

ICERChronicle

Edition 13 Winter 2022–Spring 2023

The Evolution of the Utility Customer

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RATES
POWER COMPANY
ELECTRICITY

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SOLAR ENERGY REGULATOR

PROSUMER
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ACCESS



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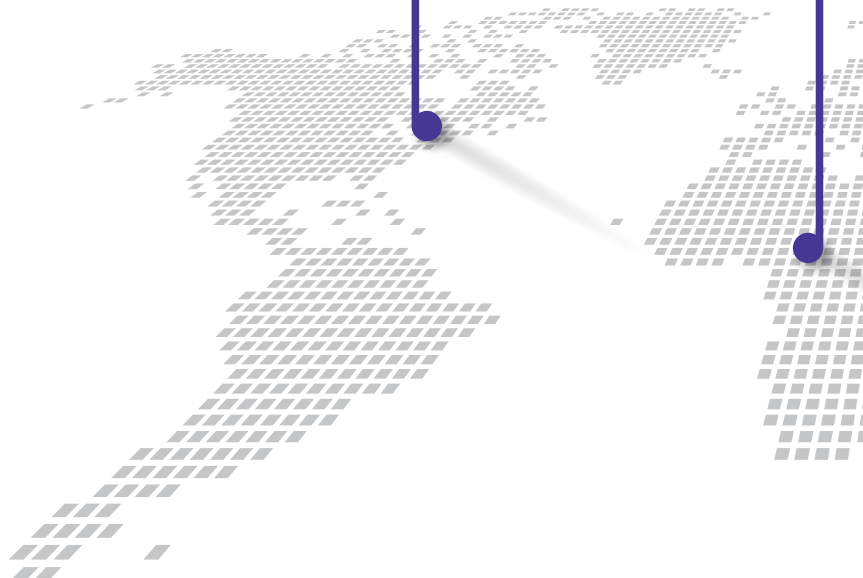
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Regina L. Davis is the assistant executive director for the National Association of Regulatory Utility Commissioners. She served previously as the communications

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Irama Zamora



Irama Zamora joined the Council of European Energy Regulators (CEER) as a Working Group Coordinator for customers and retail markets and market

integrity and transparency in July 2021. She also worked in the International Relations team at the Energy Services Regulatory Authority in Portugal, working closely with NRAs in European, African, and Latin American countries.

She holds a bachelor's degree in Political Science and International Relations and a post-graduate certificate in Economics and Regulation of the Financial Sector.

Isabel Apolinário



Isabel Apolinário graduated in Economics and has an MSc Degree in Energy and Environment Economics. She joined the Energy Services Regulatory Authority

in Portugal in 2002, and has been the Head of Tariffs, Prices and Energy Efficiency Division since February 2019.

She participates in the work of various regional regulatory associations as a member of CEER (Council of European Energy Regulators), ACER (Agency for the Cooperation of Energy Regulators) and MEDREG (Mediterranean Energy Regulators) Gas Working Groups.

Her research areas are economic regulation, electricity and natural gas tariffs and energy efficiency.

Europe

CEER

Council of European Energy Regulators

MEDREG

Mediterranean Energy Regulators

ERSE

Energy Services Regulatory Authority

Asia

SAFIR

South Asia Forum for Infrastructure Regulation

Pacific

OPERA

Office of Pacific Energy Regulators Alliance

Other Regional Members of ICER

AFUR African Forum for Utility Regulators

AEMC Australian Energy Market Commission

EAPIRF East Asia & Pacific Infrastructure Regulatory Forum

ARIAE Ibero-American Association of Energy Regulators

OOCUR Organization of Caribbean Utility Regulators

RERA Regional Electricity Regulators Association of Southern Africa



There is a lot to report on from ICER this month.

2023 World Forum

ICER's Steering Committee in February approved new dates for the World Forum on Energy Regulators in Lima, Peru. This conference, postponed once because of the COVID pandemic and again following a change of government in Peru, is now set for August 23-25, 2023.

Peru's energy regulators, the Supervising Agency for Investment in Energy and Mining — more familiarly known as Osinergmin — has persevered through these challenges and has not once lost focus on its planning and preparation of this important global conference. The theme this year, "The Energy Transformation Challenge: Competitiveness and Sustainability of Energy Markets, Opportunities and Achievement," is a timely one for energy regulators and policy makers around the world, and the agenda features impressive speakers and panelists. Check out the WFER website at www.wferperu2023 for more information.

As ICER Chair, I have had the privilege of working closely with Osinergmin's team. Chair Omar Chambergo Rodriguez has assembled a dedicated and capable group — including WFER Secretariat member Beatriz Estrada Moreno, Jair Rodriguez, and Victor Zurita; General Manager Juan Jose' Rojas, and Communications Manager Anna Maria Rondón, among others — to handle logistics, develop the program, and ensure a productive and exciting event. I have every confidence that the 2023 World Forum will be a huge success.

2026 World Forum

Also in February, the **National Energy and Water Supply Regulatory Commission of the Republic of Georgia** received preliminary approval from the ICER Steering Committee to host the World Forum in Tbilisi in 2026. GNERC recently celebrated its 25th Anniversary, and Commissioners Maya Melikidze and Giorgi Pagnani have been especially active in ICER. While the choice of Tbilisi must be formally approved by the ICER membership in August, their application was strong and the Steering Committee supported it unanimously. I appreciate GNERC's active involvement in ICER and in the global community of energy regulators.

ICER's Newest Member

Finally, in December ICER welcomed its newest member, the Office of Pacific Energy Regulators Alliance (OPERA). To date, OPERA comprises the nations of Samoa, Tonga, Vanuatu, the Republic of Fiji, the Cook Islands, the Republic of Palau, Papua New Guinea [PNG], and the Solomon Islands. Kiribati and Niue are applying for OPERA membership.

Electricity regulators in Samoa, Tonga, and Vanuatu established OPERA in December 2016 as a regional hub for energy regulators. With support from the Asian Development Bank, OPERA seeks to provide capacity building and knowledge-sharing support to regulators and governments in the region.

Mr. Siamelie Latu, the CEO of the Tonga Electricity Commission, serves as OPERA's Chair. On page 34 of this issue, he shares his views on energy issues in Tonga and the Pacific region. I am pleased to welcome OPERA to ICER and look forward to working with Pacific regulators in the coming years.

Theme: The Evolving Utility Customer

The theme for this issue, as the cover denotes, is The Evolution of the Utility Customer. As regulators, we know all too well that our customers' expectations, knowledge, and engagement have changed considerably over the years. Various facets of that evolution and how regulators are responding, is highlighted across several feature articles (page 6) from the British Columbia Utilities Commission; the National Association of Regulatory Utility

Commissioners (with U.S. perspectives), and the Council of European Energy Regulators.

My thanks to the many ICER leaders who provided their insights for our Q&A feature beginning on page 24. I'm sure you'll enjoy reading their varied perspectives.

In our Thoughts

As the Russian War on Ukraine has moved into its second year, we keep our colleagues at the **National Energy and Utilities Regulatory Commission (NEURC) of Ukraine**, as well as all the citizens of Ukraine, in mind during these very difficult times. We see that NEURC continues to function effectively and applaud all of the efforts of the commissioners and staffs who are working closely with the utilities around the country to keep the electricity, natural gas, and district heating sectors functioning as well as possible, with constant repairs and rebuilding.

We also grieve with the global community on tragic loss of life in Turkey and Syria following the two significant earthquakes in early February. The destruction and images on the news are devastating and we offer our support to our colleagues at the **Energy Market Regulatory Authority of Turkey**.

David Danner, ICER Chair, Chair of the Washington Utilities and Transportation Commission

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CAMPUT

CAMPUT Executive Director Retires

Cynthia Chaplin, Executive Director of the Canadian Association of Members of Public Utility Tribunals (CAMPUT) will be retired from her position, effective December 1, 2022. Cynthia joined the organization on November 5, 2018. During her time at CAMPUT, Cynthia led CAMPUT through the COVID-19 pandemic. She seamlessly transitioned meetings, events, and other activities to a virtual environment and then back to a hybrid format, which allowed for both virtual and in-person participation. In addition, Cynthia expanded the organization's administrative support and hosted numerous educational webinars and events, including the annual CAMPUT conferences. She also participated as a moderator and panelist at many industry events. Cynthia's deep knowledge of energy regulation and the utility industry made her a vital contributor to the organization, its members, and to the associations CAMPUT is a part of, including ICER.

The CAMPUT Executive Committee thanks Cynthia for her hard work, leadership, and many contributions to the organization and wish her the best in her retirement. Jocelyn Fraser, CPA, CA, will officially take over as the new Executive Director as of December 1, 2022.



Cynthia Chaplin

CEER

More than 200 Participants Take Part in the Renewable Energy Conference in Tbilisi

The CEER, on behalf of the European Commission's EU4Energy Programme — "Promoting the Clean Energy Transition in the Eastern Partnership Countries," the Energy Regulators Regional Association (ERRA) and Georgian National Energy and Water Supply Regulatory Commission (GNERC) welcomed more than 200 conference delegates in Tbilisi, Georgia for the first Renewable Energy Investment Conference. The three-day event brought energy regulators and high-level policymakers together to find ways to accelerate the energy transition and encourage investments in renewable energy projects in Europe, Eastern Partnership countries and beyond. The conference was held on 26-28 October 2022.

Press release: <https://www.ceer.eu/documents/104400/-/-/8174dce7-e44d-4f1b-035d-d23fd4e54674>



CEER Elects New Board of Directors and International Relations Group Chair

On Tuesday 25 October, at a meeting of its General Assembly, CEER elected two new vice presidents: Ms Jana Haasová and Ms Alda Ozola, to join the three existing vice presidents, Mr. Koen Locquet, Mr Wolfgang Urbantschitsch, and Mr Pedro Verdelho, who were re-elected to another term. The new 2.5-year terms began on 12 November. The five vice president's, together with CEER President Annegret Groebel, make



Jana Haasová
ERÚ (Czech Republic)



Koen Locquet
CREG (Belgium)



Alda Ozola
PUC (Latvia)



Wolfgang
Urbantschitsch
E-Control (Austria)



Pedro Verdelho
ERSE (Portugal)



Claire Hellich-Praquin
CRE (France)

up CEER's Board of Directors and play a pivotal role in providing strategic guidance to the organisation.

CEER has also elected Ms Claire Hellich-Praquin (CRE, France) as its International Relations Group (IRG) Chair to work on important international issues and priorities in collaboration with other international regulatory associations.

NARUC

■ 15th EU-US Energy Regulators-Roundtable

Energy regulators from Europe and the United States met on October 13-14, 2022, in Washington, D.C., in the United States, for the 15th EU-US Energy Regulators' Roundtable to discuss common challenges and exchange best practices and experiences. The event is normally held approximately every 18 months, but due to the COVID-19 pandemic, had not been held since March 2019. The event was organized jointly by the US and European associations of regulators, the National Association of Regulatory Utility Commissioners (NARUC), and the Council of European Energy Regulators (CEER). Also in attendance were representatives from the EU Agency for the Cooperation of Energy

Regulators (ACER) and from US Federal Energy Regulatory Commission (FERC).

Topics at this meeting were focused on challenges and priorities around these themes:

- Session 1: Grid Resilience & Distributed Energy Resources
- Session 2: Clean Energy & Decarbonization
- Session 3: Electrification & New Technologies; Dynamic Regulation
- Session 4: The Energy Crisis & Mitigation Measures
- Session 5: Cybersecurity

To learn more about the event and to read the conclusions document, visit <http://bit.ly/3G04D7l>.

SAFIR

■ Meetings

SAFIR conducted its 24th Executive Committee meeting on 22nd July 2022 via online mode.

SAFIR also conducted its 7th Joint Working Group meeting on 01 July 2022 and its 8th Joint Working

Group meeting on 13 September 2022 to discuss and finalize the "Harmonization of Rules and Common Minimum Grid Code" and to develop options for approach of regional power market design.

■ Change of SAFIR Chairperson

Mr. Nima Tshering, Interim CEO & Director of Bhutan Electricity Authority (BEA), has taken charge as SAFIR Chairperson, after the resignation of the former Mr. Samdrup K. Thinley SAFIR & former CEO, Bhutan Electricity Authority, Bhutan.



The 15th EU-US Energy Regulators' Roundtable

Keys to Success in Stakeholder Engagement:



Three Case Studies from Around the World



*Written by Cynthia
Chaplin and David
Morton, Chair & CEO,
British Columbia
Utilities Commission*



Nattanan Zia/Shutterstock.com

This decade is poised to reshape the electricity sector in ways rarely seen in any industry. New technologies will create innovative ways for utility customers to use, generate, store, and manage electricity.

New regulatory approaches will be needed to ensure customers can choose how they pay for services, take advantage of new technologies, and save money. Regulators and utilities will need greater knowledge of how customers interact with energy, and therefore customers, and stakeholders generally, will need to be directly engaged.

This article describes three case studies to illustrate the central role for enhanced engagement in the energy transition. The first is a successful engagement process in the United States by the Oregon regulator (and funded by the Oregon government) to clarify the regulator's role in the energy transition.

The second case study comes from British Columbia, Canada, where the utility regulator's enhanced stakeholder engagement process delivered significant benefits for its review of an infrastructure project.

The third case study comes from New Zealand, where the lack of customer engagement prior to the widespread rollout of residential demand charges resulted in significant negative outcomes for the utility and its customers.

Oregon Stakeholder Engagement

In 2017, the Oregon State Legislative Assembly passed Senate Bill 978 (SB 978), directing the Oregon Public Utility Commission (PUC) to convene stakeholders in the state power sector to investigate industry trends and the impact of technology on the current regulatory system. Instead of directing a specific course of action (as initial proponents had recommended), the bill required the PUC to do the following:

- ◆ Establish a public process to investigate how industry trends, technologies, and policy drivers may impact the existing electricity regulatory system.
- ◆ Investigate the obligations of and benefits to electric companies and customers under the existing regulatory system, and the current use of regulatory incentives.
- ◆ Support new policy objectives without compromising affordable rates, safety, and reliable service.

