capability Initiative.

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Understanding Digital-Energy Connections

1.1 Digital Demand Shapes Infrastructure

The energy and digital sectors are becoming more connected. Each relies increasingly on the other in many different ways. Public debate of the digital-energy nexus tends to focus on specific technologies like data centers or Artificial Intelligence (AI). Yet digital infrastructure is not a single asset with one set of needs. Digital services are diverse. They require different types of infrastructure, energy, resilience, and locations. As countries and communities seek to align their digital goals with real-world energy needs, it is crucial that they take a broad view and consider the whole digital infrastructure ecosystem that supports digital services.

To plan future infrastructure, we first need to understand digital demand. Before considering energy needs, we must know which digital services governments, businesses, and communities want to support. Digital infrastructure develops in response to demand, but not all digital services are the same. Some need a lot of computing power, while others mainly need reliable connections and steady service. Some services can be delivered from far away, but others must be close to users because performance depends on latency, or how quickly data can travel. As digital transformation spreads through government, healthcare, education, manufacturing, finance, and public services, digital needs will diversify even more. Infrastructure strategies must account for these different requirements.

These differences matter because they determine the infrastructure needed to support the digital economy. So, to understand future energy needs, we should start by looking at digital demand, not just infrastructure.

Communities and countries start from different places when it comes to digital and energy resources. Some have plenty of energy. Others benefit from strong internet connections, reliable electricity, good locations, or established digital systems. These differences shape available opportunities and influence future digital development pathways. Instead of adopting a one-size-fits-all model, countries and communities can leverage their strengths by aligning energy resources, digital infrastructure, and long-term economic goals. Digital demand determines what infrastructure is needed, and energy resources affect which types of digital infrastructure are possible. Together, these factors guide future digital development.

1.2 Digital Infrastructure Is More Than Data Centers

Digital infrastructure includes much more than data centers. While data centers often get the most attention, they are only part of a larger ecosystem. Internet Exchanges, fiber networks, cable landing stations, city and long-distance transport networks, and undersea cables all play different roles in supporting the digital economy. Some process data; others move it. Some use a lot of energy. Others use less but still need reliable, steady power. It's important to understand these differences because each part of the digital infrastructure system has its own operational and energy needs.

The link between digital infrastructure and energy is about more than just providing electricity. Energy systems not only power digital infrastructure, they can also affect how digital infrastructure grows and which investments make sense. Sometimes, the main issue is having enough energy, especially for large computing centers and AI systems that need a lot of new power. Other times, the focus is on ensuring energy is stable and reliable so digital connections work without interruption. Digital infrastructure needs energy to be both available and stable. These two attributes complement each other; they do not substitute for each other.

The digital economy depends not just on where data is processed, but also on how data moves. Digital services rely upon resilient connectivity between users, enterprises, governments, cloud platforms and international networks. Internet Exchanges, terrestrial fiber networks, submarine cable systems and regional transport infrastructure all help data move smoothly between digital systems. Powering the digital economy therefore involves more than supporting computing infrastructure. It also means maintaining networks that let digital services flow reliably within communities, across countries, and around the world. As reliance on digital services grows, strong, reliable connections become even more important for economic success and national resilience.

1.3 Artificial Intelligence Is Reshaping Digital and Energy Infrastructure

As digital infrastructure and energy systems are becoming more connected, Artificial Intelligence is changing both digital and energy infrastructure and the geography of digital and energy investment. As DE-CIX CEO Ivo Ivanov has observed, until recently most AI investment and its accompanying energy demand was driven by Generative AI. Because Generative AI favors computational scale over speed and energy efficiency, digital infrastructure investments have been dominated by hyperscalers and cloud providers. Because it requires a lot of energy and computing resources, large-scale AI infrastructure is being built wherever enough power can be provided quickly and in large amounts.

This trend is now shifting. Experts project that by 2030, around 70 percent of all digital infrastructure demand will be driven by Inference AI, rather than Generative AI[1]. Inference AI uses trained AI models to perform specific tasks, like classifying images, answering questions, drawing conclusions, or inferring future outcomes.

This difference matters because Generative AI and Inference AI have different energy and geographic needs. Generative AI clusters must be in places with abundant power. While they have been concentrated in the largest data center markets, they can be located in any place where power is available, quickly, and at scale. Increasingly, they are being deployed in more remote locations[2]. In contrast, Inference AI must be close to the people it serves since it depends on fast response times, low latency, energy efficiency, reliable connectivity, steady service, and affordable costs per query.

Although Inference AI operations use much less power than Generative AI processes, their total energy use can still be high because they occur frequently and have so many users. In some cases, energy supply from already existing infrastructure can be used for some Inference AI. Soon, however, Inference AI might use more power than Generative AI simply because many devices, apps, and systems use these models. Industry forecasts suggest this trend will continue as Inference AI becomes an increasingly important driver of future AI deployment.

These changes highlight a key idea: different digital services need different types of infrastructure, energy resources, and resilience. As AI evolves, countries and communities can participate in different AI ecosystem areas based on their respective strengths. Some places may be best for large-scale Generative AI, while others could be better for supporting distributed AI services, strong digital connections, and low-latency inference environments.

Moreover, the digital-energy nexus goes both ways. The International Energy Agency estimates that the integration of today's AI applications in power plant operations and maintenance can yield potential cost savings of up to $110 billion annually worldwide by 2035[3].

