



Efficiency First: Key Points for the Energy Union Communication

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Summary

The upcoming Energy Union Communication provides the opportunity to bring together the leading dimensions of European energy policy to drive the transition to an integrated, secure, competitive, and sustainable energy sector. To meet these goals, it is essential to reframe the role that efficiency — including energy efficiency and demand response — plays in how Europe plans for, finances, and constructs its energy system.

European and international experience show that efficiency delivers multiple benefits to the energy system, consumers, and the economy — often at lower cost than supply-side resources. However, Europe is still not investing enough in its efficiency potential. **Achieving this potential requires a high-level commitment to systematically identify the multiple decision points where efficiency is overlooked or undervalued, and put in place concrete policies and measures to ensure that investments happen wherever efficiency is more cost-effective or valuable than equivalent supply-side resources. This approach is called “Efficiency First.”**

The following are some of the key areas where applying Efficiency First can result in more cost-effective, competitive choices for Europe:

- Enable energy efficiency and demand response to participate on a level playing field with supply in both national energy markets and cross-border and regional market interactions through improved monitoring and enforcement of existing provisions of the **Internal Energy Market**, updated rules on capacity markets, and a stronger governance framework.
- Remove all restrictions and incentives that block investment in efficiency by **regulated energy companies**, and introduce a least-cost investment standard that requires consideration of Efficiency First, before identifying investment needs in supply-side resources on the national, regional, and EU levels.
- Closely monitor progress on **targeted interventions**, including the Energy Performance of Buildings Directive, Energy Efficiency Directive, and Ecodesign Directives and, where necessary, launch enforcement actions. Improve guidance on Article 7 of the EED, and extend and strengthen energy efficiency obligations.
- Fully account for efficiency in energy **resource policy development and planning** by revisiting discount rates, aligning demand projections across the EU energy landscape to avoid unnecessary investments in fossil fuel infrastructure and bills, and accounting for the multiple benefits of efficiency.



Introduction

As Europe works to frame the Energy Union, it builds on an existing framework of EU legislation and supporting measures that has delivered significant progress towards meeting goals for EU integration, energy security, competitiveness, and sustainability. The core of this framework includes ambitious legislation proposed under the 2020 and 2030 Energy and Climate Packages, the Third Energy Package, legislation and programmes on energy efficiency (EE), and building and appliance energy performance standards.

Creating a truly resilient Energy Union requires a new way of thinking. It involves a shift from the traditional model of energy production and consumption, based on large fossil-dominated suppliers and passive, price-taking consumers, towards a more flexible system that incorporates renewable technologies and focuses on actively engaged energy consumers. This shift requires new business models and innovative regulatory and market approaches to secure a transparent, successful, and cost-effective energy transition. And it requires a new approach to how efficiency is viewed and integrated across European and Member State policies and measures.

Today, Europe is still not investing enough in EE and demand reduction resources—resources that could accelerate progress towards every other goal that the Energy Union would serve. To remedy this foundational gap, efficiency experts and many efficiency advocates have called for **adoption of a systematic principle to prioritise investments in efficiency resources whenever they would cost less, or deliver more value¹, than investing in any available sources of energy supply and infrastructure.** This principle is often called “Efficiency First.”² To make the Efficiency First concept a reality, concrete policies and measures need to be proposed and put in place, turning visions and aspirations into action.

The purpose of this memo is to justify the principle of Efficiency First and to identify some of the practical policies that can be employed to ensure that the Energy Union policies and programmes will deliver the least-cost portfolio of energy resources needed to meet European energy consumers’ needs, as well as to meet Europe’s goals for integration, security of supply, competitiveness, and sustainability.

What is Efficiency First?

Efficiency First is an organising principle by which demand-side measures are considered on comparable economic terms with supply-side resources in energy sector planning, investing, and purchasing. It also ensures that whenever demand-side measures are shown to be less expensive or more valuable than their supply-side alternatives, they should be deployed first. In this way, an Efficiency First approach avoids the lock-in of unnecessary and more expensive resources, and ensures that energy needs are met with the cheapest and cleanest alternatives available.