Key issues included an increasing number of calls to reduce the environmental impacts of the electricity system, increasing customer interest in electricity options, and discussing how new societal objectives and industry and technology changes should be considered in the regulatory process.

The general public was included in the process, which meant that the PUC had to run it differently. In traditional regulatory proceedings, parties who understand the process well have an advantage over those that do not. That power dynamic needed to be adjusted to ensure there were effective contributions from new participants, even though doing so met with initial resistance from traditional participants.

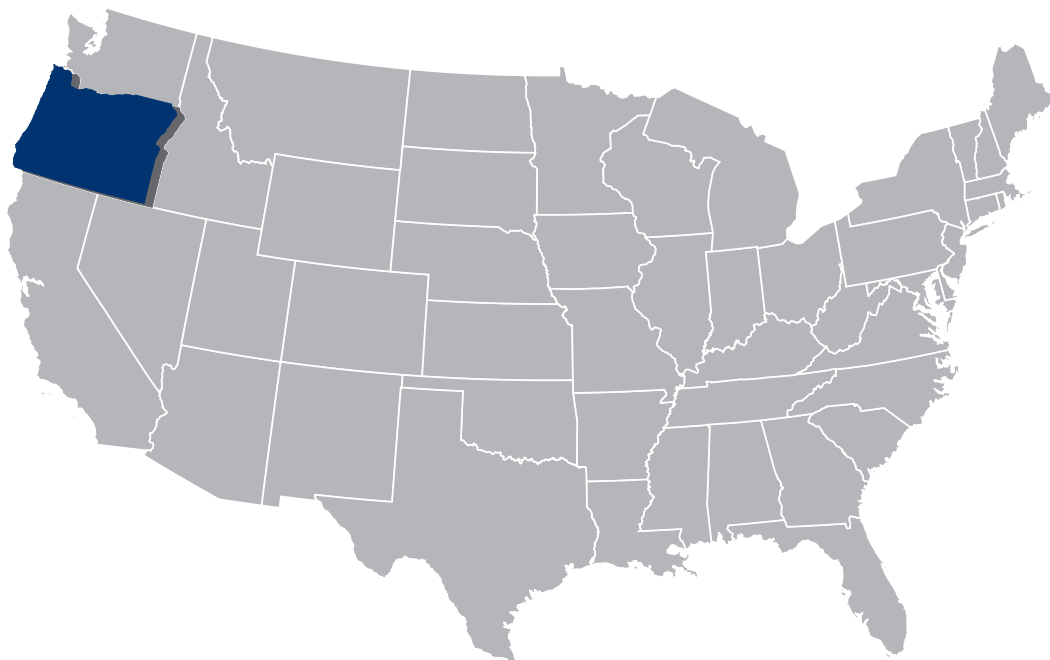
The subsequent stakeholder engagement process is described in the Smart Electric Power Alliance (SEPA) report, [*‘Benefits of a Comprehensive Public Stakeholder Process: the Oregon Senate Bill 978 Experience.’*](#)

The report describes how the PUC, with the assistance of the Regulatory Assistance Project and Rocky Mountain Institute, designed a series of dynamic and inclusive stakeholder meetings. Participants presented their perspectives on the existing regulatory sys-

tem and policy and technology trends, as well as potential changes to the regulatory process to address or acknowledge these trends. This differed from past practice as the participants took the lead in raising issues, rather than the PUC, enabling consideration of a broader set of perspectives and possible solutions.

PUC representatives also indicated to the report authors that strong third-party facilitation was essential to make the public process work effectively. The report concluded:

“*The comprehensive stakeholder process successfully brought together different perspectives and, most importantly, new voices that had not traditionally been part of regulatory processes. These new participants added to the discussion, highlighting the importance of issues such as equity, while also advancing the understanding of the regulatory process for all participants. ... participation of new and diverse stakeholders helped achieve consensus on two overall objectives—that climate change and equity were issues that the PUC should address.*”



Key takeaways regarding the process identified in the report included:

- ◆ The importance of engaging a broad group of stakeholders, especially new voices representing communities and customers who are not traditionally part of regulatory processes and proceedings.
- ◆ The critical need to engage outside facilitation to ensure that all voices around the table are heard — leveling the playing field between traditional and new participants.
- ◆ The value of engaging neutral outside expertise to educate all participants, providing a common foundation and understanding for ensuing discussions.
- ◆ The need for resources to support the stakeholder effort, both funding to engage outside facilitators and experts and the prioritization / dedication of internal staff and commissioner resources.

Based on the findings of the public process, the PUC submitted '[SB 978 Actively Adapting to the Changing Electricity Sector](#)' to the Oregon Legislature in September 2018 with recommendations for legislative and regulator actions. Oregon PUC Chair Megan Decker concluded, "We could not have achieved the outcomes we did without the comprehensive process."

Unprecedented Engagement in British Columbia

Site C is the third BC Hydro electric facility on the Peace River. Its nameplate capacity is 1,100 MW and upon completion is expected to generate 5,100 GWh a year. Construction began on the project in 2015 with a budget in 2014 of \$8.75 billion. Concerns from stakeholders and the public quickly arose as the project ran into cost and budget overruns.

In 2017, the BC government directed the British Columbia Utilities Commission (BCUC) to expedite a review of the Site C dam to determine if there was an economic case to continue the project. Specifically, the BCUC was asked to determine if there was a lower cost alternative (including demand side options) to completion of the dam.

The review was to be completed in only three months. The BCUC therefore developed a project schedule with much tighter timelines than usual but still provided opportunities for a robust engagement process.

The schedule included preliminary submissions, followed by a draft report, and then final submissions, followed by the final report. Each step was given three weeks.

Throughout, public consultation meetings were held across the province. This stakeholder engagement process was extensive and unprecedented. In addition to commissioning an expert report from Deloitte, there were 11 community input sessions, three First Nation sessions, two technical sessions, 304



speakers, 620 written submissions, 272 phone calls, and 704 email subscribers.

Input was received from a wide range of stakeholders who did not normally participate in regulatory proceedings, including academia, retired members of the broader energy community, and 'armchair' energy enthusiasts. For example, insightful analysis used to help value the flexibility of the Site C dam came from a local farmer who had taken a keen interest in the Site C project.

The BCUC also ensured that it specifically reached out to Indigenous communities and allowed for the provision of oral testimony, which can play an integral role in Indigenous cultures.

The high level of stakeholder outreach in the Site C Inquiry was essential in allowing the BCUC to tap

into the expert knowledge that was available in the broader energy community and meet the ambitious timeline set by the BC government. The [Site C Inquiry report](#) presents comprehensive analysis of the input received and sets out how the input informed the conclusions.

The BCUC also encourages utilities to undertake enhanced stakeholder engagement prior to making applications. This ensures that utilities can benefit from the input of a wide range of stakeholders in developing their proposals, in the same way that the BCUC was able to do so in the Site C Inquiry. The BCUC provides funding for stakeholder participation in its regulatory proceedings, and has recently updated its [participant funding guidelines](#).

The unprecedented nature of stakeholder engagement in the Site C Inquiry was also well received by stakeholders and helped build trust in the regulatory proceeding, with interviewed participants [stating](#):

“[BCUC Chair] David [Morton] definitely was actively listening, that’s the feeling I got. He was present. You looked straight at him, and he was looking right at you. I’ve been to many of these things and this was refreshingly good,” Said environmentalist and Order of Canada member Vicky Husband.

“Everybody was quite surprised that people who went outside the terms of reference, that BCUC didn’t shut them down. They allowed people to talk about values that weren’t financial. It was interesting to see that they were listening to a whole range of issues. I think that’s a sign of them listening.” Lindsay Brown

Managing Customer Dissatisfaction in New Zealand

In New Zealand, it became apparent that a lack of customer engagement leads to negative outcomes.

The Lines Company (TLC) is an electricity distributor that directly invoices customer for network services. TLC introduced residential demand charges in 2007 to reduce system peaks and ensure owners of holiday homes paid their fair share of network costs. The demand charge was based on an average of the customer’s top six peaks, where the peaks were measured by taking average consumption over any two-hour period at the times that load control is being used by TLC. Under New Zealand’s regulatory system, distribution companies can implement rate design changes without prior regulatory approval.

The New Zealand Electricity Authority (NZ EA)

[reviewed the TLC’s rate design](#) in 2017 in response to TLC customer dissatisfaction. The NZ EA found that TLC’s demand charge was resulting in a high level of customer stress and uncertainty, relative to other potential pricing alternatives, and was not achieving the desired benefits of fairness or efficiency. A key source of customer stress was due to TLC’s pricing, which was hard to understand compared to simpler fixed and variable energy charges and also hard for customers to manage. Specifically, demand charges for the next pricing year were based on a small number of peak loads during the current pricing year.

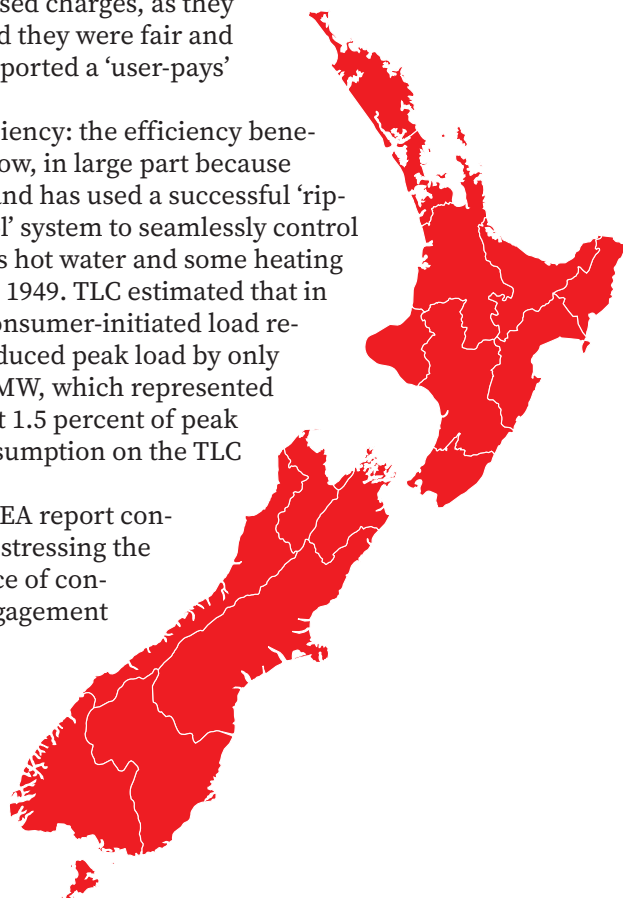
For example, a customer turning on a heater might not see any increase in their demand charge in the next year’s billing periods, or it could cost them an extra NZ \$150 if they did it at a time that ultimately was included as one of the six peak periods in a year. This contrasts with a pricing approach where a customer’s charges for a given month are based on actions in that month. The customer may anticipate and experience regret on receipt of the bill the following month but can soon see the benefit of taking action to reduce future bills.

The NZ EA also found that the rate design did not achieve the desired benefits:

- ◆ **Fairness:** the original perception by TLC that demand charges were ‘more fair’ than energy charges did not appear to be shared by their customers. A number of customers wanted to return to energy-based charges, as they considered they were fair and better supported a ‘user-pays’ pricing.

- ◆ **Efficiency:** the efficiency benefits were low, in large part because New Zealand has used a successful ‘ripple control’ system to seamlessly control customer’s hot water and some heating load since 1949. TLC estimated that in 2015/16 consumer-initiated load response reduced peak load by only around 1 MW, which represented only about 1.5 percent of peak gross consumption on the TLC network.

The NZ EA report concluded by stressing the importance of consumer engagement



prior to introducing new pricing designs, stating:

“Implementing a new distribution pricing approach in a region is a complex process and should be given an appropriate level of resource by distributors. It would be best to identify the likely effects of detailed design decisions during the implementation process of a distributor’s pricing approach (through trialling or experimenting with approaches) before engaging in the widespread rollout of a new methodology. Distributors should remain open to feedback from consumers and retailers during this process to understand the likely effect of the changes.”

To support this approach, the NZ EA produced [guidelines](#) for distributors on the scope, approach, and process of consultation on price structure changes. These principles reflect well-established principles of consultation and may be of interest to regulators and utilities in other jurisdictions.

TLC subsequently [consulted with its customers and changed its rate design approach](#), transitioning from demand-based pricing to time-of-use pricing in 2018 and moving away from direct billing for most customers.

Lessons Learned

These three case studies illustrate the benefits that come from enhanced stakeholder engagement, and the risks from not doing so.

The example from Oregon shows the value of engaging stakeholders to address foundational questions and to help shape future regulatory system.

The example from British Columbia shows that comprehensive stakeholder engagement can be done effectively, even if there are time constraints.