Recognizing these distinctions is key for planning future digital and energy strategies. Instead of following one model for digital development, countries and communities can choose digital services that fit their energy resources, connectivity, location, and economic goals. Similarly, there is opportunity to use AI to improve energy efficiencies. This is especially important when looking at community-based solutions to digital-energy issues, building effective public-private partnerships, and identifying appropriate models for growing markets across the Atlantic.

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Considering Community-Based Approaches to Digital-Energy Opportunities

2.1 Community and Data Center Energy Approaches

Data centers are just one part of the larger digital world, but they have become a major focus for many communities and countries. Since Inference AI must be near the people it serves, working closely with local communities is now even more urgent and important. This creates an opportunity to improve community energy services and internet access, attract local investment and economic benefits from data centers and related businesses, and reduce the impact on climate change.

When a new data center opens, it usually leads to higher local demand for electricity and cooling water. This often raises concerns among residents and businesses. People worry about changes in electricity and water prices, reliability, and the visual impact of these facilities. Some may be concerned that data centers create few long-term jobs and put pressure on the community's climate and environmental goals. These worries grow if people feel that distant government agencies or large corporations are making decisions about where to build data centers and energy infrastructure. An equally important factor for both data centers and the communities they serve is access to reliable, affordable water and energy services, including electricity.

Everyone needs affordable, reliable, and modern energy and data services for their community to thrive. Data centers may cause some to worry, but they can bring new opportunities. They can help improve local energy and internet services, and also help communities attract investment and economic growth from additional digital services and related businesses.

Each data center and community partnership is unique, but there are currently two basic approaches to locating and energizing a new data center.

The first approach is the most common. An operator chooses a data center location for market reasons and must win approval by local zoning authorities. The operator negotiates for power from a regionally or nationally regulated utility and water from the local utility. When power needs go up, the main utility adds capacity, and this is often supported by natural gas generation at or near the data center. The operator usually has sole discretion to take measures that could reduce demand or emissions.

Under this approach, a data center is treated like any other new business, even though it uses much more electricity than nearby users. This can lead to unexpected investments that may raise costs for everyone. The economic benefits for the community tend to be limited to a small increase in jobs.

Greenhouse gas emissions rise rapidly based on the existing grid index and any added gas-fired capacity. Renewables and energy storage can help reduce emissions, but they usually cannot keep up with the increase.

This approach produces a lot of direct and indirect heat. Most of it goes unused. Power plants on the grid usually waste up to 70 percent of their fuel through conversion and distribution losses, while on-site thermal generation loses at least 65 percent. The data center's cooling systems also return heat at relatively high temperatures, with most of it released through cooling towers. This wasted heat represents a major lost opportunity for this model.

The second approach integrates the data center into the community. This model is mostly seen in Europe, where many cities already offer district heating and hot water to homes and buildings.

Decades ago, these cities started using leftover heat from industry and power plants to build large municipal heating systems. Since the late 1980s, changes in European Union rules and markets have led cities to take a bigger role in running and investing in utilities like electricity, heating, cooling, natural gas, and water. District heating and cooling are now reaching more areas, both within existing networks and in new places. Other policies that promote energy efficiency and better transportation have also given local communities more influence.

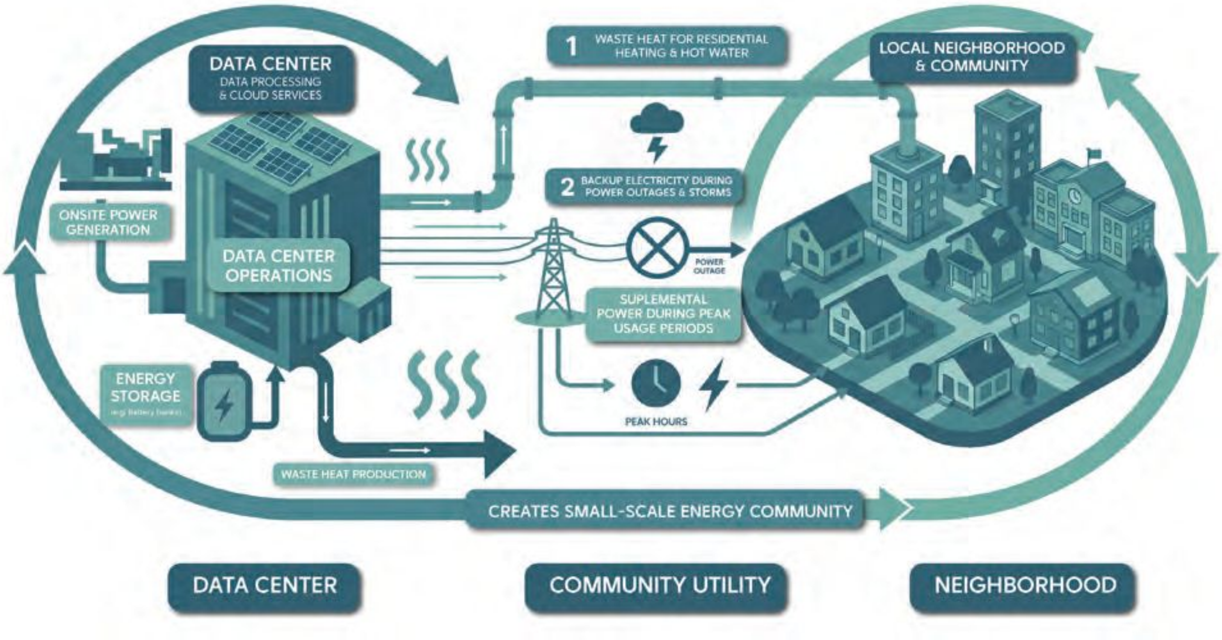


Figure 1. Data Center Neighborhood Energy Integration[4]

In many cities, this method has led to a more connected energy system at the community level. By managing water, electricity, natural gas, and heating and cooling together, cities can improve efficiency and better meet the needs of neighborhoods and large users.