Efficiency First also recognises that there are barriers to efficiency that prevent its uptake of – even where efficiency is cost-effective for consumers or society as a whole. Overcoming these barriers requires a combination of codes & standards and market & regulatory mechanisms.

¹ Even where the cost of investing in efficiency is not lower than that of investing in supply, efficiency can deliver significant added value, such as a broad range of energy services (heating, cooling, lighting, mobility, etc.), reduced emissions, benefit to public health and welfare, and reduced risks when compared to fuel price volatility and the risk inherent in large multi-year supply-side infrastructure investment projects.

² R. Cowart, *Unlocking the Promise of the Energy Union: "Efficiency First" is Key*, Regulatory Assistance Project, December 2014.

There is an abundance of evidence-based justification for the principle of Efficiency First: It is often cheaper, better for the environment, faster, and more reliable to the energy system to reduce energy demand instead of investing in more fuel supply, transmission, distribution, and generation resources.³ **Every single goal that has been advanced for the Energy Union would be advanced by a high-level commitment to accelerated investments in demand-side resources.** Efficiency:

In this memo, we refer to “efficiency” as including not only EE improvements but also other forms of demand-side management (DSM), including demand response. This recognizes the benefits of EE and demand-side resources in a broad range of applications, including in reducing demand for energy, lowering peak demand, and addressing the need for cost-effective balancing of the electricity system over time.

- Is a driver of innovation and economic growth for European businesses
- Saves money for consumers and reduces fuel poverty
- Reduces fossil fuel imports⁴
- Lowers GHG and other harmful emissions cost effectively⁵
- Can defer or avoid transmission/distribution costs⁶

In many ways, the European Union has recognised the value of the demand side in achieving its goals relating to energy, the environment, and competitiveness. Efficiency is clearly recognised as an important resource in the Internal Energy Market Directives, the Energy Efficiency Directive (EED), the 2030 Council Conclusions, the Communication on Energy Security, and *Roadmap for moving to a competitive low-carbon economy in 2050*.

Yet despite this recognition, the EU still frequently falls short of systematically considering or prioritising efficiency in a way that would allow for full realisation of its largely proven potential. On a macro level, there is no binding target for efficiency, and the indicative target set for 2020 and that proposed for 2030 barely push beyond business as usual.⁷ The targets that exist for demand reduction are often not factored into demand projections used for making important infrastructure decisions. Demand-side resources are almost always overlooked in energy market design and energy infrastructure planning and investment. Various EU funding streams continue to support investments in supply-side infrastructure without consideration of more cost-effective efficiency options. An Efficiency First

³ Agora Energiewende, *Benefits of Energy Efficiency on the German Power Sector*, March 2014. Retrieved from www.raponline.org/document/download/id/7095.

⁴ Every 1 percent in additional (economy-wide) energy savings translates into a 2.6 percent reduction in natural gas imports. SWD (2014) 255 final, p. 37. Retrieved from http://ec.europa.eu/energy/sites/ener/files/documents/2014_eec_ia_adopted_part1_0.pdf. See also Merrian Borgeson, *Cost of Energy Efficiency is under Half the Cost of Building Coal Power Plants*, November 24, 2014. Retrieved from <http://www.energymanagertoday.com/cost-energy-efficiency-half-cost-building-coal-power-plants-010695>.

⁵ One of the most recognisable illustrations of this is the McKinsey greenhouse gas abatement “cost curve,” which has been developed for a number of countries and regions around the world, including Europe. See McKinsey Quarterly, *A cost curve for greenhouse gas reduction*, February 2007. Retrieved from http://www.mckinsey.com/insights/sustainability/a_cost_curve_for_greenhouse_gas_reduction.

⁶ For example, Con Edison – an electric and natural gas transmission and distribution company that supplies more than 3 million customers in the New York City area – saved up to \$85 million in avoided capacity extensions through geographically-targeted demand-side investments. For more on Con Edison and other examples, see Neme, C. and Grevatt, J. (2015). *Energy Efficiency as a T&D Resource*. NEEP. Retrieved from: <http://www.neep.org/file/2352/download?token=d429AEZ3>.