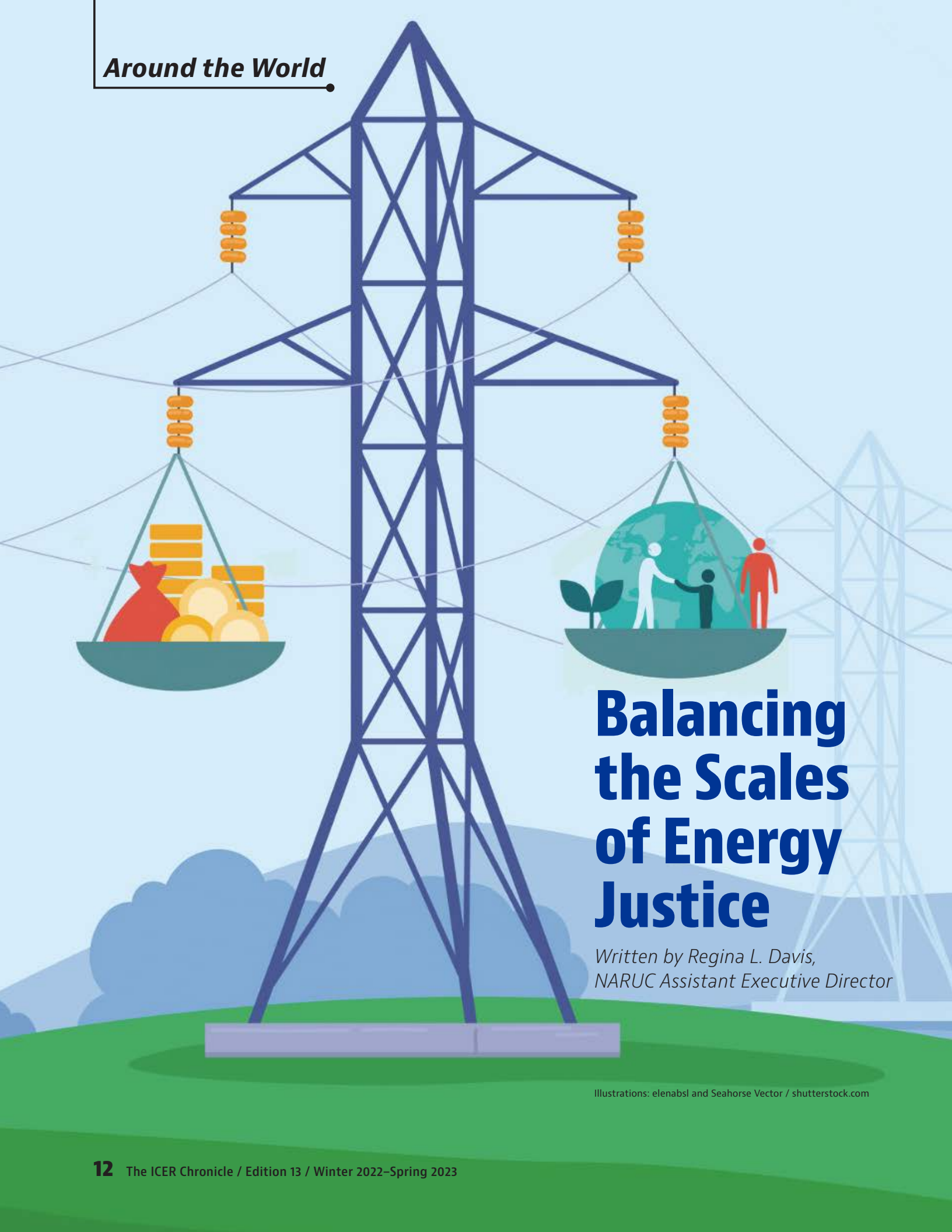
And the example from New Zealand shows the risks of proceeding based on assumed customer perceptions and responses, rather than testing those assumptions through direct customer engagement.

We do not know how the future will evolve, but we can be sure that the pace of change will increase, and that the sector will become increasingly complex.

As we navigate these turbulent times, we have learned that open and transparent stakeholder process are an essential tool for producing the best outcomes for all customers of our regulated utilities, those of today and those of tomorrow.

Key features of the guidelines, as summarized in the [Electricity Networks Association Guidance Paper for Electricity Distributors on New Pricing Options \(2017\)](#), include the following:

- ◆ The distributor must approach the matter with an open mind and be prepared to change or even start a process afresh.
- ◆ There are no universal requirements on the form of consultation, and any type of interaction (whether oral or written) that allows adequate expression and consideration of views will be sufficient.
- ◆ Consultation must be allowed enough time, with genuine effort.
- ◆ Consultation involves the statement of a proposal not yet finally decided on, listening to what others say, considering their responses, and then deciding what to do.
- ◆ For consultation to be meaningful, the distributor must provide enough information to inform parties adequately, so stakeholders can make intelligent and useful responses.



Balancing the Scales of Energy Justice

*Written by Regina L. Davis,
NARUC Assistant Executive Director*

Illustrations: elenabsl and Seahorse Vector / shutterstock.com

No discussion of the evolution of the utility customer can be complete without looking at what some perceive as a recent phenomenon — energy justice.

What is Energy Justice?

Harvard lecturer Aladdine Joroff [writes](#) that “The evolution of electricity systems raises fundamental questions about how to balance innovation with costs to individuals, particularly those individuals who are less able to participate in or benefit from the innovation.”

“...energy justice is based on the principle that all people should have a reliable, safe, and affordable source of energy; protection from a disproportionate share of costs or negative impacts or externalities associated with building, operating, and maintaining electric power generation, transmission, and distribution systems; and equitable distribution of and access to benefits from such systems.”

In April 2022, the National Association of Regulatory Utility Commissioners, the National Association of State Energy Officials, and the National Governors Association held a state roundtable on energy justice that focused on four pillars as a framework for discussions on the topic:

- ◆ Distributional justice – an inherently spatial concept that concerns both the distribution of costs,

hazards, or externalities, and the distribution of benefits and access to modern energy systems and services, throughout society.

- ◆ Procedural justice – relates to the accessible and meaningful participation of individuals in the energy decision-making processes.

- ◆ Recognition justice – seeks to acknowledge the various needs, rights, and experiences of different groups in relation to the energy system.

- ◆ Restorative justice – aims to repair the harm done to people (and/or society/nature) and can pinpoint where prevention needs to occur.

On the federal level, the United States has instituted a [Justice40 Initiative](#) aimed at ensuring that energy and water infrastructure investments flow to disadvantaged communities.

“All Justice40 covered programs are required to engage in stakeholder consultation and ensure that community stakeholders are meaningfully involved in determining program benefits. Covered programs are also required to report data on the benefits directed to disadvantaged communities.”

The United States Department of Energy defines

[energy justice](#) as “the goal of achieving equity in both the social and economic participation in the energy system, while also remediating social, economic, and health burdens on those disproportionately harmed by the energy system.”

Looking at energy burdens, Joroff cites a study of 50 U.S. cities that found that low-income households use “up to three times as much income to energy-related utility costs as do higher-income households” and that burden increases with the cost of heating. According to the author, understanding energy burdens is important, because “households facing disproportionately high energy costs relative to income make budget trade-offs that can jeopardize health, safety, and housing stability.”

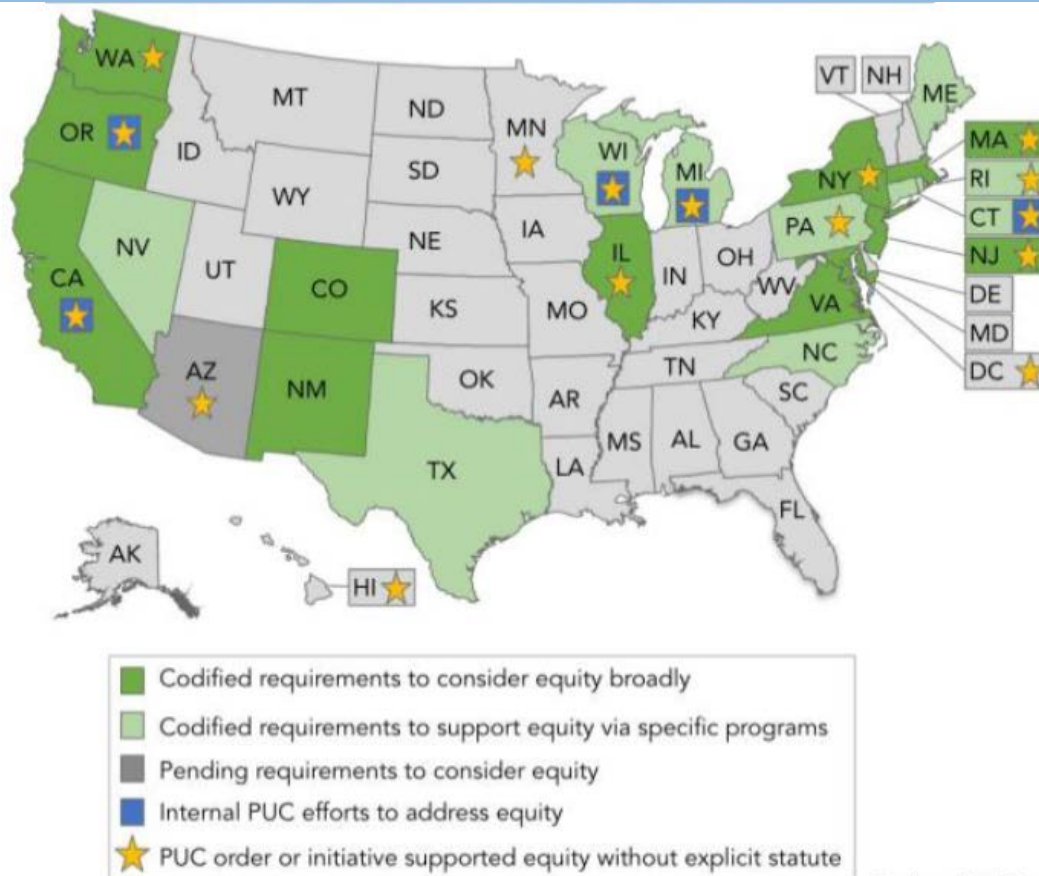
Regulators’ Role in Balancing Energy Justice and Equity

The role of the regulator, as noted on NARUC’s website, is “to ensure the establishment and maintenance of utility services as may be required by law and to ensure that such services are provided at rates and conditions that are fair, reasonable, and nondiscriminatory for all consumers.”

In September 2022, the National Council on Electricity Policy (NCEP) convened its annual meeting under the theme, *The Evolving Customer*, and in its description of the event noted that:

Customers are no longer just users of power. Like the grid is modernizing and evolving, the role and expectations of the customer are changing and will continue to change. The electric system of the future will require all types of customers to be active participants in providing reliable, resilient, just, and affordable electricity.

Equity Activities and Requirements at U.S. Public Utility Commissions



NCEP endeavored to explore the new ways customers are performing critical functions on the grid, the associated burdens and concerns, the knowledge and tools customers need, and how policy makers and the industry at large can think about preparing for the future.

Oregon's Response

States such as Oregon have taken very proactive measures regarding customer engagement and energy equity. That includes creating new roles within the Oregon Public Utility Commission.

Diversity, Equity and Inclusion Director **Ezell Watson** joined the PUC's Executive Office in January 2021 to initiate and support various activities to address the disproportionate effect of climate change on impacted communities and those traditionally underrepresented in public processes. Also, this position serves as the Oregon PUC's first dedicated Tribal Liaison.

"This change reflects the PUC's commitment to building and strengthening our relationships with Oregon's nine federally recognized tribes and presents new opportunities to engage with tribal government and their members in more meaningful and sustainable ways," says Watson.

Energy Justice Program Manager **Michelle Scala** joined the Utility Program in May 2022 and the position guides the Program's approach to energy burden, environmental justice, accessibility representation, and other equity-related issues. This position's focus is on ensuring the Commission staff's independent analysis and recommendations address environmental justice and equity.

"This role adds a layer of analytical expertise to ensure that the ongoing energy transition process provides value to all," said Scala.

Consumer interest and engagement today extends beyond rate cases. According to Watson and Scala, Oregonians are now, more than ever, weighing in at Integrated Resource Planning roundtables, technical workshops, and public meetings on issues including reliability, affordability, access to energy efficiency programs, community centered distribution system planning, decarbonization, and more.

"In recent years, we've seen a change in tide with regard to the social and situational awareness of utility customers. Coverage of the disproportionate impacts associated with climate events, public safety

power shut offs, COVID, and transitioning to a clean energy future have elevated the importance and significance of energy accessibility for many customers and communities at large," explained Watson, adding that "individuals and organizations representing these voices are increasing in presence and volume during engagement opportunities with both utilities and at Commission hearings."

Regulators are increasing their understanding of energy equity, what it means in their communities, and how it fits in with the prescribed role of the regulator. Is the issue one for the public utility commission, the state legislature, the attorney general's office, or is there overlapping authority?

"Our traditional approach to cost causation is ripe for evolution; particularly given the heightened awareness of intra-class differences rooted in longstanding inequities with profound impacts on relative affordability and customer experiences," says Scala.

Oregon's view is that understanding energy equity and the implications of energy inequity allows regulators to take a more informed perspective when implementing policy, approving rates and programs, and performing other Commission duties. A key element of acquiring and retaining this understanding is bringing environmental justice voices directly before the Commission and moving toward decision-making models that plan "with" communities rather than "for."

"Regulators have an imperative to understand the disparate impacts of historical regulatory decisions and how those decisions have perpetuated inequities across the regulated utility industry," adds Watson.

Finally, Oregon's desire to achieve an equitable energy system means engaging with utilities and communities to remedy and mitigate disadvantages and underinvestment disproportionately experienced by BIPOC and other historically marginalized communities and intentionally cultivating programs, policies, and energy infrastructure that prioritize justice and a fair distribution of benefits.

Absent this understanding, desire, intent, and action as regulators, Watson and Scala agree that "cycles of inequity in our energy system would be allowed to persist, as would the real impacts on individuals' health, safety, and quality of life."

New Technologies, New Concerns



As consumers' access to new technologies expands, their expectations also change as well. The former chairs of NARUC's Committee on Consumers and the Public Interest, Maryland Commissioner **Odogwu**

Linton and Missouri Commissioner **Maida Coleman**, share their insights on new technologies balanced with core customer concerns and the ability of regulators to respond.

Have utility customers' expectations of the services they receive evolved in recent years? If so, how?

Linton: Yes. Everywhere, customer service has been enhanced by the use of social media and various streamlined customer outreach solutions. Utility customers expect the same level of customer service, company responsiveness, and payment and billing options from their utility. This, coupled with a more informed utility customer, a necessity in a world where intense storms, renewable energy investment, and electric vehicle infrastructure investment are fixtures in mass media, has resulted in a more engaged, informed customer.

Coleman: Yes, in several areas, including, more choices, control, and communication options.

More Choices: Due to increasing utilization of smart meters that can precisely track when and how much energy customers are using, utilities are increasingly able to offer an expanded portfolio of services and rate options based upon the type/purpose and timing of energy usage. For example, utilities are beginning to offer different time-of-use rate plans and specialty rates, such as for dedicated electric vehicle charging.