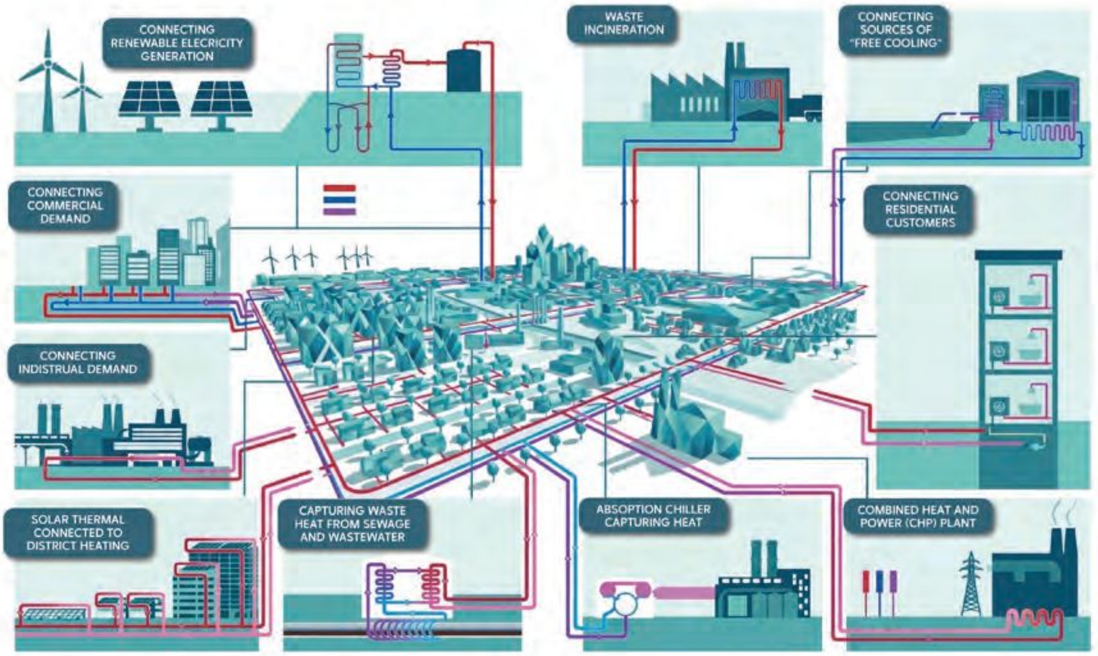


Figure 2. Horizontally Integrated Utility Serving Local Energy Marketplace[5]

This approach makes it possible to combine different energy sources into one flexible supply portfolio, including waste energy, on-site power and heat generation, energy storage, and regional utilities. Cities that use this integrated system can have per capita energy use and emissions that are about half of those in cities with more siloed regulatory and technical frameworks typical of the first approach.

For the data center, the municipality acts as both regulator and energy services partner. For the community, the data center becomes a new customer and a potential source of energy to resell. On-site generation and storage can be set up to serve both the data center and nearby neighborhoods. Working together in this way can boost local jobs, lower energy and digital costs, improve services, and reduce environmental impact.

There is a growing number of integrated examples. In Seattle, USA, a data center supplies a large corporate campus with heat facilitated by a new private energy services company (See Box 1). In Stockholm, Sweden, 20 data centers provide heat for 30,000 apartments. In Hamina, Finland, a data center supplies heat to 80 percent of the city. In Tallaght, a suburb of Dublin, Ireland, new infrastructure now distributes unused heat to a university, municipal buildings, and social housing (See Box 2). In Rjukan, Norway, a nearby data center heats a large trout farm[6]. In the Frankfurt region of Germany, data centers are key heat sources that help expand and decarbonize the area's district heating and growing district cooling systems[7].

Each of these case studies has a different background. Stockholm and Hamina succeeded because they already had district energy utilities with thermal networks in place. Tallaght and Seattle worked because they started with a few large, stable anchor loads instead of trying to serve an entire neighborhood right away, while leaving the door open for future expansion. Frankfurt benefits from regulatory pressure and a large existing infrastructure, which gives the municipal utility both the authority and the ability to act. Seattle showcases a successful private utility model with a municipal franchise, while the European examples rely on more direct municipal ownership.

2.2 A Two-Layer Diagnostic Framework

These and similar examples indicate that a two-layer diagnostic framework can help communities or countries realistically assess and develop credible investment-grade plans.

Layer 1 helps decide which type of digital infrastructure best fits a community or country. Choices include large-scale generative or training infrastructure, distributed inference infrastructure, or basic connectivity infrastructure like an Internet Exchange Point or a cable landing station. Each option needs different socio-economic and geographic conditions.