⁷ S. Braungardt et al., *Study evaluating the current energy efficiency policy framework in the EU and providing orientation on policy options for realising the cost-effective energy efficiency/saving potential until 2020 and beyond*, Report on behalf of DG Ener, 19 Sep 2014.

approach at a high level, as well as an embedding of the principles in legislation, is essential to overcome these shortcomings.

Implementing Efficiency First

Implementing Efficiency First requires three steps:

1. First, there should be a high-level commitment, with a clear reference to it in the forthcoming Energy Union Communication, that recognises the unique role of efficiency and launches a process to uncover and realise opportunities for Efficiency First in policymaking, planning, and decision-making.
2. Second, decision-makers, both public and private, should engage in a public process to systematically identify the many decision points where efficiency resources are available to meet European energy needs (e.g., power market rules, utility investment decisions, infrastructure investments, distribution tariffs, public support schemes, etc.)
3. Third, where efficiency opportunities have been identified, market rules, tariffs, and investment plans should be modified to ensure robust opportunities for demand-side resources to deliver benefits to energy systems.

The first step is essential, as it lays the foundation for an active inquiry into the areas where an Efficiency First approach would lead to improved results. In view of powerful historic biases towards supply-side resources one key to realising Efficiency First is recognising the role of efficiency at the highest level — in framing the Energy Union itself. **Efficiency should be positioned to allow it to play a role not just as a priority area in and of itself, but by being given the chance to be the “first choice” on the list of available resources across a range of energy purchases, generation, delivery and infrastructure investments. It should then be selected whenever efficiency investments cost less and/or deliver more value to the consumer, to the economy and to the environment than supply-side alternatives, using comparable calculation methods.**

The next step is to apply Efficiency First in the Energy Union work plan, as specific areas of policy and legislation are developed and refined. The rest of this note explores three areas where applying Efficiency First principles can result in more cost-effective, competitive choices for Europe:

1. Internal Energy Market
2. Energy Sector Regulation
3. Targeted Interventions

1. Efficiency First in the EU Internal Energy Market

Energy market integration is a cornerstone of European energy policy. The Internal Electricity and Gas Market Directives have introduced a number of measures to liberalise and better integrate EU electricity and gas markets, with the goal of shaping competitive markets that maximise consumer welfare and provide energy services at least cost. And importantly, these measures recognize that demand-side resources have an increasingly important role to play in European electricity and natural gas markets. Yet the challenge of fully empowering the demand side through these markets remains.

In order to meet Europe’s objectives for energy market integration, as well as climate and consumer protection, market rules need to treat demand-side resources on a truly equal footing with supply-side resources. **Completing the internal market to embrace demand-side resources is essential if efficiency is to reap the benefits of market forces and the revenue streams that well-functioning markets provide. Only then can the markets themselves — and ultimately energy consumers — benefit from least costs and system optimisation benefits efficiency will contribute to completing the internal energy market.**

There is considerable experience from North America that supports the idea that including EE and DR in the energy markets, and permitting aggregators to work with customers to deliver these resources in large quantities, will lower total costs paid by customers for the same level of reliability and quality of service. Allowing EE and DSM to bid directly against generation in all electricity markets — that is, short-term energy markets and longer-term capacity markets — is a proven way to apply an Efficiency First test for energy sales and generation capacity. Substantial experience in several large power markets⁸ has shown that allowing lower-cost EE and demand response to bid against conventional generation lowers clearing prices in day-ahead energy markets, intra-day energy markets, and long-term capacity markets. Customer savings in just one of those markets (PJM’s capacity market) were found in a detailed study to have saved customers more than \$12 billion in a single auction period.⁹

Some existing European legislation and regulations provide part of an emerging EU Efficiency First framework in various, often limited markets, but this legislation needs to be expanded and followed up with implementing measures. For example, the EED states: *“Member States shall ensure that national energy regulatory authorities encourage demand side resources, such as demand response, to participate alongside supply in wholesale and retail markets.”*¹⁰

The Directive further calls on Member States to ensure that transmission and distribution system operators treat demand response providers in a non-discriminatory manner, on the basis of their technical capabilities in meeting requirements for balancing and ancillary services. Member States are further required to promote access to and participation of demand response in balancing, reserve and other system services markets by, among other things, working to define technical modalities for participation in these markets.¹¹ Some of the EU Network Codes will make a significant contribution to implementing these high-level requirements.