More Control: This has led to customers having increased control over their energy usage, such as being able to take advantage of time-of-use rate savings, because of increased information on their usage and the ability to control, often remotely, smart thermostats and other devices in their homes. Customers are also increasingly able to choose green power options, where they can pay a bit more to have their electric needs met with green energy.

More Communication Options: While customers still expect the same level of customer service and company responsiveness, they expect more options for communication and faster responses. No longer is a paper bill and customer service number sufficient. Now they expect electronic communications and even social media options and very rapid turnaround times.

Unfortunately, our customers are also beginning to expect increasingly higher utility bills.

What's the role of the regulator in this evolution?

Linton: The regulator's role remains the same as it has always been, to ensure and honor the balance between customer and utility. That requires remaining engaged and informed on customer needs for utility service and, working to ensure that reliable, resilient service is offered in a safe and prudent manner.

Coleman: The regulator's fundamental role has not changed. The regulator must balance the interests of the customer and the shareholder, ensuring safe and adequate service at just and reasonable rates. Rates that permit the utility to recover its prudent expenses and earn a reasonable, but not excessive, return on its investment.

However, today's regulators must be open to at least considering and evaluating different technologies, processes, and rate mechanisms. A modern regulator cannot reject a new idea or concept just because that is not the way it has historically been done. It is time to at least be willing to look outside the traditional regulatory box, while holding true to our fundamental roles.

Has your commission engaged in proceedings related to energy justice OR engaged with external groups/organizations on energy justice issues?

Coleman: Ensuring all Missouri utility customers have access to safe and adequate utility services is always a key priority, and a customer will not have access for long if they cannot pay their bill. During my time on the Commission, we have approved many low-income and weather normalization pilot programs that both assist these most vulnerable customers and help gather information on how to help meet the needs of this group.

Additionally, the Missouri Commission expects our regulated utilities to take reasonable steps to bring benefits to their customers and encourage them to share best practices in doing so. For example, in November the Commission opened working file No. AW-2023-0156 to investigate and consider utility actions related to securing funding from the federal government authorized by the Infrastructure Investment and Jobs Act of 2021 and the Inflation Reduction Act of 2022.

One of the biggest hurdles to energy justice is not having adequate broadband. These customers cannot take advantage of many of the newer service options, such as time of use rates or paperless billing. However, because the cost of a utility plant is generally socialized across all customers in a class, they are likely paying for the smart meters of other customers in areas with broadband.

Linton: Maryland is a national leader in building a process that encourages and supports utility procurement and supplier diversity. Developed in conjunction with numerous organizations and advocacy organizations, the Maryland Supplier Diversity Memorandum of Understanding is now over 30 years old. In 2021, the 17 Maryland utilities that committed to the program spent a combined \$1.4B with diverse, woman-, veteran- and LGBQ-owned companies. This program has grown to encompass workforce training and recruitment and unique mentorship and capital investment initiatives. This program, and the discussions that established it, share similar core principles to, and in many ways laid the foundation for, today's energy justice movement. Maryland now incorporates those principles in all proceedings, from less controversial matters to more complex proceedings.


ENERGY IN CRISIS

Written by Irama Zamora, Working Group Coordinator at the
Council of European Energy Regulators

As Europe faces an unprecedented energy crisis, soaring inflation, and geopolitical tensions, energy has become the cover topic of choice for tabloid magazines, ongoing debates, discussions, and headaches for those in charge of rethinking the European energy market design, in a fast and furious manner.

In the midst of an already turbulent social, economic, and political milieu caused by a global pandemic, the summer of 2021 marked the beginning of the crisis. After the economic recovery process, global gas demand returned to its pre-pandemic levels, greatly outweighing supply. Coupled with a particularly harsh winter in 2022 followed by a dry summer, significant declines in French nuclear power generation and the Russian invasion of Ukraine, energy consumers and businesses alike were hit by skyrocketing gas and electricity prices. Despite the efforts to diversify its energy mix by sourcing additional liquified natural gas (LNG) imports, delaying nuclear plant closings, and even resorting to coal-fired power, Europe was forced to face head-on its long-standing dependence on Russian gas. As regulators and policymakers rushed to ensure the security of energy supply, protect consumers, and control market volatility, many highlighted the need to keep sight of the long-term goals of decarbonisation, lest we forget the upcom-

Photo: Sweet / stock.adobe.com



ing climate emergency, rapidly “cooking” in the background.

As is often the case in crises scenarios, some of the most affected continue to be small businesses, average household energy consumers and the energy poor. According to the Agency for the Cooperation of European Energy Regulators (ACER) and the Council of European Energy Regulators (CEER) 2021 Market Monitoring Report, in 2021, the average household paid an additional 22.9€ per kWh for electricity, and an extra 7.1€ per kWh for gas.

As suppliers (i.e., energy companies) face increased difficulties in purchasing energy in wholesale markets, consumers will most likely continue to bear the brunt of the crisis well into 2023. Electricity (and gas) is bought and sold in wholesale markets, where suppliers hedge their portfolios, i.e., make use of complicated financial instruments to plan for future demand and protect their business against market volatility. When all fails, the Supplier of Last Resort (SOLR) mechanism, as the name so accurately illustrates, is the last line of defence, as consumers in a contract with a bankrupt supplier are quickly transferred to a new provider.

During the crisis, when many smaller and not-so-small suppliers faced bankruptcy, this mechanism was widely used to ensure that all consumers continued to have access to a secure energy supply. Not-

withstanding, this meant many of us ended up paying higher prices, although the situation is now slowly easing in some European countries, particularly as gas benchmarks come down from all-time highs. For instance, in the Czech Republic alone, 16 suppliers filed for insolvency in 2021, resulting in 960.000 consumers being transferred to a SOLR and ended up facing four- to five-fold price increases.

In this context, regulators continue to struggle with the classic trilemma – balancing security, affordability, and sustainability. The crisis has highlighted the difficult role of regulators in ensuring both consumer protection and market competitiveness, as smaller suppliers exit the market and the seed for market concentration is planted and used to the advantage of larger suppliers.

Engaging with Energy Markets: How and Why?

Engaging consumers is often cited as a key principle for better energy system resilience, as well as increased harmonisation between wholesale and retail energy markets.

However, discussions on consumer engagement often remain in the realm of ivory tower meetings held in lavish conference rooms and hotel lobbies or

at worst, geeky debates between highly specialised professionals. What does consumer engagement look like for the average consumer? What does it mean to be engaged with the energy market and why is it relevant? What is the regulator's role in bridging the gap between consumers and suppliers and wholesale and retail markets? And how must the European energy policy framework be adapted to be more mindful of consumers' needs?


Consumer engagement is an umbrella term used to refer to, in essence, the relationship between energy customers and energy markets. While suppliers are still the main actors competing in energy markets, so-called "active consumers," have a crucial role to play in helping to achieve long-term decarbonisation goals, as well as supporting the energy system's reliability and security.

Ranging from the most engaged and informed consumer to the average household, we all have the power to play a more significant role in shaping energy markets, improving energy efficiency, and reducing our own bills. Yet, consumers can only be empowered if an effective regulatory and policy framework, acting in their best interest (and that of the system as a whole), is in place.

The Rules of the Game: Becoming an Active Consumer

As established previously, regulators often have a hard time explaining technical topics in a jargon-free manner. Demand response schemes, peer-to-peer (P2P) trading, prosuming, energy communities, and self-consumption, to name a few, constitute some of the jargon-riddled terminologies used to discuss consumer engagement strategies. Before we give up altogether, let us attempt to illustrate.

For those willing to invest and with the financial means to do so, solar photovoltaic (PV) panel installations, heat pumps, and/or opting to buy an electric vehicle (EV) can improve energy efficiency and lower energy expenditure in the medium to long term. EV owners are incentivised to charge their vehicles during the night when electricity is the cheapest. Engaging consumers in this way comes with benefits for the owners themselves and for the system as a whole. EV batteries have great potential to support the electricity grid with storage that has increased in value with greater amounts of variable renewable energy sources on the grid. High penetration of renewables can create mismatches between supply and demand given the conditionality of renewable generation – e.g., wind energy is only produced



“We need to be able to decipher our energy bills, switch suppliers when better offers are available and easily find such offers...”

when atmospheric conditions are ideal, meaning there is enough wind to power the turbines. Additionally, increased renewable generation in the grid can cause voltage fluctuation and even network instability. Electric vehicles can contribute to solving these technical issues in the grid by absorbing (charging) the excessive amount of energy and returning it (discharging) to the grid when needed.

Opting for a dynamic price contract that allows for demand response can also lower bills and contribute to reinforcing the resilience of the energy system, though this requires smart meters, which are still scarce in many parts of Europe. To this end, price comparison tools (PCTs), certified by the respective National Regulatory Authority (NRA) or another responsible body can help consumers to find affordable, sustainable, and competitive offers to engage in demand response, such as dynamic price contracts. Put simply, demand response allows consumers to ‘take the wheel’ by adjusting consumption away from peak demand hours, reducing their own bills, all the while increasing the energy system’s flexibility.

Be that as it may, similarly to when one is deciding on what type of loan to get from a bank, most of us tend to prefer fixed-rate loans even if it results in paying higher interest, as most people place a high value on predictability. The same is true for energy markets, where consumers tend to prefer fixed-price

contracts over dynamic price contracts, tied to the price variations occurring in wholesale markets. This is not without good reason. As the current crisis has shown, consumers in dynamic price contracts were hit more rapidly by price increases than those in fixed-price contracts. Conversely, suppliers with poor hedging strategies faced great losses tied to fixed-price contracts signed with consumers prior to the crisis, as they were not able to pass the increased costs to consumers. Some suppliers stopped offering fixed-price contracts to consumers altogether.

In the long run, regulation is called upon to facilitate consumer engagement and price responsiveness through time-of-use tariff setting and stricter supplier hedging requirements. Broader consumer levies could also be considered to protect consumers against supplier exits in crisis situations.

“Gerrymandering” in Consumers’ Interest

As highlighted previously, consumer engagement must be underpinned by a regulatory and policy framework that places consumer protection and consumer rights at the epicentre of policymaking.

Besides creating the environment to facilitate consumer engagement strategies, how are regulators

ensuring that consumers remain informed and responsive? What recent policy issues require attention and enhanced consumer considerations?

Consumer-centric dynamic regulation, capable of adapting to current events and different market environments is of paramount importance to empower consumers. We all require comfort, affordability, clarity, connectivity, and proper customer support when it comes to our energy supply. We need to be able to decipher our energy bills, switch suppliers when better offers are available and easily find such offers (e.g., using price comparison tools), receive adequate customer support, understand our rights and have them enforced, as well as have access to clear and simplified, jargon-free information on topics such as tariffs, contract terms, data privacy, smart-meters, etc.


In an effort to educate and inform consumers, some NRAs offer advice, training opportunities, and dedicated information sections on their public websites. Amidst the current emergency, regulators can also aid demand reduction by providing advice on energy savings and the best times for consumption.

Direct and indirect avenues to hear consumer voices must be in place to ensure that our concerns are heard and addressed. In many countries, NRAs are responsible for monitoring complaint data, which can be channelled to enhance consumer pro-

tection and market functioning. Furthermore, some NRAs act as Alternative Dispute Resolution (ADR) mechanisms when disputes between consumers and energy providers cannot be handled in court. In light of the European Commission's efforts to reform cross-border ADR, complaint categorisation must be harmonised at the EU level so that the system is better prepared to benefit consumers. As a Portuguese citizen accustomed to a painfully slow judicial system, I am particularly delighted by the efforts to reform and improve such mechanisms, as disputes in courts, even straightforward ones, can seemingly take a lifetime to be resolved.

Consumer participation must also be encouraged and supported. For instance, those of us looking to install renewable energy solutions using solar energy, for example, must be provided with easy and clear one-stop-shop solutions where assistance is given at all stages of the process – from finding accredited installers, deciding on how to finance the installation (e.g., possibly using existing financial support programmes), to navigating administrative processes.

The crisis also stressed the need for revised consumer considerations while balancing the interest of suppliers. Suppliers must be required to properly inform consumers about the risks and benefits associated with dynamic price contracts and, where



appropriate, provide updates on price variations. Coordinating the need for predictability for consumers and flexibility for the energy system (through demand response) would likely create the best outcomes for all parties involved. This can be done, for example, by setting a fixed price with room for flexibility – this type of price plan would allow the price to flex during peak consumption hours, encouraging consumers to save energy, but remain stable over a few years or months.

Although the supplier of last resort mechanism served its purpose during the crisis, regulators must consider how to avoid over-burdening consumers in the event of supplier bankruptcies and help to prevent such situations as much as possible by requiring suppliers to put in place adequate hedging strategies. Moreover, easing suppliers' financial costs by adapting margining and collateral requirements can help to ensure market liquidity even in crises scenarios.

Finally, as the European energy market strives to become more sustainable and digitalised, no consumers must be left behind. Considering the European Commission's recently released [Action Plan for Digitalising the Energy Sector](#), investment is needed to increase smart meter rollout, allowing consumers and other energy actors' access to historical and up-to-date consumption data, while securing data privacy. Widespread EV deployment requires thoughtful

consideration of charging infrastructure needs, which bears in mind customers' travel patterns, interoperability of hardware, geographic dimensions such as the average distance between charging points, public accessibility, and adequate real-time user information. What is more, EU-wide electric mobility must be anchored in harmonised payment systems and coordinated national policy frameworks for EV deployment.

As regulators and decision-makers face yet another challenge after the COVID-19 pandemic, efforts must continue to be made to protect vulnerable consumers, safeguard system resilience and flexibility, and commit to a sustainable, decarbonised future. When emergencies become the norm, rules must bend, but our values must not. Energy consumers and citizens must remain at the heart of policy-making and policy enforcement now and beyond. Although the future must be green and sustainable, it must also be inclusive, fair, and safe for all.