Layer 2 checks how well the chosen infrastructure matches community needs, including factors like:

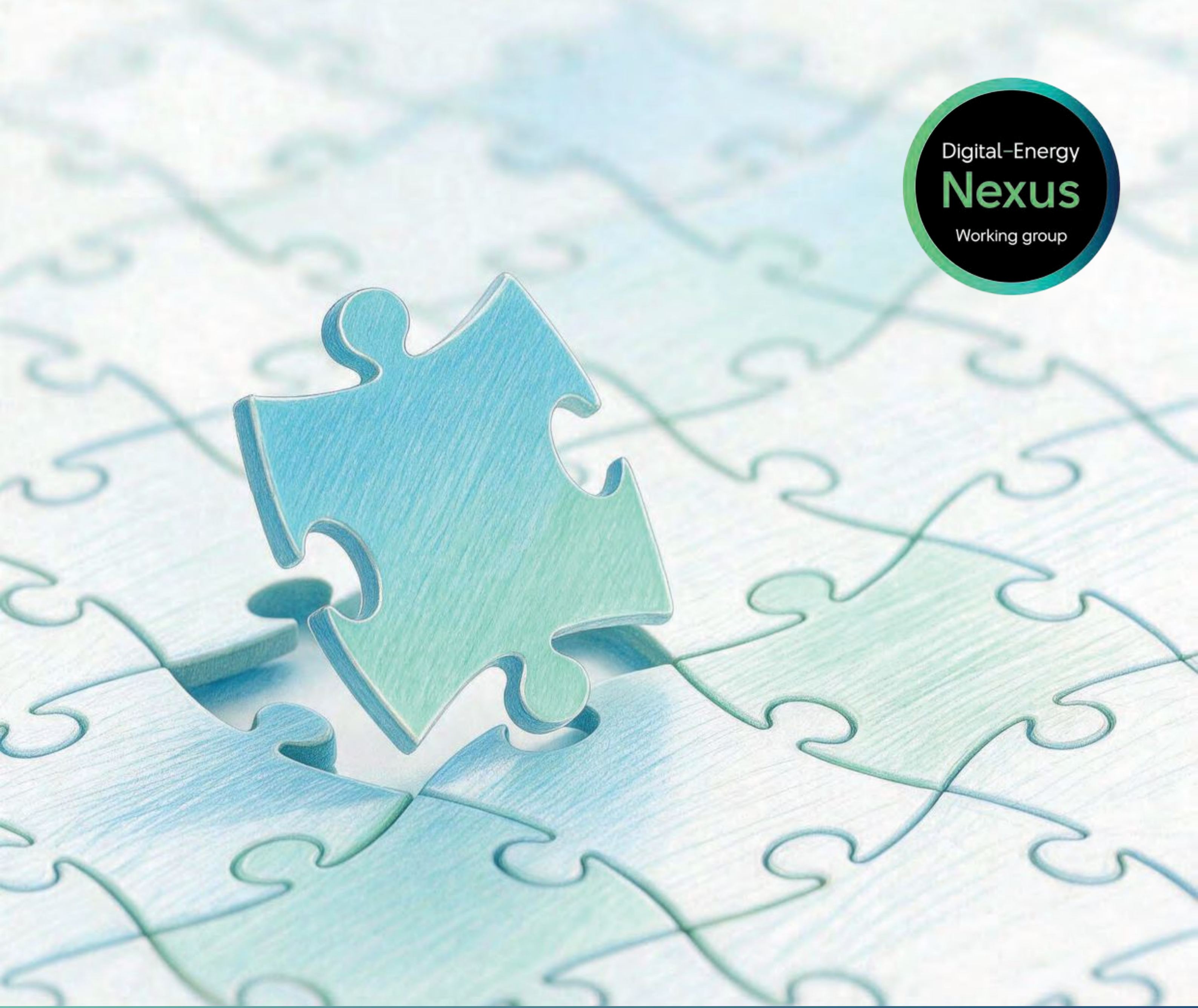
- Condition and capacity of the local power system.
- Thermal and water demands, including anchor loads and existing networks.
- Digital backbone and connectivity.
- Local workforce and educational capacity.
- Institutional capacity and flexibility.
- Governance and regulatory authority over large power and water connections, and land use.
- Environmental and climate context.
- Social license and community readiness.
- Financial capacity.

2.3 Creating Integrated Digital/Energy Plans for Underserved Communities Across the Atlantic Space

New data centers can significantly affect local communities and often spark public debate. Historically, new industries have introduced major challenges related to energy, water, community well-being, and the environment. Over time, many early challenges were offset by local economic growth and more affordable goods and services. A recent World Economic Forum assessment views data centers as potential strategic energy and climate assets for communities everywhere[8].

Many communities across the Atlantic region lack reliable energy and digital services. By actively supporting and managing the integration of data centers, these communities could see faster improvements in energy supply and digital access, along with a smaller environmental footprint.

This will only work if we move the conversation away from simply adding short-term utility infrastructure for data centers and instead focus on building a solid, long-term, investment-grade plan that benefits both the community and the data center. For the plan to be credible, it should be built on a robust diagnostic framework as outlined earlier. It should be developed by a local group that includes both public and private partners who share responsibility and have the resources and authority to make it happen. Each community will have its own set of shared values, priorities, constraints and needs, so planning and action should fit local conditions.