However, implementation is a different story. Despite all these good intentions, the design of power markets throughout Europe continues to pose barriers to demand response and other demand-side resources.¹² The Commission has an important role to play here in ensuring implementation of the EED and Network Codes, monitoring progress on market opening to efficiency, and where necessary, in enforcing and further developing these provisions. For example, in addition to the public service obligations already set out in the Internal Energy Market Directives, while fully respecting state aid rules and avoiding distortion of competition, Member State energy regulators need also to be required to

⁸ Including ISO-New England, New York ISO, and PJM, the largest market in North America.

⁹ Monitoring Analytics. (2010, September). *Analysis of the 2013/2014 RPM Base Residual Auction*, p. 52. Retrieved from http://www.monitoringanalytics.com/reports/Reports/2010/Analysis_of_2013_2014_RPM_Base_Residual_Auction_20090920.pdf

¹⁰ Energy Efficiency Directive, Article 15.8.

¹¹ *Ibid.*

¹² Smart Energy Demand Coalition (SEDC). (2014, April). *Mapping Demand Response in Europe Today: Tracking Compliance with Article 15.8 of the Energy Efficiency Directive*. Retrieved from http://sedc-coalition.eu/wp-content/uploads/2014/04/SEDC-Mapping_DR_In_Europe-2014-04111.pdf

ensure that demand-side measures are implemented whenever this can ensure energy consumers the lowest possible costs while maintaining quality service. Providing competitive and least-cost energy services is in fact the main purpose of the Internal Energy Market Directives.

As the EU advances its vision of market integration, it is important to ensure that not just Member States, but also cross-border and regional market arrangements call forth the lowest-cost resources, including EE and demand response. This will require a governance process that extends beyond the national regulatory authorities, and that strengthens regional initiatives and better defines the roles of EU-level bodies such as ACER and ENTSO-E/G. As the Commission considers legislation to fully open capacity mechanisms to cross-border participation, it will be especially important to ensure that capacity mechanisms — or any other energy market reforms — treat demand-side resources on equal footing with supply. Moreover, it will be important to ensure that resource adequacy assessments, both domestic and regional, properly account for the potential of demand-side resources to meet system needs.

Efficiency First in the EU Internal Energy Market

Ensuring Efficiency First in energy markets calls for building on the foundation already set in Europe to ensure that demand-side resources are treated on equal footing with supply. This includes:

- Monitoring and facilitating implementation of Article 15.8 of the EED and of the Network Codes, and where necessary, enforcement and further development of legislation.
- In EU-level legislation and regulations regarding capacity mechanisms, require that demand-side resources be treated on par with supply.
- Ensure that the full demand-side potential is accounted for in Member State and regional resource adequacy evaluations.
- Extend public service obligations to require national regulatory authorities to ensure that demand-side measures are implemented whenever this can ensure energy consumers the lowest possible costs while maintaining quality of service.

2. Efficiency First in Energy Sector Regulation

While Europe is working to liberalise its energy markets, many energy services and rates remain regulated, and the transmission and distribution infrastructure remain natural monopolies requiring continued regulatory oversight to ensure reliability and fair pricing. Just as the markets for liberalised portions of the energy system must open up to efficiency, these regulated sectors must incorporate efficiency into their operations as well: it is quite possible for demand-side resources to supplant the need to upgrade or replace electricity or natural gas capacity. It is possible to avoid even major infrastructure upgrades through well-planned demand-side programmes. **This requires removal of all regulatory restrictions and incentives that block investment in EE, and introduction of a least-cost investment standard that requires consideration of Efficiency First before identifying investment needs in supply-side resources.**

Several barriers block the uptake of efficiency in transmission and distribution planning. Firstly, efficiency is not part of the traditional business model, a model that focuses on supply-side investments. In fact, increases in demand-side efficiency decrease sales of energy under traditional tariff design, leading to a corresponding decrease in revenues for transmission and distribution (T&D) companies with

traditional tariff structures.¹³ This creates a direct *disincentive* for regulated utilities to invest in, or even support, efficiency.