Anna Collyer



Chair of the Australian Energy Market Commission

How long have you led your organization?

Two years.

What are the three most important issues regulators in your region are confronting right now? Please explain.

The transition to net zero & investment in renewables: Right now, times are tough for consumers; the pandemic, climate change, ageing generators, Russia's invasion of Ukraine and inflationary pressures here have reshaped the global energy landscape. Everyone is grappling with the consequences. In the medium term, we know the transition to renewable energy will help to take us away from our reliance on fossil fuels and global commodity prices and over the longer term, it will reduce those costs. Australia's transition to cleaner electricity is moving in the right direction, largely due to federal and state governments agreeing to align energy and climate policy. The Australian Energy Market Operator's Integrated System Plan is forecasting a nine-fold increase in grid-scale wind capacity by 2050 to replace the retiring coal fired generation and meet the expected increase in demand on the grid. A critical question moving forward will be around markets doing the job of signaling new investment versus government intervention, but for now, it's heartening that Australia's climate and energy discussion is about the pace and challenges of the journey and no longer about whether that journey is needed. As a consequence, the renewables sector which can no longer consider themselves the underdog, but rather as mature participants in the market who have an enormous stake in its success.

Transmission: Like the rest of the developed world, Australia is undergoing a transformational shift to net zero. A grid that is underpinned by centralised thermal generation is moving to one that

is dominated by decentralized renewable generation powered by wind and solar. There is broad consensus that transmission is a critical enabler for both the NEM and the broader economy to net zero. To get there, an unprecedented level of investment is required. The ISP calls for \$14 billion of transmission investment over the next 10 years, in a grid with a current asset base of \$21 billion. As long-lived assets which will be paid for by customers, it is vital that we get the right balance between timeliness of transmission investment to meet the needs of the transition and rigour in assessing those investments to ensure customers are not paying more than they should. As well as investing in the right transmission infrastructure we want our market rules provide the right incentives to get the most value out of all assets: transmission, generation storage and flexible load.

Making net zero seamless for consumers. Apart from more conscious consumption, a significant aspect of the move to net zero is CER or 'consumer energy resources' and the growing role of households as power generators and storage services. Australia's world-leading rates of rooftop solar adoption drive substantial benefits for the customers who adopt them, as well as for the whole energy system. Rooftop solar and behind-the-meter storage could potentially drive down demand on the system, even as electrification increases the load. The ISP notes that consumer systems such as this could account for nearly 20 percent of total underlying demand and the Energy Security Board has noted that the more CER we have, the less new capacity the grid needs, with a potential \$6bn benefit to Australia. All of which makes it even more imperative to ensure household consumers can navigate the energy market seamlessly. But equity remains a barrier to this. The cost of solar panels, let alone household batteries and EVs, is out of the question for many people. We have to make plans that don't build an even bigger energy division based on wealth and location.

Can you describe external perceptions of your organization and its members? Are the functions of your organization understood by the public, governing bodies, and other stakeholders?

Australia's energy system is governed by a number of bodies and agencies, including three market bodies, the Australian Energy Market Operator (AEMO), the Australian Energy Regulator (AER) and the Australian Energy Market Commission

(AEMC). Overseen by state and federal government energy ministers, this governance framework separates decision-making on government policy, energy regulation and energy system operation. While the market bodies work closely together to support efficient investment in, and operation of, Australia's energy system — including collaborating as part of the Energy Security Board (ESB) — each of the bodies is an independent decision-maker with clear functions, accountabilities and powers. AEMO manages Australia's electricity and gas systems and markets, helping to ensure that all Australians have access to reliable, secure and affordable energy while the AER oversees economic regulation and enforces the rules set by the AEMC. Australia's unique 'open source' regulatory space means any and all stakeholders can request a rule change to the AEMC. To further support the development of these markets, the AEMC also provides strategic and operational advice to the Ministers responsible for Energy. The AEMC does this in accordance with processes set out in the national energy laws, the central focus of which is the long-term interests of consumers. An important recent development is the proposed inclusion of emissions reduction as part of the objectives for all market bodies.

What components are necessary for an effective regional organization? Do you believe your organization is adequately supported by its members?

The AEMC operates nationally and is funded by the state and territory governments. While we are independent, we are mindful of our authorising environment and work closely with our government stakeholders as well as our market body colleagues and broader stakeholder interests (industry, customer groups, investors). For us, important drivers of success as an organisation are having a clear strategic direction, both for ourselves and the sector. We have recently developed a new 3-year strategic plan with a focus on taking a forward-thinking, collaborative and practical approach to our work in the midst of the fundamental transformation of the sector. Our people are our greatest asset. We are a purpose-driven organisation — ensuring the well-being of our staff is paramount to ensuring we can undertake our role effectively and deliver outcomes in the long-term best interests of consumers.

Why are organizations such as ICER important for regulators?

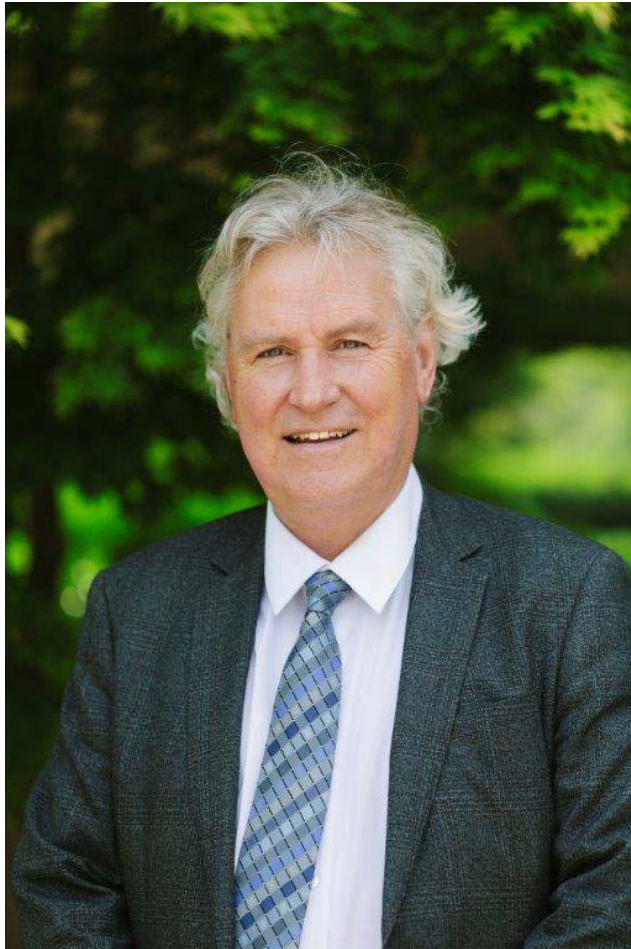
Energy policymakers and regulators around the world are grappling with the same issues in the context of the major long-term transformation of energy markets. Importantly, organisations such as the ICER allow regulators like the AEMC to make valuable contacts and gain useful insights into regulatory best practices. That international engagement enables us to gain from the experience of others, and also provides a forum to share insights drawn from the high-quality analytical work undertaken by our own market institutions. Importantly, market bodies such as the AEMC can also contribute our own thinking and experience to the global policy and regulatory debate as the energy market adjustment process progresses.

Globally, what more can energy regulators do to ensure sustainable, reliable energy infrastructures for future generations?

The renewable transition will require significant investment in renewable generation, storage, and transmission. Regulators should focus on creating a robust, transparent, and stable framework that will provide investors with the confidence to invest in long-lived energy infrastructure. Uncertainty brings challenges in making rules that address the critical issues of today but also have the right flexibility to set up the market for an evolving future.

Getting the settings right now for the future energy market opens up the potential for enormous benefits from cleaner, smarter, affordable, and reliable energy. Importantly, our evolving market settings must keep offering opportunities for innovation to surface and thrive. Putting in place market frameworks that encourage innovation has long been central to everything we do and with the right settings, the mutual benefit between Australian energy consumers and a growing renewables sector is likely to be compelling. We look forward to working with the industry and its stakeholders as those critical next steps are taken on a path towards innovation and growth.

David Morton



Chair and CEO of the British Columbia Utilities Commission (BCUC)

How long have you led your organization?

I have been the Chair and CEO of the BCUC since December 2015, and I was a Commissioner for about five years before that.

What are the three most important issues regulators in your region are confronting right now? Please explain.

I would say the biggest issue would be the challenges related to the decarbonization of our energy sector. We're fairly fortunate in British Columbia in comparison to many other regions with regard to decarbonizing our electricity system. That means that the focus here is on natural gas and transportation. In my view, these are more complex areas to decarbonize than electricity, as electricity generally has large central generation, although with exceptions, but it can be dealt with that way. Here, in BC, we've got natural gas and various oil products for transportation and there's an expectation that the way to deal with that would be to electrify. That then raises issues about where the electricity is coming from. Estimates say we're going to need anywhere from double to quadruple, or more, times the infrastructure that we've already got, so those are issues. Along with that is how are we going to decarbonize natural gas? Is it going to be through RNG? Is going to be through hydrogen? Or is the natural gas system for heating going to be electrified? In which case, we have huge stranded asset issues for the gas system.

The second issue, I'd say, to the extent that it's understood, and I don't think it is well understood – which is part of the problem, is climate change itself and the impacts on the weather system. We've always had extreme weather events, but should utilities change their view of extreme weather events? And how can these utilities ensure that, to the extent that extreme weather events are going to be-

come more extreme or more frequent, their infrastructure is resilient in the way it needs to be?

I'd say the third issue is related to the two previous items and it is the reliability and security of energy supply. Although we're not in this place yet, we have been blessed with a lot of hydroelectricity here in BC, but there are jurisdictions that have moved quite quickly to considerably large percentages of intermittent renewables and that's created reliability problems. If we're going to do that here, we can back stop that with our reservoir system to an extent, but it's not infinite. Frankly, I don't believe there are any economically viable ways at present to store intermittent energy at the scale we need.

There are promising technologies, hydrogen for example, but there's nothing that's really commercially proven at this point. If we're going to be relying on markets to import electricity, a lot of our neighbours that we would import from are increasingly relying on intermittent renewables and that could drive up prices.

Cyber security is also part of the reliability and security issue. There are increasing threats that must be addressed, both cyber given the technology developments utilities have made, and also physical, such as domestic terrorism, vandalism and climate activism, when it comes to infrastructure.

Can you describe external perceptions of your organization and its members? Are the functions of your organization understood by the public, governing bodies, and other stakeholders?

As with many regulators, public awareness of our organization and our mandate is a challenge. I think that the external perception of our organization depends on how people understand our organization, which is why we spend a significant amount of our efforts on education.

For people that do understand what we're doing, including government, I think that we've had some very good feedback. I think we have a lot of supporters out there. We try to be thoughtful in our decisions and we try to make sure decisions are well reasoned and well explained. I do get feedback that we are doing that.

On the other hand, I think there are people that expect us to be more of an advocacy group than we are. There are people that expect us to lead the decarbonization effort and, in my view and the view of many regulators, that is not our role.

In a similar vein, I think there are people that think that we should be like a consumer advocate

and that we should be on the side of ratepayers. However, our role is limited by our jurisdiction, which is to ensure that rates are just and reasonable, to ensure that infrastructure that is built by utilities is needed, and in the public interest and to ensure that utility shareholders have an opportunity to earn a fair return on their invested capital. The regulator cannot be both an independent reviewer and an advocate for a certain perspective. We walk the line between the utility and the ratepayer; it's a balance.

What components are necessary for an effective regional organization? Do you believe your organization is adequately supported by its members?

Regional organizations are interesting creatures in any region. Here in Canada, the members of CAMPUT all have a slightly different mandate. We've all got unique rules and each body itself is governed slightly differently and has flexibility in areas that others don't or vice versa. In essence, at the regional organization level, you've got a bunch of people at the table that have different agendas and different abilities to participate. Therefore, we have differing needs and expectations from members in our regional organization. I think CAMPUT has done a good job in balancing that.

Largely, what CAMPUT has focused on is education and that's what it's built its core mission around — to educate regulators and to be a source of resources. CAMPUT, in itself, is not an advocacy group, but there are things that I think CAMPUT could do that it just doesn't have the capacity to do right now. For example, the ability to reach out more to provincial governments and to the federal government to ensure that there is a more realistic view of regulation, especially given decarbonization efforts. You can't really have ten provinces and four territories all doing their own thing, riding off in different directions. Therefore, I think that CAMPUT has a possibly a bigger role to play there than it's already playing.

Why are organizations such as ICER important for regulators?

I know a lot of CAMPUT members are also NARUC members because we share a lot of cultural and economic ties with the United States. As such, we have the opportunity to not only see the way other provinces do things through CAMPUT but also, through NARUC, to see the way different states do things. In the normal course, we wouldn't have an

opportunity to see the way things are done in Europe or in Africa or Asia. ICER provides that for us and it's always beneficial to share best practices and learnings with other regulators.

Globally, what more can energy regulators do to ensure sustainable, reliable energy infrastructures for future generations?

That never used to be a hard question to answer, but now it is. There's a lot of risk that comes with decarbonization and I think there's a lot of risk that even a lot of regulators don't really recognize. Something that I've heard from many sources at both ends of the political spectrum is that in order to reach decarbonization targets, we need technologies that have not yet been developed. That's a very frightening statement in my view given the acceptance and adoption of decarbonization given the current success rate for these efforts.

Given that, then what does a regulator do? How can we have an expectation that utilities are going to be able to decarbonize? Increasingly, our utilities are coming to us and saying, "well, we need to spend money on testing this technology", "we need a test project here"; there are "regulatory sandboxes" to test regulatory approaches, there are "pilot projects" to test new technologies and business models, various technology funds to support new technology development, and so on.

There's certainly an expectation among technology developers in this space that, "Oh, we'll just get funding from the utility." I have even heard utilities referred to as "angel investors" by federal government personnel, if our utilities are going to get into the venture capital business, and I think there is an expectation among some that they should, then they're going to lose some money along the way — not every project results in an iPhone! A successful investor in new technology hopes that the wins will outweigh the losses, but there is an inherent risk. When the utility invests, that risk is borne by the ratepayers, not borne by the shareholder or the taxpayer. Are we doing our job as regulators by allowing that risk?