Devising New Models for Underserved Communities Across the Atlantic Space

3. Devising New Models for Underserved Communities Across the Atlantic Space

The Digital-Energy Nexus creates opportunities to move past siloed digital infrastructure projects and instead build integrated digital-energy models that benefit both digital service providers and their local communities. Without these models, local communities across the Atlantic may see little long-term benefit from digital-energy investments. This issue is especially acute for Southern Atlantic countries, many of which risk remaining infrastructure hosts as higher-value digital activities concentrate elsewhere.

The main policy challenge is finding ways to keep more of the economic value from digital-energy investments, whether through jobs, local suppliers, technical skills, innovation, or advanced digital services. There is no one-size-fits-all solution. Countries in the Atlantic South have very different energy resources, electricity reliability, digital access, industrial strengths, and institutional capacity. Because of these differences, partnership models should match each country's strengths and development needs, rather than following a single approach to digital transformation.

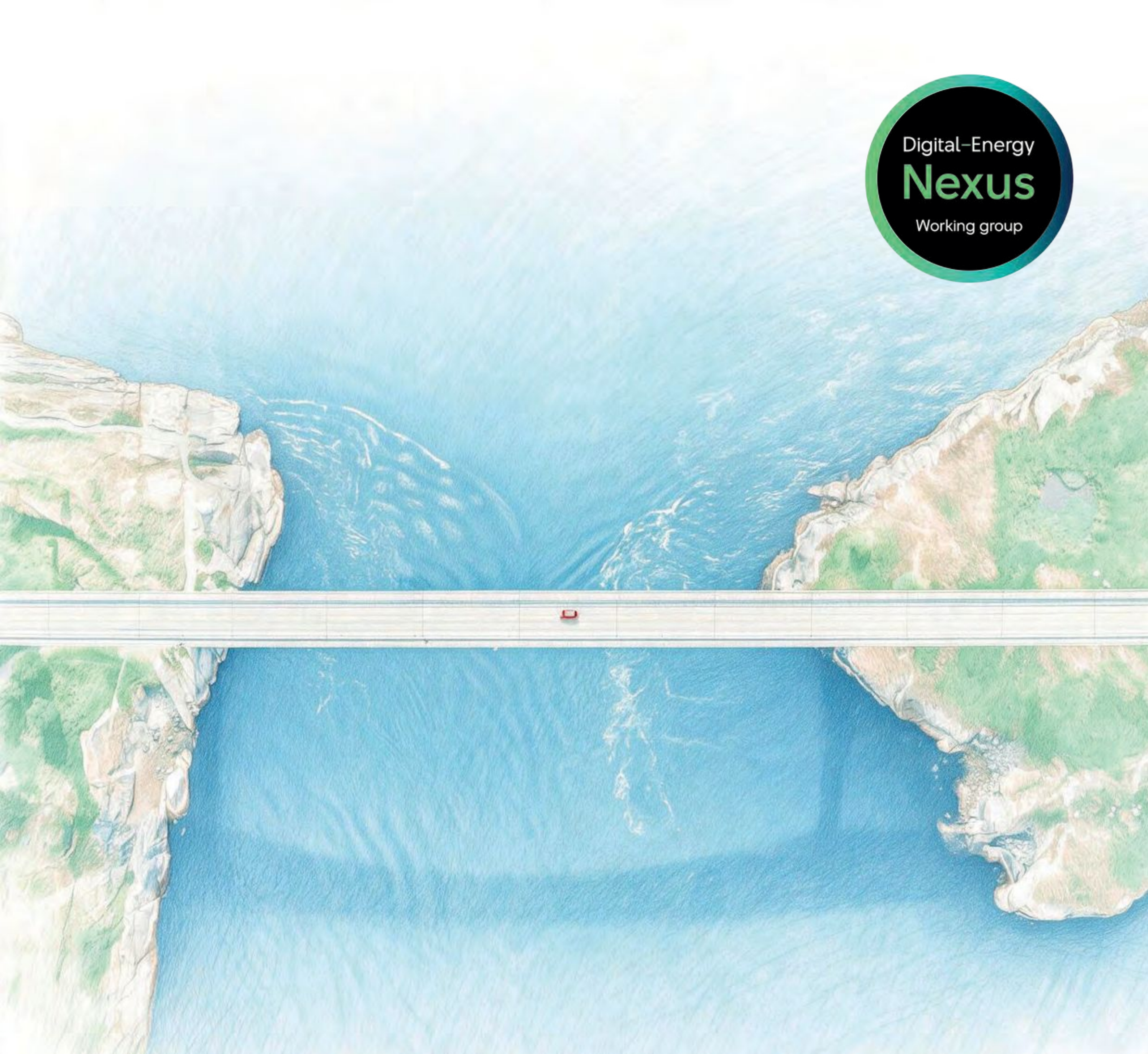
Three general partnership models can help countries turn their unique challenges into opportunities to capture more value.