Secondly, traditional cost-of-service regulation does not incentivise investment in demand-side resources. Introducing a least-cost investment standard with efficiency at the front, therefore, requires new regulatory rules to both frame incentives and explain how to determine demand-side resource potential. This will also require new tariff structures that do not make profits a function only of sold and distributed energy, but more a function of the services in the form of heating, cooling, lighting, mobility, etc. that energy can provide.

As with energy markets, the EU has already taken some steps to address the barriers to efficiency in energy regulation. However, additional changes to regulation and to the utility business model will take time, and require close monitoring and enforcement to ensure that rules are implemented, and potential reinforcement of existing provisions when legislation is revisited.

Addressing incentives adverse to efficiency – Article 15.4 of the EED calls on Member States to remove incentives in transmission and distribution tariffs that are detrimental to the efficiency — including EE — of the generation, transmission, distribution and supply of electricity, or those that might hamper participation of demand response in balancing markets and ancillary services procurement. This is a key provision, and monitoring and enforcement will be essential as part of the Commission’s overall oversight over implementation of the EED. Moreover, it is important to extend this provision to include natural gas companies when the EED is revisited.

Introducing a least-cost investment standard – The Energy Efficiency and Electricity (and to some extent Natural Gas) Directives, together, create a framework for considering efficiency in transmission and distribution planning. Two of the key provisions relate to the role of efficiency in assessment, planning and development of T&D networks:

- Article 15.2 of the Energy Efficiency Directive calls on Member States to assess the EE potentials of their gas and electricity infrastructure, including transmission, distribution, *load management* [emphasis added] and interoperability, and connection to energy generating installations.
- Article 25.7 of the Electricity Directive states that: “When planning the development of the distribution network, energy efficiency / demand-side management measures or distributed generation that might supplant the need to upgrade or replace electricity capacity shall be considered by the distribution system operator.”

The Electricity and Natural Gas Market Directives further emphasize the role of efficiency in defining the roles of TSOs, DSOs, and national regulatory authorities.

Despite this guidance, the potential for demand-side resources to supplant the need to upgrade or replace electricity or natural gas capacity is not taken into account in any systematic way. Meeting the full potential of efficiency in avoiding T&D investments will require strengthening of existing provisions to drive regulatory reform. Moreover, there is a need to extend the same principles to the development

¹³ And when incremental “throughput” revenues decline in a largely fixed-cost business, the net effect on investment can be proportionally much larger than the fractional loss of sales. See Regulatory Assistance Project, *Revenue Regulation and Decoupling: A Guide to Theory and Application*, June 2011. Retrieved from www.raponline.org/docs/RAP_RevenueRegulationandDecoupling_2011_04.pdf

of European T&D projects, notably through extension of the requirement for a least-cost investment standard led by efficiency to Ten Year Network Development Plans (TYNDPs), Trans-European Energy Networks (TEN-E) and Projects of Common Interest (PCIs). Lastly, as the Commission considers ways to improve the effectiveness of the EU energy regulatory framework, it will be important to strengthen regulatory oversight of T&D investment plans. Only then can stranded costs and other unnecessary investments that are heavily subsidised by Community and other public funds and financing be avoided.

Efficiency First in Energy Sector Regulation

Ensuring Efficiency First in energy regulation requires enforcement of provisions calling for transformation of the regulated utility business model through tariff design and prioritisation of efficiency in planning. This includes:

Monitoring and enforcement of Article 15.4 of the EED, as well as its extension to the natural gas sector.

- Improved monitoring and enforcement of Article 15.4 of the EED and its extension to the natural gas sector.
- Introduction of a least-cost investment requirement, to accompany Articles 25.7 of the Electricity Directives.
- Consider EE first, including geographically focussed EE, in developing EU-level projects such as the TYNDPs, TEN-E, and PCIs.
- In considering legislation on energy sector governance, strengthen the role of regulators in oversight of T&D investment plans.