The perception is that utilities have deep pockets. But actually, utilities' pockets are extremely shallow — the money comes from ratepayer pockets. Money for investments made by companies in markets that are not regulated by economic regulators come out of the profits of goods and services that are sold into those competitive markets. Any additional risk is backstopped by the shareholders. In our world, util-

ity shareholders are largely unaffected by investment losses as long as they have the approval of their regulator. So we have to be very judicious when we are looking at these investments.

We do need this technology if we're going to meet our goals; but there needs to be a clear understanding of who should bear the development risk. Essentially, in order to ensure that the world is prepared, we need to create a mechanism for funding, venture capitalism, and exploration that guarantees we have the technology available globally. We have to be careful to remember that we've got monopoly utilities and captive ratepayers, and we can't just be offloading costs onto them, otherwise we fail them as regulators.

On another note, I think we need to do more work to prepare for extreme weather. I think we need to have an understanding of weather models, for example, what do we expect this winter? We've had a drought here in BC this summer, after an epic flood last fall, so is this drought going to continue through the winter? Because, if it does, I think we've got a bigger problem than we think, frankly. So, if the drought is going to continue on through the winter, then what's probability over the next two or three years that we're going to have a continued drought? That's what we need to build our infrastructure for.

The climate models purport to predict what the temperature is going to be in 2050 or 2075, and so on. We need to build infrastructure for that too, but we need to understand that there's a lot of variability in weather that we will encounter along the way. Climate and weather can go in opposite directions. That's what we need to get an understanding of in order to ensure that we're building the kind of resiliency that we need to build.

And it's not just climate that's a reliability issue, there's also earthquake, for example, which has nothing to do with climate at all. But it's another form of an extreme event. We're always waiting for the big one here, but from what I've heard, the big one could be anytime in the next 1,000 years. That has huge implications: how you're going to build your infrastructure and what you're going to build your infrastructure for. So, we have to have an understanding of what the risk is, how much we're going to tolerate, how much we can tolerate, and how much costs we're willing to pay when doing a risk based- analysis, in order to figure out what kind of infrastructure we want. And there's only so much we can afford.

Annegret Groebel



President, CEER

How long have you led your organization?

I was elected the CEER President in January 2019 for a 2.5-year term and re-elected in July 2021. My current term ends in January 2024. Before that, I served many years as CEER Vice President and as a working group chair (I continue to co-chair the CEER Market Integrity and Transparency Working Group).

What are the three most important issues regulators in your region are confronting right now? Please explain.

Energy prices: as a result of the Russian invasion of Ukraine, the consequent effect on gas supply from Russia (which in turn affects electricity prices) and other factors such reduced nuclear output, drought and other factors. Dealing with high energy prices is, of course, a political issue, not only a regulatory issue, but regulators are tasked to carry out specific emergency measures by new legislation, as well as to adapt their regular work to this high-price environment both ensuring that consumers can bear the difficult situation and that no one is left behind.

Gas supply and storage: Of course, gas supply is a major issue given the situation with Russia and, given that much of Europe's gas storage was filled when Russian gas was flowing at higher rates earlier in 2022, how filling the storage for 2023 will be accomplished is an open question. A number of regulators are asked to implement solidarity mechanism to support cross-border.

Market design reform: The spikes in energy prices as well as the fact that electricity prices are often set by the marginal price from gas-fired generation has caused some to call into question the entire model for energy markets.

Can you describe external perceptions of your organization and its members? Are the functions of your organization understood by the public,

governing bodies, and other stakeholders?

Interesting question, as we have recently run an internal survey about our CEER external communications and public perception of CEER. I believe that our members, European Commission experts and energy experts from the so-called “Brussels bubble” (meaning many non-profit organizations are active in the energy sector and based in Brussels, Belgium) know CEER very well. However, there may be some confusion between CEER as a voluntary association of independent energy regulators and the EU Agency for the Cooperation of Energy Regulators (ACER). There are some similarities; we often cooperate and communicate to strengthen regulators’ views. We are aware of that and plan to work on a better understanding of CEER’s identity. Right now, communication is intensively focused on helping consumers to understand the emergency measures.

What components are necessary for an effective regional organization? Do you believe your organization is adequately supported by its members?

An association of members such as ours definitely needs a strong secretariat which helps coordinate all activities. For that, you need resources in terms of staff and finance. Last but not least, you need members to be active and deliver their part. Lately, all regulators have had more work on a national level and it has become more challenging to follow the international work, but our members and observers do their best, and as President I’m very thankful for all their excellent work. Furthermore, on the EU level we work on a single energy market in Europe, so we have to exchange and be in contact with each other. Again this is very important in times of crisis where we collect measures taken by regulators on national level and learn from each other’s experiences in the implementation. Besides the factors listed above, it’s also important for an our organization as ours to have a clear forward looking strategy. We published our current CEER Strategy 2022 – 2025 — “Empowering Consumers for the Energy Transition” at the end of last year (<https://www.ceer.eu/ceer-2022-2025-strategy>). It highlights the important role of energy regulators in contributing to the energy transition towards climate neutrality implementing the Paris agreement.

Why are organizations such as ICER important for regulators?

We live in a globalized world where everything is connected. ICER serves as a perfect platform for discussion and exchange among regulators from around the world. ICER has a database of contacts, organizes a World Forum every three years, publishes a journal, and has initiatives such as Women in Energy, which helps connect with others. ICER means that nearly anywhere in the world, regulator-to-regulator cooperation is possible.

Globally, what more can energy regulators do to ensure sustainable, reliable energy infrastructures for future generations?

As per CEER’s 2022–2025 strategy, thinking about sustainable energy infrastructure starts with the consumer: “empowering consumers for the energy transition”, by:

- ◆ Enabling energy system integration: integrating renewables and incentivising innovation;
- ◆ Placing consumers at the centre of energy markets with consumer-centric dynamic regulation, empowering consumers to actively contribute to and benefit from a flexible energy system; and
- ◆ Ensuring open, well-functioning and resilient markets: delivering flexibility and new business models.

All the while, TSOs will continue to transmit bulk power and DSOs will have new and challenging roles and regulators must focus on these system operators adapting themselves to changing realities all while continuing to deliver good value to consumers. Regulators themselves need to be more flexible as well adapting regulation dynamically to ensure it supports the energy transition without however forgetting predictability.

Petrit Ahmeti



President, Albanian Energy Market Regulatory Authority (ERE) – Albania

How long have you led your organization?

I have been the President of the Albanian Energy Regulatory Authority for twenty years. The Authority was established in 1995 and has been since working on ensuring a sustainable and secure energy supply for the customers by creating a functioning and competitive energy market.

What are the three most important issues regulators in your region are confronting right now? Please explain.

In the Mediterranean region several issues are facing the regulators, depending on their level of advancement.

For southern shore members, the biggest challenges are related to absence of a stable and sustainable framework, independent regulator, cross-subsidies, and lack of data and investments.

For northern shore members, the current challenges are related to energy transition and security of supply while trying to digitalize the energy markets.

Another important challenge that is currently being discussed is the price surge of the different components of energy and their sources. A task force within MEDREG has been launched to tackle this issue and see how to mitigate it, while several other studies have been developed concerning the safety of supply and the importance of diversifying the energy sources.

Can you describe external perceptions of your organization and its members? Are the functions of your organization understood by the public, governing bodies, and other stakeholders?

Currently, the Mediterranean is one of the hottest energy hubs in the world due to the efforts undertaken in the region to combat climate change and the transition plans designed to reach the zero emissions targets set by the different countries.

The new gas explorations in the Eastern basin of the Mediterranean are seen as promising by the governing bodies and energy stakeholders of the region to help Euro-Mediterranean neighbors cope with the transformation of the energy supply in the energy transition phase.

These developments have put the Mediterranean region, and MEDREG, in the spotlight, with particular interest in the ongoing efforts to further interconnect the region through multiple pipelines that are under development and through MOUs and projects for renewable hydrogen which is envisioned to be produced by southern shore countries and exported to northern ones.

MEDREG, being an association that works in the Mediterranean region, and having connections with all the region's regulators, has a huge responsibility to respond to climate change threat and tackle energy security.

Although MEDREG members are well informed and have a good understanding of the efforts made by the association to strengthen the collaboration between the different shores of the region, further dissemination and sharing of our work with the different stakeholders would be certainly beneficial to enhance transparency and awareness.

The energy crisis shed light on the important role that regulators play to ensure affordable and secure energy to consumers, increasing public awareness towards these institutions. Indeed, some of our members capped the energy price or issued energy vouchers to minimize the impact of the price surge.

What components are necessary for an effective regional organization? Do you believe your organization is adequately supported by its members?

To establish an effective regional association, it is important to gather all the members on an equal foot around the table and focus on the technical aspects of the regulatory reforms and evolutions to tackle the issues that really matter to the members on the one hand, and to deliver the mission and vision of the association.

Indeed, one of the most effective tools that we developed are the tailored made support activities offered to individual members on their demand, on specific aspects of energy regulation. Most of the time, these initiatives have shown concrete results and progress in the advancement of the national regulation, while converging to regional standards and forging tighter bonds between different regulatory members who share experience.

In addition to this targeted support, our associa-

tion has developed a whole array of tools to assist its members, ranging from training on crucial energy regulatory topics, to technical study visits to regulatory peers, to specific reports and recommendations and other workshops.

Our northern shore members often host trainings, workshops, and study visits for their southern fellows to help them tackle regulatory issues based on their own experiences but adjusting the solutions to their relative contexts.

MEDREG members are trying their best to assist the association: they regularly share valuable data to develop benchmark reports, analysis and other relevant studies. Additionally, the Chairs and Vice-Chairs of the five working groups, who are employees of the member regulators, lead the elaboration of annual reports and provide feedback on the conclusions and future steps to be taken. Multiple workshops are being held by the Secretariat to share the information gathered within the report and to highlight their importance in helping the regulators advance their regulatory framework.

They also often participate as lecturers in our trainings to share their knowledge with fellow regulatory staff from around the Mediterranean. Finally, our Presidency Board members regularly present our work to high-level external events, acting of Ambassadors of our association.

Why are organizations such as ICER important for regulators?

International organizations are important for regulators to keep communication channels open between them and to keep track of the progress taking place around the world. Organizations such as ICER help identify and tackle the weak points that are common between regulators by developing communication plans and by sharing expertise among their members and organizing trainings for them to benefit from the existing knowledge and past experiences of the different models that can be found globally.

Globally, what more can energy regulators do to ensure sustainable, reliable energy infrastructures for future generations?

Regulators should continue their efforts dealing with the energy challenges and promote a coherent and compatible energy regulation with a view to ensuring a secure, sustainable, and competitive energy markets. In addition, regulators should also promote investments through a transparent and predictable regulation.

Siamelie Latu

Chair, Office of Pacific Energy
Regulators Alliance (OPERA) and CEO,
Tonga Electricity Commission

How long have you led your organization?

Since August 2022.

What are the three most important issues regulators in your region are confronting right now? Please explain.

- (1). Tariff-Setting Options e.g., Concession Contracts (for 4-5 years); Periodic Adjustment due to movement in fuel prices, inflation, foreign exchange; government diktat; and other variants.
- (2). Renewable Energy — guidance as to reliability and efficiency of the various forms of R.E. such as solar, wind, biomass, and tidal. Also, how best for the Regulator to secure: (a) best price for electricity consumers; (b) efficiencies by the R.E. provider; and (c) management of risk (especially important with cross-border [PPAs](#)).
- (3). Fuel price.

Can you describe external perceptions of your organization and its members? Are the functions of your organization understood by the public, governing bodies, and other stakeholders?

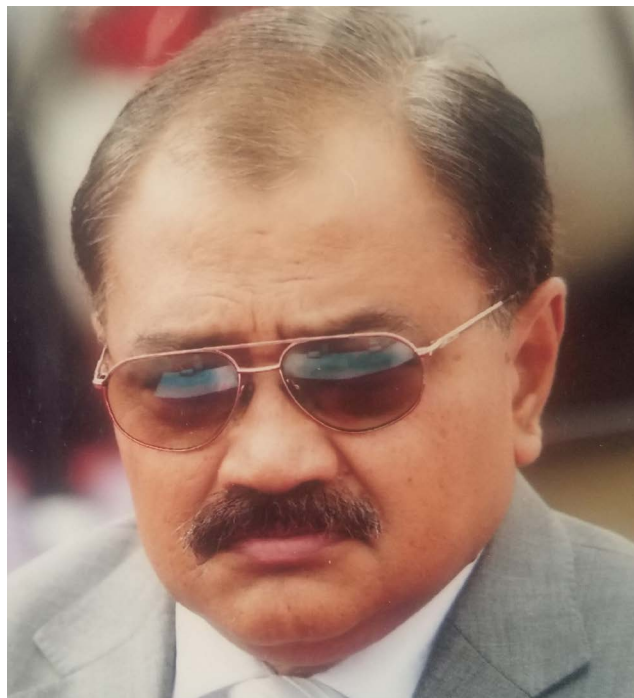
Unbiased information, guaranteeing the use of best practices.

The functions of Tonga Electricity Commission are well understood by the Tongan public and other stakeholders.

What components are necessary for an effective regional organization? Do you believe your organization is supported adequately by its members?

First is the financial support from Donor Partners.

Currently, there are eight member countries and of course most Pacific Island countries are sup-



portive of OPERA and more new members are interested to join.

Why are organizations such as ICER important for regulators?

Knowledge sharing and to improve public and policy-maker awareness and understanding of energy regulation and its role in addressing a wide spectrum of socio-economic, environmental, and market issues.

Globally, what more can energy regulators do to ensure sustainable, reliable energy infrastructures for future generations?