When digital connectivity is the main challenge, a partnership model that focuses on improving connectivity is often the quickest solution. Building submarine cables, internet exchange points, and cloud infrastructure can make a country more appealing for digital business by lowering latency, increasing bandwidth, and connecting it better to global networks. South Africa is a good example of both the strengths and limits of this strategy. After the Equiano and 2Africa submarine cables were installed, Microsoft, Amazon Web Services, and Google Cloud made major investments, helping South Africa become a regional digital gateway[9]. However, better connectivity alone did not lead to wider development benefits. Ongoing electricity shortages meant operators had to use their own power sources more often. This suggests that connectivity brings more local value when it is paired with reliable electricity, strong institutions, and local skills.

For other countries, a second model is to form energy-enabled partnerships. As AI increases the need for computing power, having reliable, affordable, and low-carbon electricity is becoming a major factor in where digital infrastructure investments go. Countries that offer both strong electricity systems and better digital connectivity are likely to attract more digital infrastructure. Uruguay is an example of how a dependable, mostly renewable electricity system can make a country more appealing for digital investment. Morocco is also making progress by growing its renewable energy, building more electricity connections, expanding cloud infrastructure, and following a clear industrial policy that supports both renewable energy and digital infrastructure. These strengths help Morocco stand out in new digital-energy value chains. Still, there is not enough evidence yet to say that digital demand always strengthens domestic electricity systems. The results depend on whether new power generation and long-term electricity deals are part of a wider national energy plan rather than being set up only for individual facilities.

Ultimately, however, having just connectivity or energy infrastructure will not be enough to stay competitive. Lasting value capture depends on the ability to design, operate, maintain, and continuously upgrade sophisticated digital-energy systems. Countries and communities that want to move beyond just hosting infrastructure need to follow a third model by building their skills to take part in higher-value digital activities. The best approach depends on each country's starting point. For example, Brazil's large market and developed digital sector make it possible to grow advanced digital services along with new infrastructure. Morocco, on the other hand, might gain more by focusing on engineering skills, renewable energy, and technical services connected to digital-energy systems. Countries and communities with fewer resources may want to start with vocational training, better regulations, and digital skills to lay the groundwork for future progress. No matter the path, the goal is to steadily increase how much value from digital-energy investments stays within a country or within a community.

These models are not meant to be strict categories, and most countries will likely use a mix of them as their strengths change. Instead of focusing only on how much infrastructure Atlantic partnerships create, it is more important to look at how well they help countries remove barriers that stop digital-energy investments from leading to broader development. Infrastructure is needed to join the Digital-Energy Nexus, but it is not enough on its own. The biggest benefits come when partnerships help countries tackle their main challenges, such as improving digital connections, making electricity systems cleaner and more reliable, or building the skills and institutions needed to gain more value over time. Countries that focus their partnerships on these goals will be better able to move beyond just hosting infrastructure and become more competitive, while also making sure local communities get more out of digital-energy investments.



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Generating Atlantic Partnerships

4.1 One Size Doesn't Fit All

The differentiated partnership models we have presented suggest Atlantic cooperation should move beyond standardized approaches to digital and energy infrastructure. Instead of replicating identical projects across countries, partnerships should be designed around complementary strengths and shared interests. Success will depend less on the volume of investment than on their ability to create mutually beneficial relationships that strengthen resilience, expand economic opportunities, and enable countries to capture a larger share of the value generated by the Digital-Energy Nexus.

Four principles stand out.

A first principle is complementarity. Atlantic partners enter the Digital-Energy Nexus with different but complementary assets. Countries of the Atlantic North contribute advanced digital technologies, investment capital, research capabilities, and global cloud platforms. Many countries of the Atlantic South offer abundant renewable-energy resources, strategic geographic locations, expanding digital markets, and young workforces. Effective partnerships should leverage these advantages rather than just encourage competition for infrastructure. This approach enables both sides to diversify supply chains, improve digital resilience, and accelerate the deployment of sustainable digital infrastructure. It also creates stronger development outcomes for partner countries.

A second principle is mutual value creation. Atlantic partnerships should not be seen as mechanisms for relocating infrastructure or extracting natural advantages but as long-term collaborations that benefit all participants. Northern partners gain access to reliable locations for expanding digital infrastructure, diversified energy supplies, and more resilient digital value chains. Southern partners benefit when investments support local employment, supplier development, knowledge transfer, and the growth of higher-value digital activities. The objective is not simply to attract investment but to ensure it contributes to broader economic transformation.

Third, for partnerships to succeed, it is important to focus on building capabilities in a structured way. Infrastructure investments generate the most value over time when they are combined with efforts to develop skilled people, support innovation, and strengthen institutions. This means offering technical training, improving engineering education, encouraging collaboration between universities and industry, helping local suppliers, forming research partnerships, and working together on regulations. These steps help countries move beyond simply hosting infrastructure, allowing them to design, operate, and innovate in more advanced digital-energy value chains. Building these capabilities should be a main goal of Atlantic partnerships, not just an added social benefit.

Fourth, as countries and communities shape their digital and energy plans, strong partnerships between the public and private sectors are essential. Digital demand, infrastructure investment, and energy planning are now closely linked. Building submarine cable systems, cable landing stations, cross-border corridors, interconnection infrastructure, regional resilience projects, and digital hubs requires public and private partners to work together. Governments set the rules, energy policies, and digital strategies that guide investments. Private companies bring most of the funding, technical know-how, and operational skills needed to build digital-energy infrastructure. Development finance institutions and multilateral organizations help lower investment risks, prepare projects, and support training. These partnerships should go beyond just financing infrastructure. They should also include joint planning, skills training, technology sharing, and building local networks. Working together in this way helps match business interests with national development goals and makes investments more sustainable over time. In many established and emerging digital hubs, digital infrastructure has developed through collaboration among governments, regulators, infrastructure operators, utilities, investors, enterprises, and local stakeholders. Each brings different responsibilities, capabilities, and investment priorities. Together, they create the conditions that enable digital growth.