3. Efficiency First in Targeted Interventions

While enabling demand-side resources to participate as a resource in energy markets and regulation is essential to meeting the cost-effective potential of the energy system, efficiency will not happen without the help of targeted policies and instruments directly aimed at driving efficiency improvements in individual sectors and market segments. Much of Europe's EE potential remains unrealised today, even where cost-effective from a consumer's point of view, due to barriers to investment. These include lack of information, split incentives between, for example, building owners and occupiers, the hassle of organizing and aggregating multiple trades and contracts to implement EE measures over a sometimes heterogeneous sector, and difficulty in accessing financing.¹⁴ European and global experience demonstrates that overcoming these barriers requires a combination of codes and standards, common monitoring, measuring and reporting procedures, accompanied by enabling markets or regulations.¹⁵ **An Efficiency First approach requires a systematic look at targeted EE policies to identify shortcomings, strengthen implementation, and increase the ambition and effectiveness of legislation over time.**

¹⁴ See International Energy Agency, *Capturing the Multiple Benefits of Energy Efficiency*, 2014.

¹⁵ Cite Regulatory Assistance Project, *Best Practices in Designing and Implementing Energy Efficiency Obligation Schemes*, June 2012. Retrieved from www.raponline.org/document/download/id/5003

The EU has put in place a number of policies to drive the market for EE and to activate demand-side resources:

- The Energy Performance in Buildings Directive (EPBD), EED, and Ecodesign Directives set EU-wide appliance and equipment energy performance standards, and require Member States to set cost-optimal building performance requirements at a national level.
- The EED and Third Energy Package include provisions to create enabling markets and regulations for efficiency, as well as encourage Member States to place public service obligations on energy regulators *inter alia* to ensure adequate energy services and protect vulnerable customers.

However, as numerous analyses have documented, much of Europe's cost-effective efficiency potential remains untapped.¹⁶

As the Commission prepares to review the EPBD, EED and Ecodesign Directives, it is important to underscore the importance of these instruments in driving transformative market change. And while running through the details and all the possible improvements of these directives is beyond the scope of this memo, it is important to emphasize the role of the Commission in monitoring progress with these Directives, facilitating compliance where possible, and considering enforcement action where necessary. The planned review of these directives will provide an opportunity to take a hard look at progress Europe has made on efficiency — and failed to make — and to identify areas that require further attention. Opportunities to embed the principle of Efficiency First in revisions of existing legislation, as well as in strategy communications on the energy sector, such as the Energy Union, should not be missed.

One area deserving particular scrutiny is Article 7 of the EED, which places an obligation on Member States to ensure delivery of cumulative energy savings targets to 2020. Member States can meet these targets through imposing end-use EE obligations on energy distributors or retailers or through implementation of alternative policy measures.

Article 7 takes the important step of boosting the EU's ambition on EE by combining multi-year targets with an implementation mechanism, and guidance on evaluation, measurement and verification. It stimulates efficiency beyond requirements in existing codes and standards, penetrating to a certain extent areas like retrofits of existing buildings that are not covered by current legislation. And it leverages financing for efficiency through energy companies, linking efficiency with energy system planning.

For Europe to meet its EE objectives, successful implementation of Article 7 is essential. However, a preliminary assessment of progress with Article 7 indicates that many Member States have not yet put in place the framework needed to comply.¹⁷ Moreover, the 1.5% annual end-use savings target has been cut by about half through numerous exemptions, effectively halving ambitions for end-use EE across Europe. Yet European and international experience demonstrate that 1.5% savings are achievable, and

¹⁶ M. Economidou, et al., *Europe's Buildings Under the Microscope*, Buildings Performance Institute Europe (2011). Retrieved from http://www.bpie.eu/eu_buildings_under_microscope.html#.VNxqnmTF-0o

¹⁷ The Coalition for Energy Savings, *Implementing the EU Energy Efficiency Directive: Analysis of Article 7 Member States Reports*, April 2014. Retrieved from <http://energycoalition.eu/sites/default/files/20140422%20Coalition%20for%20Energy%20Savings%20Art%207%20Report%20FINAL.pdf>

in fact many jurisdictions with EEOs have set higher ambitions once programmes have had a chance to ramp up.¹⁸

An Efficiency First approach will require active monitoring of progress on Article 7, and enforcement to ensure proper implementation. Moreover, as the Commission considers how to incorporate a 2030 efficiency target, it will be important to extend Article 7 to 2030 and to strengthen its ambition in several key areas, including in eliminating exemptions that weaken the overall Article 7 target.