Recycling and reusing plastics and oil-based products. Using energy-efficient light bulbs and rechargeable batteries. Insulating house roofs, blocking draughts, using double-glazing and energy-efficient heating systems. Installing solar panels or switching to an electricity supplier that supplies green electricity.

Michael Caron



President, NARUC

How long have you led your organization?

I was appointed to the Connecticut Public Utilities Regulatory Authority (CT PURA) in July of 2010. I was elected and began my term as NARUC President in November of 2022.

What are the three most important issues regulators in your region are confronting right now? Please explain.

Reliability, affordability, and Intermittent Generation Resource Integration into the various regional transmission organizations.

Intermittent energy generation sources continue to grow as part of the energy mix but their penetration may be limited long term, in my humble opinion, due to siting and transmission limitations and costs.

With their intermittent nature, there must be reliable backup sources, but the continued pressure and demonization of fossil fuel producers is making it harder and more expensive to find investment funding to provide that necessary backup; consequently, adding uncertainty of reliability and increased costs.

Finally, the extraordinary disbursements by the U.S. federal government of trillions of dollars into the economy has fueled 40-year high inflation, adding to significant price increases and shocks to regular folks across all economic sectors.

Can you describe external perceptions of your organization and its members? Are the functions of your organization understood by the public, governing bodies, and other stakeholders?

I think that over the past one hundred or so years, NARUC has done a pretty good job of presenting itself as an organization and forum for fellowship, engagement, and a great place to get information, whether simple or complex and a place to exchange the best ideas and trends of the moment in

our regulatory business.

Our stakeholders seem to be very aware of our value. We can see that in our national meetings in terms of registrations, sponsors' participation and large numbers of quality speakers from industry, science, engineering and the highest of levels of government.

What components are necessary for an effective regional organization? Do you believe your organization is adequately supported by its members?

Everything begins and ends with motivated, dedicated, and engaged staff colleagues. They make sure that the members are at their best whether providing testimony to the US Congress, for training and preparing for regulatory duties in their respective states and territories and a place to find unbiased information. NARUC's staff has been a great resource for all of our members—both commissioners and commission staff.

Having active members and a strong resilient governance component. Our leadership structure allows for an exposure to members of the Board of Directors, the Executive Committee, and the officers to effectively lead the organization and we rotate among our regions in the U.S. Each region will have a different perspective on what we do as regulators and a unique approach to presiding during their one-year term as president.

Finally, one will find that NARUC is very much a non-partisan organization. It is not uncommon for members to be surprised when they learn that a commissioner colleague's party affiliation is not what they thought it was. That is not to say that it never comes up, but it never interferes with the business of working to become good or better regulators.

Why are organizations such as ICER important for regulators?

I have always felt that the more people communicate, the more they learn. Not just about other jurisdictions but sometimes about themselves. Meeting and interacting with people from different countries and very different backgrounds can be invigorating as we leave our respective comfort zones. Doing human things, like breaking bread, sharing an adult beverage, talking about our families and communities brings us all a little closer and provides the realization that we are not very different after all.

Globally, what more can energy regulators do to ensure sustainable, reliable energy infrastructures for future generations?

What we all do in the utility business is important. Important to our livelihoods, our families, and communities' ability to succeed in an unforgiving world. It would be good for all of us to realize that dissenting facts and opinions are not life altering personal value judgements. We can find common ground.

I think we can agree rationally that climate change is not actually existential to humankind but more of an exercise in adaptation. To find and execute good, lasting, and consensual solutions that can only be arrived at by listening, learning, and debating. Not by yelling at each other.

So, we can set the example. We must. The powers of the world: Water, Air, Fire (water, gas, wind, sun, and energy) are ours to manage and to manage well with a nod to the past, our eyes on the present, and our thoughts on the future.

*Interviews compiled and edited by
Regina L. Davis.*

Mentoring through Self-Discovery

Martina Schusterova, Deputy Secretary General, CEER, interviews Andrea Lenauer, International Relations Advisor at the Austrian regulatory authority E-Control, about her personal experience as a mentor



Andrea Lenauer

Martina Schusterova: Andrea, could you describe how you became a mentor? What made you decide to dedicate part of your time to mentoring women in energy regulatory authorities?

Andrea Lenauer: Back in 2015, Una Shortall, then CEER Deputy Secretary General and Chairwoman of ICER Women in Energy, asked me if I was interested in becoming a mentor. We had known each other since the very early days of CEER. The two of us had set up the CEER representation in Brussels in the early new millennium. We both very much appreciate each other and each other's work. This is something I generally wish for—for all women: that we value each other's talents, that we are free of envy from each other's achievements.

Martina: Doesn't it require a lot of courage, to counsel people, you have never met before? I suppose you need loads of intuition and also tact?

Andrea: Courage, yes, you may be right there. But that is something I

seem to have been born with! (laughs). Intuition and tact, certainly, but this comes naturally with me as well. For me, getting to know new people is above all a great experience and also fun! I love people, because they are so different. And it's those differences, that I start from with a new mentee.

Martina: Sounds interesting! Now, what exactly is it that you do in your mentoring sessions? I have heard that you also use coaching methods. Is that true?

Andrea: Yes, that's right. As I said, I start from the very personal and individual competencies and talents of people – women in this case. It is a common misbelief, that at the end of the process, one will find oneself. Actually, you have to find your 'self' first, and from there, our path leads you to freedom and independence. I call this inversion *the journey paradoxon*. Of course, the road to freedom and independence, may not always be straight and free of obstacles. I treasure the individuality of each mentee, but also of myself as

their mentor or coach. I see and accept each human being the way she is, the way she was created, which is actually everything BUT naked. I see the human being as a whole.

Unfortunately, in the course of the years, many women lose some of their original wholeness – for a diversity of reasons and through different situations and incidents in life. In the mentoring encounters, women slowly find their way back to themselves, they remember who they are and what their purpose in life and on this planet is. ‘The I is created through the You’ as Martin Buber said, who believed that life finds its meaningfulness in relationships. I am glad I can be this You for my mentees.

Martina: Exciting thoughts! I think this approach of mutuality is very inspiring. Now, from a more ‘practical’ perspective, what are the tools you use?

Andrea: It is important that mentor and mentee have the same understanding about what lies ahead of them. The mentoring agreement is essential: defining the objective and the methods, but also practicalities such as the duration or the intensity of the process. I have had mentees who only wanted to talk every other month, others insisted on a weekly call. As for the tools, I found that keeping a mentoring journal was very useful; i.e., both parties taking notes of the progress that has been achieved. That helps to structure the process and provides for a flow with a purpose.

And then, my main task is to ask the right questions. I am not there to provide the answers, they lie within my mentees, I only help

them find them. In this context, I like to cite Seneca, who said: ‘It’s not because things are difficult that we do not dare [ask the right questions], but because we do not dare [ask the right questions], things are difficult.’

Martina: Exciting thoughts! What has been the most beautiful experience so far in your mentoring for Women in Energy?

Andrea: The most beautiful experience was my mentoring/coaching period with Leah Jara Hadid. We communicated through WhatsApp messages, without meeting, not even via a video call. And still, there was this connection, a connection which felt universal.

Martina: What are your three main objectives or, from another perspective, what are the issues of the women, who apply for the mentoring programme?

Andrea: Interestingly, it is mainly deficits, that women bring forward. I have found out, that this is symptomatic of many young women. They often focus on their weaknesses instead of their strengths. At best, they say that they want to improve their leadership skills.

Martina: And what is your reaction, your answer to this?

Andrea: Well, I explain, that leadership and authority are not the same. And that their journey starts with themselves, with discovering their self. It is only when they accept themselves, with all their strengths and talents – I insist on the positive characteristics, because they have long accepted their weaknesses,

when they start the mentoring process – that they can discover the authority that lies within them and which they will automatically radiate to the outside world through their charisma. When they become the sovereign of their self, they can take themselves to the next level, their individual next level. And I will be happy to have accompanied another woman toward her greater independence.

Martina: This year, you have successfully implemented the “peer coaching” initiative under the ICER WIE initiative. What was the reason behind this programme and transition to this particular project?

Andrea: I have always found that since mentoring is done at different levels (from a senior to a less senior person) that there must be a way that women coach each other being at the same or similar level themed “every woman has her contribution.” Given the fact that most regulators have no in-house coach or talent or leadership development along the employee life cycle, our programme now has filled this gap and met a huge response with more than 40 women applying for it. They all come from different continents all over the world and started their mutual coaching as of July this year.

We are looking forward to seeing soon what the outcome of this programme is. What these women learn and how they have developed during this programme. If you want, we are filling the gap of institutions who have no employee/organisation development programme.

If you have a suggestion for an individual who should be featured in our Women in Energy profiles, please feel free to let us know. Contact rdavis@naruc.org with your suggestions.

Promoting Energy Efficiency In Portugal

Written by Isabel Apolinário, Portuguese Energy Services Regulatory Authority

To meet international and national objectives for carbon emissions reductions, Portugal has taken ambitious measures to improve electricity consumption efficiency through action on the demand side of the energy sector. The most effective way to promote energy efficiency is through the definition of cost reflective tariffs; however, environmental externalities not reflected in prices as well as barriers to the adoption of efficient behaviours, justify the implementation of complementary initiatives to foster energy efficiency.

According to the European Environmental Agency, the mean annual temperature over the European continent in the last decade was 1.94 to 2.01°C warmer than during the pre-industrial period. The year 2020 was the warmest year in Europe ever recorded, with extreme weather and visible impacts on the climate.

It is unquestionable that greenhouse gas emissions are largely responsible for this warming and, accord-

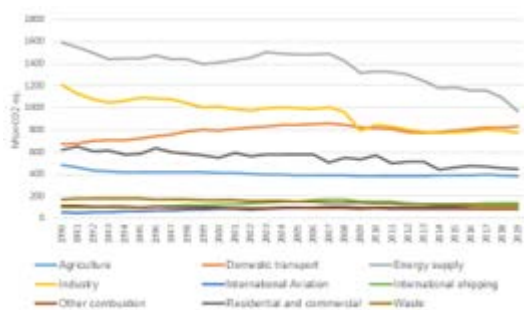
ing to European Environment Agency data, the energy sector is responsible for around three quarters of the EU's greenhouse gas emissions.

It is clear that the energy sector needs to be at the heart of the solution to climate change.

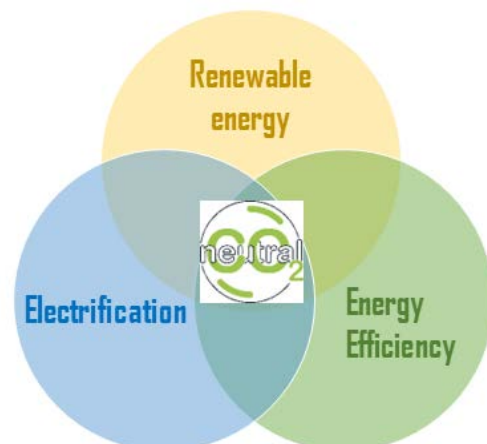
The European Green Deal and its 'Fit for 55' package

In 2019, the European Commission launched the European Green Deal, a package of policy initiatives aiming to set the EU on the path to a green transition, with the ultimate goal of reaching climate neutrality by 2050. The 'Fit for 55' package aims to translate the ambitions of the Green Deal into law, by revising and updating EU legislation in order to cut net greenhouse gas emissions in the EU by 55 percent by 2030, compared to 1990 levels.

The International Energy Agency (IEA), considers three pillars for achieving decarbonisation:



Source: European Environment Agency database – <https://www.eea.europa.eu/data-and-maps/data/data-viewers/greenhouse-gases-viewer>



The path for achieving a competitive low-carbon economy that reduces greenhouse gas emissions is based on transitioning to electric vehicles and developing smart electricity networks, while promoting renewable energy use and sustainable investments that enable lower energy consumption. According to IEA estimates, this third pillar— energy efficiency— holds great potential for emissions reduction . In the energy sector, efficiency can be promoted across the entire value chain, from generation to transmission, distribution, and end-user consumption.

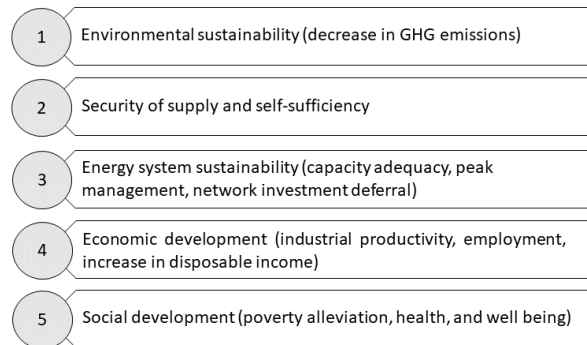
One of the initiatives foreseen by the ‘Fit for 55’ package is the revision of the Energy Efficiency Directive. The Commission establishes the “Energy Efficiency First Principle” proposing to consider energy efficiency as the first option when deciding on energy policies and investments; it should be at the forefront of the energy policy. The Commission proposes to revise the current EU-level target for energy efficiency from 32,5 percent to 36 percent for final energy consumption, and 39 percent for primary energy consumption.

A key challenge of a broad application of the “Energy Efficiency First Principle” is the financing of energy efficiency investment in all sectors (buildings, services, industry, households, and transport).

Energy efficiency benefits

With the international turmoil we are currently experiencing—namely with the conflict in Ukraine—energy costs are rising sharply and the cheapest energy is the energy you don’t use. It is of the utmost importance to have an efficient use of the energy, by optimising the amount of energy needed to achieve a given output. That does not mean loss of comfort; on the contrary, what energy efficiency proclaims is the maintenance or increase in comfort levels with lower energy consumption and consequently lower energy bills.

As summarized in the next figure, the benefits of energy efficiency can be grouped into five categories and go way beyond energy savings and greenhouse gas emissions.



How does the Portuguese Energy Regulator promote energy efficiency?