Atlantic partnerships work best when seen as long-term platforms for co-development, not just one-off infrastructure projects. By bringing together different strengths, encouraging shared value, building skills, and supporting strong public-private teamwork, these partnerships can make Atlantic economies more competitive and resilient. This approach helps the Digital-Energy Nexus drive technological change and also supports more inclusive and sustainable growth throughout the Atlantic region.

Recommendations

5. Recommendations

Digital infrastructure and energy are becoming more closely linked. As decision-makers plan new digital and energy policies, they should keep several key principles in mind.

Integrate digital and energy planning. Develop digital infrastructure strategies alongside energy planning so future energy investment reflects the differing requirements of digital services rather than assuming a single infrastructure model.

Recognize the diversity of digital infrastructure. Take into account the different roles and needs of data centers, Internet Exchanges, fiber networks, cable landing stations, and international connectivity. Each supports resilience and economic growth in its own way.

Plan for both energy availability and resilience. Expand generation capacity and keep infrastructure running reliably so digital services can move smoothly within and between communities.

Build on local strengths. Focus on what makes your area unique. Countries and communities should shape their digital infrastructure plans around their own strengths in energy, connectivity, geography, and digital ecosystems, rather than copying one approach. Make sure digital goals match local energy conditions.

Prepare for the evolution of Artificial Intelligence. AI infrastructure requirements will diversify as Inference AI expands alongside Generative AI. Long-term planning should consider both large-scale computing environments and the local systems that will bring AI services closer to users.

Strengthen public–private partnerships. Encourage stronger collaboration between public and private sectors. Bring together governments, local stakeholders, digital infrastructure companies, and the energy industry to plan for future needs, coordinate investments, and support long-term digital growth.

Devise incentives to address challenges identified in community plans. Examples might include offering better financing for key infrastructure, encouraging affordable imports that help build local supply, and helping cover operating costs during transitions.

Make value capture a core performance criterion for Atlantic investments. Atlantic institutions and development finance partners should assess digital-energy investments not just by how much infrastructure is built, but also by the benefits they bring to local economies. Evaluation frameworks should include indicators such as local jobs, supplier participation, skills development, technology transfer, innovation outcomes and the growth in advanced digital activities. Including those measures in project selection and monitoring will help make sure that infrastructure investments support lasting economic change, not just more physical assets.

Establish differentiated Atlantic Partnership Roadmaps. Rather than adopting standardized cooperation packages, Atlantic partners should develop country-specific partnership roadmaps based on national assessments of digital connectivity, energy readiness, industrial capabilities, resilience, and institutional capacity. These diagnostics should guide investment priorities, identify the most appropriate partnership model, and define measurable development and resilience objectives. This approach would enable Atlantic cooperation to respond to countries' comparative advantages and maximize development impact. It would also take account of the fact that digital-energy resilience depends not only on domestic infrastructure, but also on trusted international infrastructure and trusted regional partners. This is particularly relevant for the Atlantic economy, where digital services, infrastructure, energy systems, and economic relationships are deeply interconnected.

Create an Atlantic Digital-Energy Capability Initiative. Atlantic countries should create a dedicated program to help build the skills and resources needed for long-term involvement in digital-energy value chains. In addition to funding infrastructure, this program should support engineering education, job training, partnerships between universities and industry, research, technology sharing, regulatory alignment, and local innovation. Making capability development a main focus of Atlantic cooperation will boost the region's competitiveness and make the Atlantic economy more resilient.

Box 1. Case Study Seattle Eco-District

The U.S. city of Seattle, Washington approved the Westin Building Eco-District in 2014, and it started operating in 2015. Eco District LLC, a new thermal utility, collects heat from the Westin Building Data Center and sends it through public spaces to Amazon's nearby headquarters, where it helps heat and cool the campus.

Right away, the project led to big cuts in overall energy use, made HVAC systems more consistent across the campus, and showed how private companies can help the city reach its ambitious energy and climate goals. There is also room to grow these benefits in the future.

Eco District LLC was first set up to serve Westin and Amazon, but it works like a modern district energy utility. Its agreement with the city lets it grow its network and add new thermal customers. As more customers join, the utility can use different thermal sources to control costs, reduce environmental impact, and keep service quality high.

Box 2. Case Study Tallaght District Heating

Tallaght, the county town of South Dublin, Ireland, approved a new district heating scheme in 2018, and the first phase started running in 2023. The town is home to a large Amazon Web Services Data Center, which provides recovered heat for free to the new thermal utility, Heatworks, which is owned by the city. In this first phase, Heatworks supplies district heating to a university campus, a hospital, municipal buildings, and some new affordable housing. It is actively working to add more customers for its heating services.

The community benefits right away from lower and more stable heating costs, major cuts in emissions, and support for local, national, and EU policies. The data center also gains by lowering its operating costs, meeting its corporate goals, and building a positive relationship with the local community.