Efficiency First in Targeted Interventions

Achieving Europe's efficiency potential requires enforcement of existing legislation and an Efficiency First approach to EU-level financing. Chiefly, it requires:

- Close monitoring of Member State compliance in planned reviews of the EPBD, EED and Ecodesign Directives, and — where necessary — enforcement actions.
- Recognition of the foundational role of Article 7 of the EED through close monitoring of key provisions and extension of targets tied to efficiency obligations to 2030.
- Improved guidance on implementing Article 7 to increase its impact and reduce abuse of the exemption clauses, and embedding an Efficiency First clause in Article 7, which can easily be justified from a cost-effectiveness standpoint.

¹⁸ See International Energy Agency, *Capturing the Multiple Benefits of Energy Efficiency*, 2014.

Conclusion

This memo defines the concept of Efficiency First, explains the importance of a high-level commitment to the concept, and provides illustrations of areas where such a commitment would play out in European policy and legislation. Yet there are many more key policy areas where an Efficiency First approach could, and should be made to deliver an even greater impact and to improved outcomes. These include:

Other Key Applications of Efficiency First

While this is not an exhaustive list, the following additional areas are particularly important to consider in ensuring that Europe's valuable efficiency potential is met – both in resource policy development and planning and in prioritising investments.

- Revisit the discount rates used for efficiency and the reasoning behind this, including a hard look at how risk is accounted for in discount rates for efficiency versus supply-side resources.
- Account for a broader range of the proven benefits of efficiency in cost-benefit analysis (the so-called multiple benefits analysis focussed on recently by the IEA and others).
- Consider efficiency resources first in determining Projects of Common Interest, including through the revision of the Trans-European Energy Networks (TEN-E) and by ensuring that efficiency is properly accounted for in projections concerning future energy consumption and supply requirements.
- Consider Efficiency First in EU-funded projects, such as cohesion policy financing and the Juncker Package.

Experience teaches that once policy-makers start looking, numerous venues and decision points can be found where efficiency investments would advance all of the key objectives of the emerging Energy Union.¹⁹ To begin with, a mandate is needed to look at resources choices in a disciplined way, and to open the door to best advance economic, environmental, and security goals. Thus, the first step to realising Efficiency First is to adopt that high-level commitment in the EU Energy Union Communication that European policy will prioritise investments in efficiency resources wherever they come at lower cost, or deliver greater value, than alternative supply-side energy resources. Such a high-level commitment must be followed up with a coherent process by which each of these opportunities is uncovered and realised.

While this memo sets forth a vision of how Efficiency First can be integrated into the EU policy fabric, identifying the many opportunities for Efficiency First will only happen through a systematic inquiry that draws on input from a wide range of stakeholders. The Energy Union Communication provides the opportunity to launch a high-level Efficiency First commitment, and to begin to shape how such an inquiry will be undertaken, in parallel with the EU's workplan for realising its broader energy objectives.

¹⁹ An example of this type of process can be found in the "New England Demand Response Initiative" (NEDRI) – a stakeholder process to develop a comprehensive, coordinated set of demand response (DR) programs and policies for power markets and systems throughout the New England region in the United States. The process resulted in adoption – by consensus agreement from all relevant stakeholders – a total of 38 recommendations to support the comprehensive development of cost-effective demand-side resources (including energy efficiency) throughout the region. NEDRI, *Dimensions of Demand Response: Capturing Customer Based Resources in New England's Power Systems and Markets*, July 23, 2003. Retrieved from http://www.dleg.state.mi.us/mpsc/electric/capacity/cnf/demand/nedrijul_2003.pdf