The most effective way to promote energy efficiency is through the definition of network tariffs structures that allow the recovery of costs associated with each and every activity of the energy sector and by prices that reflect marginal or incremental costs. It is also important to support dynamic pricing for consumers (time-of-use tariffs, real-time pricing, peak time pricing, peak time rebates). By incorporating these methodologies in the Portuguese electricity tariff code, the energy regulator ensures that regulatory incentives are aligned with the objective of energy efficiency. Nonetheless, a number of market failures and negative externalities not reflected in prices such as long payback periods, high individual discount rates, lack of information or high transaction costs, hinder the adoption of efficient behaviours. This loophole requires complementary programs or instruments that foster energy efficiency.

The Portuguese example: Plan for the Promotion of Efficiency on Energy Consumption (PPEC)

The Portuguese Energy Services Regulatory Authority, ERSE, has developed a voluntary mechanism for promoting efficiency in the consumption of electricity, and now also gas, called Plan for the Promotion of Efficiency on Energy Consumption (PPEC).

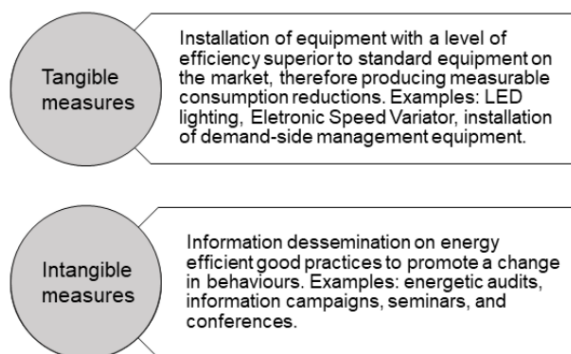
PPEC consists of a tender mechanism, by which eligible promoters submit initiatives or measures that aim to improve efficiency in the electricity and gas consumption, to the benefit of other than the promoters themselves, in the industrial, services, and residential sectors.

Being a voluntary mechanism, promoters choose to join the program because of the benefits it brings to their public image in terms of environmental and

consumer friendliness, allowing to lower the energy bills. Eligible promoters consist of electricity and gas suppliers, transmission and distribution network operators, consumers' rights associations, business associations, energy agencies, municipal associations, research centres and education institutions, science research centres, and non-governmental agencies.

First launched in 2007, PPEC has already had six editions successfully implemented. Each PPEC edition grants 23 million euros, and its funding comes from electricity and gas tariffs, namely the Global Use of System tariff, paid by all electricity and gas consumers. The first six editions covered only the electricity sector, whereas the 7th edition applies to both the electricity and gas sectors.

PPEC comprises two types of measures:



PPEC is a competitive mechanism. Indeed, the eligible measures amount up to three times the amount of the yearly budget allocated to the programme, thereby guarantying that only the best measures are approved.

Measures are analysed and approved by means of a competitive process and ranked according to pre-established and public [rules](#). Depending on whether the measures are tangible or intangible, those rules vary. The evaluation of tangible measures is essentially based on a cost-benefit analysis, whereas the evaluation of intangible measures depend essentially on non-economic criteria, such as its ability to overcome market barriers or to mobilise a great number of consumers.

Measures Evaluation Process

The next figure represents, schematically, the evaluation process and criteria. Besides the Portuguese

energy regulator, the Portuguese Ministerial Directorate General of Energy and Geology (DGEG) also intervenes in the evaluation process. Any given measure final score is the result of the weighted average between the regulator's and the Ministerial services individual marks.

Tangible measures have, essentially, evaluation criteria of a metric nature, whereas intangible measures have evaluation criteria of a non-metric nature. For the non-metric criteria to be objective, a classification matrix was created and made [publicly available](#).

Measures are ordered according to their merit given by their score and are approved until their cost no longer fits PPEC's budget.

The tangible measures' ranking process is done individually for each segment: industry, services, and residential, thus allowing for the funds to be distributed by all segments, thereby guarantying that every consumer segment has measures approved.

As for the implementation phase of PPEC, it is ERSE's exclusive incumbency to ensure the verification and correct deployment of the approved measures and subsequently to approve reimbursements to promoters. It is worth noting that payments to promoters are issued after the costs have been incurred and the measures implemented, that is to say, there are no upfront payments.

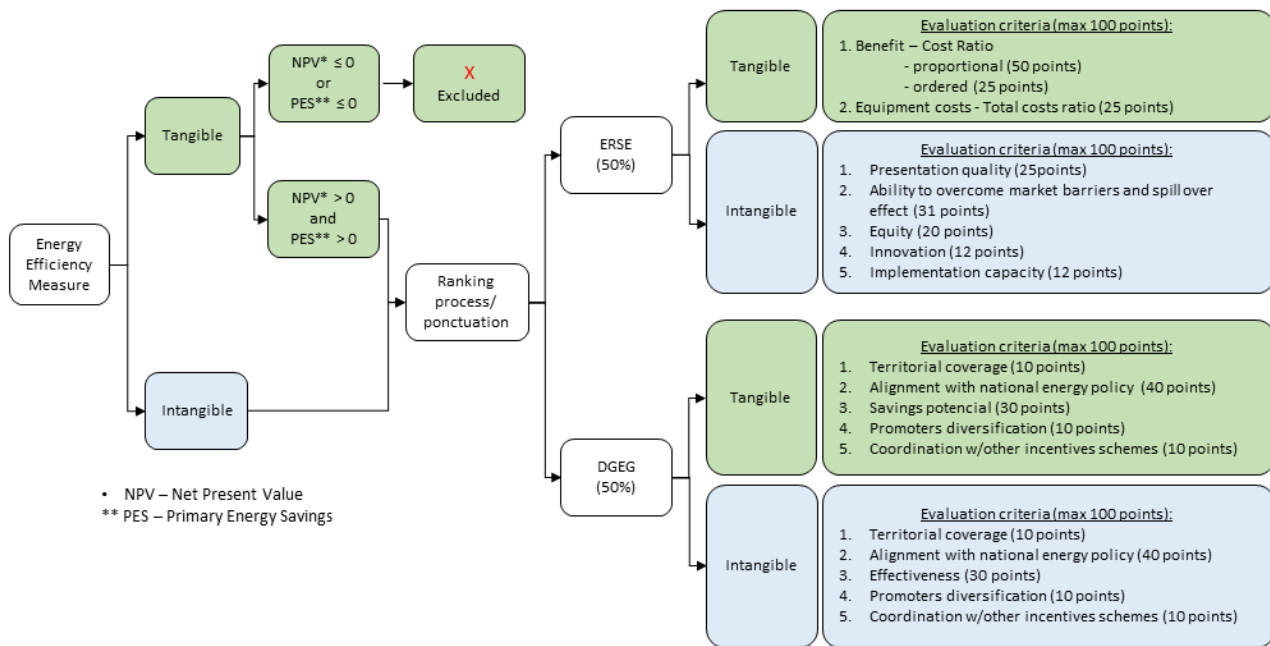
Impacts and Benefits

To this date, 6 editions of PPEC have been fully implemented and the 7th is currently under approval.

When analysing the last edition (PPEC 2017-2018) we can conclude that benefits outweigh the costs, even more so in the selected measures than in the submitted measures, because tender mechanisms have the advantage of being competitive mechanisms and as such, only the best measures with the highest benefit-cost ratio are selected for implementation. This way, PPEC ensures the maximization of social benefits per unit of incentive.

Measures submitted to PPEC must include a thorough measurement and verification plan. Upon implementation, approved measures must follow that plan and report to ERSE its progress on a half yearly basis to assess the performance and results obtained. The financial implementation is ensured by the accreditation of an official accounts officer and all the process is auditable.

The expected impact of the measures implemented in PPEC 2017-2018 in terms of the consump-



tion they avoid amounts to an accumulated value of 1,289 GWh or 476,904 tons of CO₂ avoided over the lifetime of the measures, which is equivalent to the annual consumption of about 500 thousand families.

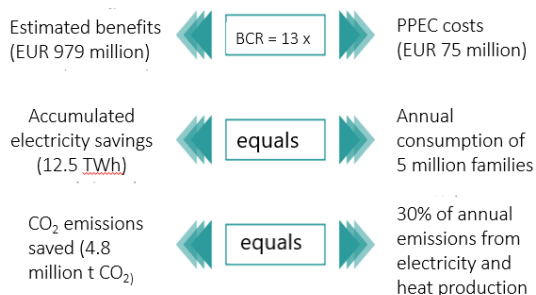
When analysing the results of the previous six editions of PPEC, which began in 2007, it becomes clear that tender mechanisms such as PPEC are indeed a good practice for changing customer behaviour in favour of energy efficiency and a cost-effective way to meet environmental targets. In fact, it is expected to obtain 979 million euros worth of benefits for a PPEC investment of 75 million euros, thus represent-

ing a global benefit/cost ratio of 13. The expected cumulative avoided consumption amounts to 12.5 TWh, representing 4.8 million tons CO₂.

Demand-Side Management Regulation: An Effective Tool for Energy Efficiency

The analysis of the estimated positive impact of the Plan for the Promotion of Efficiency on Energy Consumption encourages the adoption of competitive demand side management regulatory tools, to foster energy efficiency in consumption and CO₂ emissions reduction.

ERSE shares its experience in demand-side management and energy efficiency with fellow electricity and gas regulators, members of MEDREG. As chair of MEDREG's Renewable and Energy Efficiency Working Group, ERSE's President Pedro Verdelho promotes regulatory tools that have proven to be successful to accompany the energy transition while being cost-effective. The RES Working Group's latest work mapped out the energy efficiency programmes and e-mobility in the Mediterranean region and provided recommendations to regulators. ERSE, through



its active involvement in the Mediterranean Energy Regulatory Associations, will continue to advocate and promote sustainable energy regulatory tools replicable to regulatory peers.

DISCLAIMER

This article was written by the Portuguese energy regulator energy efficiency team: Isabel Apolinário, Cristina Correia de Barros, Hugo Coutinho, Liliana Ferreira, Sandra Ferreira, Patrícia Lages, and Luís Miguel Soares.

The views and opinions expressed are those of the author and do not necessarily reflect the official policy or position of ERSE.

See Also:

- ◆ Energy Efficiency Programs and Electric Mobility In Mediterranean Countries Empowering Mediterranean regulators for a common energy future (REF: MED21-32GA-4.1) — March 2022

- ◆ ENERGY EFFICIENCY 2021 — International Energy Agency

- ◆ Regulatory Assistance Project — Measuring and increasing impact: The next challenge for EU energy efficiency policy measures, Samuel Thomas and Marion Santini — DECEMBER 2021

- ◆ The European Environment — State and Outlook 2020 — Knowledge for transition to a sustainable Europe — European Environment Agency (ISBN 978-92-9480-090-9) — 2019

- ◆ Best Policy Practices for Promoting Energy Efficiency — A structured framework of best practices in policies to promote energy efficiency for climate change mitigation and sustainable development — United Nations Economic Commission for Europe — 2015

- ◆ Understanding Cost-Effectiveness of Energy Efficiency Programs: Best Practices, Technical Methods, and Emerging Issues for Policy-Makers — A resource of the National Action Plan for energy efficiency — November 2008

Regulatory Cooperation Helps Weather a Crisis

The regulatory governance of Europe's electricity markets has advanced significantly over the course of the last decade. A Europe that has a robust regulatory framework for cross-border cooperation on electricity is better equipped to tackle the climate and energy crises. An ongoing research project ('Implementing Network Codes', [INC](#)) examines the development of the panoply of detailed technical rules that govern the operation and integration of Europe's electricity networks: terms, conditions and methodologies (TCMs) offer a fascinating case for the study of a unique form of regulatory governance.

TCMs cover a range of issues, including electricity trading (e.g., market platforms) and operational security and reliability of networks. The TCMs have been introduced in European legislation, but can be adopted by regulatory authorities at various levels. Thus, flexibility is provided by regulating some issues at European level with harmonized rules, whereas other TCMs may be adopted at lower levels to fit a more specific context (e.g., allowing rules tailored to fit the Nordic electricity system).

INC is financed by the Norwegian Research Council (grant agreement no. 308855). The project is formed by a consortium of seven European research and knowledge institutions, led by the Fridtjof Nansen Institute, in dialogue with eight partners from the Norwegian electricity sector that co-fund the research. A recent [workshop](#) held at the Florence School of Regulation discussed initial output from the project (available [here](#)):

◆ Research Brief #1 (The evolving role of ACER: emergence, practice, and review of the TCMs, by Torbjørge Jevnaker, Leigh Hancher, and Karianne Krohn Taranger) examines the evolving role of the Agency for the Cooperation of Energy Regulators (ACER). It analyses ACER's formal role in the adoption of TCMs, along with

the dynamic feedback from the internal and external reviews of ACER's decision-making.

◆ Research Brief #2 (Electricity rulemaking in perspective: comparing the TCM process with other regulated sectors, by Eva Ruffing, Selma Schwensen Lindgren, and Torbjørge Jevnaker) puts the rulemaking process in the EU electricity sector in a comparative perspective and asks whether its peculiarities — decision-making by EU agencies, involvement of private actors and rulemaking on a regional level — are unique to the electricity sector or part of a broader European trend.

◆ Research Brief #3 (Stocktaking of the adopted TCMs — towards harmonization or diversity? By Torbjørge Jevnaker, Simon Fink, Karianne Krohn Taranger, Hermann Lüken genannt Klaßen, and Per Ove Eikeland) assesses the impact of TCMs on the harmonization or diversity of rules for the internal EU electricity market. At a time when the future organization of the electricity market is politically controversial, it is essential to take stock of the results of recent regulatory developments and the rules currently in place.

◆ Research Brief #4 (Implementation and adjustment ahead: Enforcing, applying, and revising the TCMs during transition and crisis, by Torbjørge Jevnaker, Marie Byskov Lindberg, and Catherine Banet) looks at implementation. It examines the potential future challenges for TCMs, in view of the energy transition and the current energy crisis, and the scope for their timely revision to meet those challenges.

Learn more about the INC project at <https://www.fni.no/INC>.

Submitted by Torbjørge Jevnaker (Fridtjof Nansen Institute) and Leigh Hancher (Florence School of Regulation)



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