Box 3. Case Study Morocco: The Digital-Energy Nexus in Practice

Morocco shows how coordinated investments in renewable energy, electricity infrastructure, and digital development can boost a country's appeal for emerging digital-energy value chains. Even though Morocco imports about 90 percent of its primary energy, it has set ambitious goals for its energy transition. Renewable energy made up 45 percent of installed electricity capacity by 2024, and the country aims to reach 52 percent by 2030. Morocco has built major renewable projects, such as the 580 MW Noor Ouarzazate Solar Complex, one of the largest concentrated solar power plants in the world, and has also expanded wind and solar power. These efforts have helped local industry, with local content reaching between 34 and 42 percent in several phases of the Noor project. About 50 more renewable projects worth $5.8 billion are being built or planned.

Morocco is also working to become a regional digital hub that connects Europe and Africa. The government plans to create about $10 billion in economic value from AI by 2030, with investments in national data centers, fiber networks, AI research centers, and cloud services. The strategy includes creating 50,000 AI-related jobs and training 200,000 people in AI skills by 2030. These steps show that success in the Digital-Energy Nexus comes from combining reliable low-carbon electricity, strong digital infrastructure, industrial skills, and a skilled workforce. Looking ahead, Morocco will need to focus on capturing more value at home by building engineering skills, supporting local suppliers, encouraging innovation, and offering more advanced digital services.

Notes

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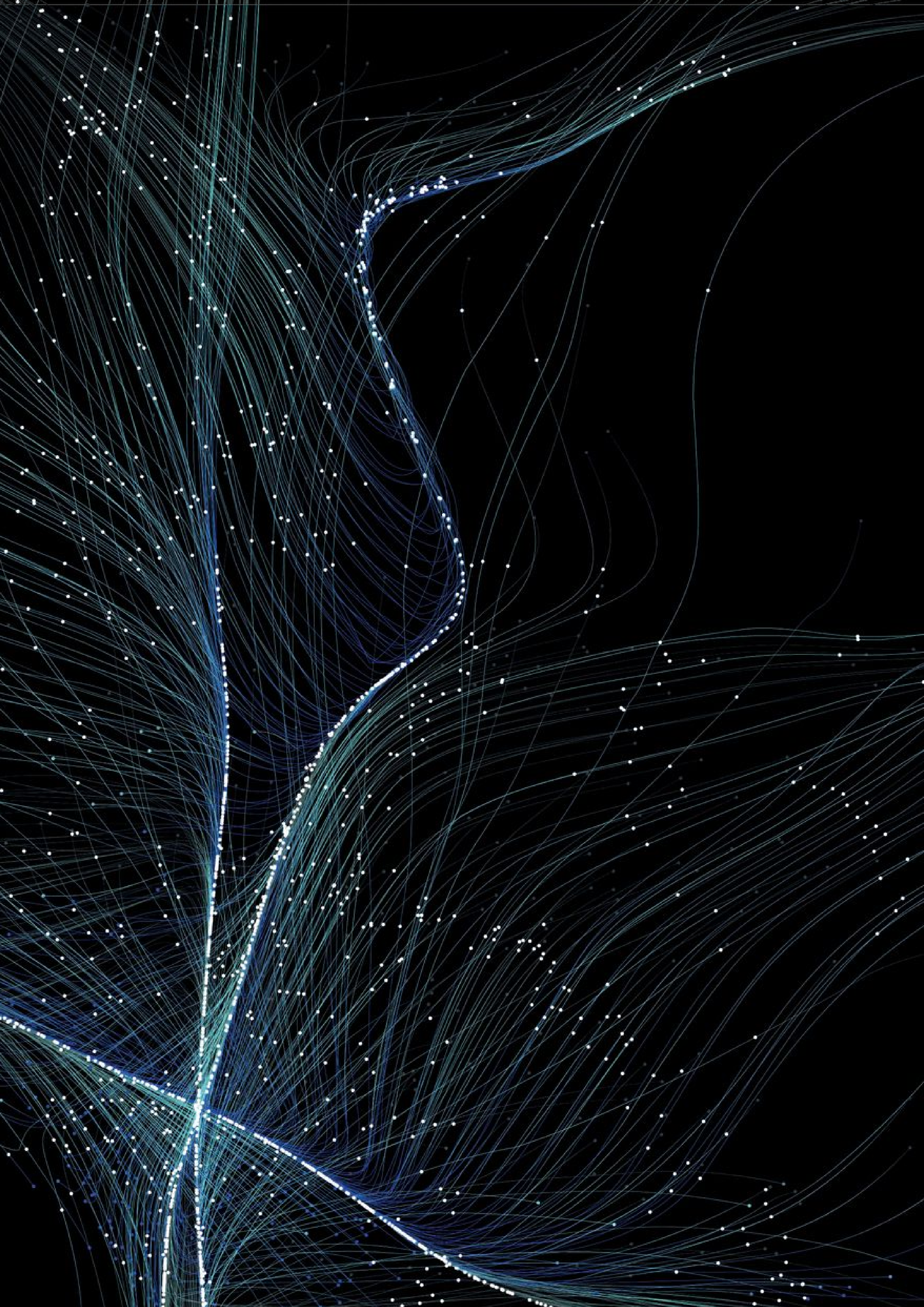

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