

# Future-Proofing Energy | 2020



SYSTEMATIZATION OF LESSONS AND  
SYNTHESIS OF CHALLENGES FROM  
THE ENERGY SECTOR

yuken

**Future-proofing Energy | 2020**  
**Systematization of lessons and synthesis of challenges**  
**from the energy sector**

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**December, 2020 | Santiago, Chile.**

# INTRODUCTION

This study is part of the initiative **Future-Proofing Energy** designed by the executive directorate of WEC Chile and Yuken Impact research Lab.

The combined effects of the COVID pandemic and the previous social outbreak revealed relevant weaknesses in the social, economic, political, and productive structure in Chile. This type of weakness becomes a problem that puts our country and sector's future at risk. A “future-proof” energy system is one where new ways for creating private and public –social, environmental, and economic– are not limited by restrictions imposed from within the system; limited ability to react to unforeseen events; disregard for the value of people; or anchoring to rules, processes or technologies that do not allow progress.

This initiative is a synergic, diverse, and collaborative effort to become architects of Chile's energy future, with shared goals and a common destiny.



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# 1

# EXECUTIVE SUMMARY

This document summarizes the lessons learned by the member organizations of the World Energy Council WEC-Chile from the first months of the COVID pandemic and presents recommendations on how Chile could build a **future-proof Energy Sector**.

The study originates from the motivation to learn how organizations in the sector reacted to COVID-19 and identify the most and least effective practices used to respond to the emergency and maintain operational continuity since the beginning of the pandemic. While highly effective actions were identified for responding to the emergency and keeping operational continuity, there were differences in the degree of performance between some organizations.

The analysis shows five factors that made it possible to better respond to problems generated by COVID. Organizations that made decisions consistent with their purpose and mission statement and were consistent with their declared values, had greater support and response from their collaborators. Those that were advanced in their digital transformation found it easier to respond to the emergency and maintain continuity of operations. Finally, those with existing dynamics for managing and working under uncertainty, and for managing, tolerating, and learning from failure were able to advance and recover more quickly.

As a result of our analysis, we identified the most relevant problems and challenges in the sector; but also the organizational and social strengths that permitted better responses to contingencies; the different sources of uncertainty that are creating concern about the future, as well as relevant challenges and open questions for building a future-proof energy sector.

In addition to the response to the crisis, the long-term presence of COVID reveals a series of short and medium-term problems and challenges that we must address to maintain the stability and future performance of the system: difficulties in the execution of projects generated by contagion and social distancing; personnel motivation in stressful environments; provide the necessary technical skills with limited local talent; carry out correct measurement and valuation of energy consumption; digital security and crime.

Beyond COVID-19, however, there are a series of medium and long-term challenges that are important to consider. We must strengthen the system and, at the same time, work as a sector to repair and improve ties with society. We must create capabilities and define ways of operating in scenarios of high regulatory, social and economic uncertainty. We need to think about the future and, in for this

future, reinvent the relationship with those who use energy and redesign the work experience for our collaborators.

As a starting point, the representatives of the organizational members of the World Energy Council WEC-Chile took these lessons, analyzed them, and generated a synthesis around seven highly relevant challenge areas for advancing in the coming years. In alphabetical order, these areas of challenge are: (i) climate change, (ii) digital capacity, (iii) trust and connection with society, (iv) gender equality, (v) economic uncertainty, (vi) regulatory uncertainty, and (vii) management, capabilities, and decision-making in environments of uncertainty. .

**There is much to do, and we propose to begin with three challenge areas:**

- (i) improving our capabilities and decision-making for managing under environments of uncertainty, so we could better face**
- (ii) possible sources of regulatory and social uncertainty, and respond better towards**
- (iii) economic uncertainty.**

**As the actors who will be in the first and last lines of the energy defense of our country, this document is an invitation to gaze long term, and a call to action and collaboration to do something with what we see.**

**"IT HAS BEEN RELEVANT  
TO REALIZE OUR CAPACITY  
TO ADAPT"**

LESSONS FOR A FUTURE-PROOF ENERGY SECTOR | CHILE 2020

# 2

# OBJECTIVES AND METHODOLOGY

The **Future-Proofing Energy** initiative was born in times when it was necessary to reframe the crisis into opportunities. It began with a first study for generating new knowledge from representatives of various organizations of the public, private and academic sector, focused on identifying:

- **Key opportunities in the context of the current crisis**
- **Best practices, procedures, and solutions that can be shared regionally and globally**

This new knowledge is expected to promote better management of the present crisis, resilience to future emergencies, and contribute synergistically to the process of designing and managing regulations.

**TABLE 1: SUMMARY OF ACTIVITIES**

PHASE 1: Information gathering	PHASE 2: Analysis and synthesis	PHASE 3: Workshops	PHASE 4: Synthesis and recommendations
<ul style="list-style-type: none"> <li>Semi-structured interviews with 32 representatives from WEC-Chile's member organizations.</li> </ul>	<ul style="list-style-type: none"> <li>Transcription and narrative and semantic analysis of interviews.</li> <li>Relational content analysis.</li> </ul>	<ul style="list-style-type: none"> <li>Presentation of results.</li> <li>Workshop: identification of challenges.</li> <li>Workshop: Deep dive at priority challenge areas.</li> </ul>	<ul style="list-style-type: none"> <li>Analysis and synthesis of final results.</li> <li>Recommendations.</li> </ul>

The study originates from the motivation to learn how energy-related organizations reacted to COVID-19 and to identify the most -and least- effective practices to respond to the emergency and maintain operational continuity since the beginning of the pandemic.

Table 1 presents the four phases of this study. In brief, for phases 1 and 2 we followed a mixed-methods approach for qualitative and quantitative inquiry. In phases 3 and 4, we used tools for projection and development of innovation processes for synthesis and prescription for action towards encouraging the fulfillment of the proposed objectives.

1. See list of interviewees in Annex 1, A: Interviewees for the study.

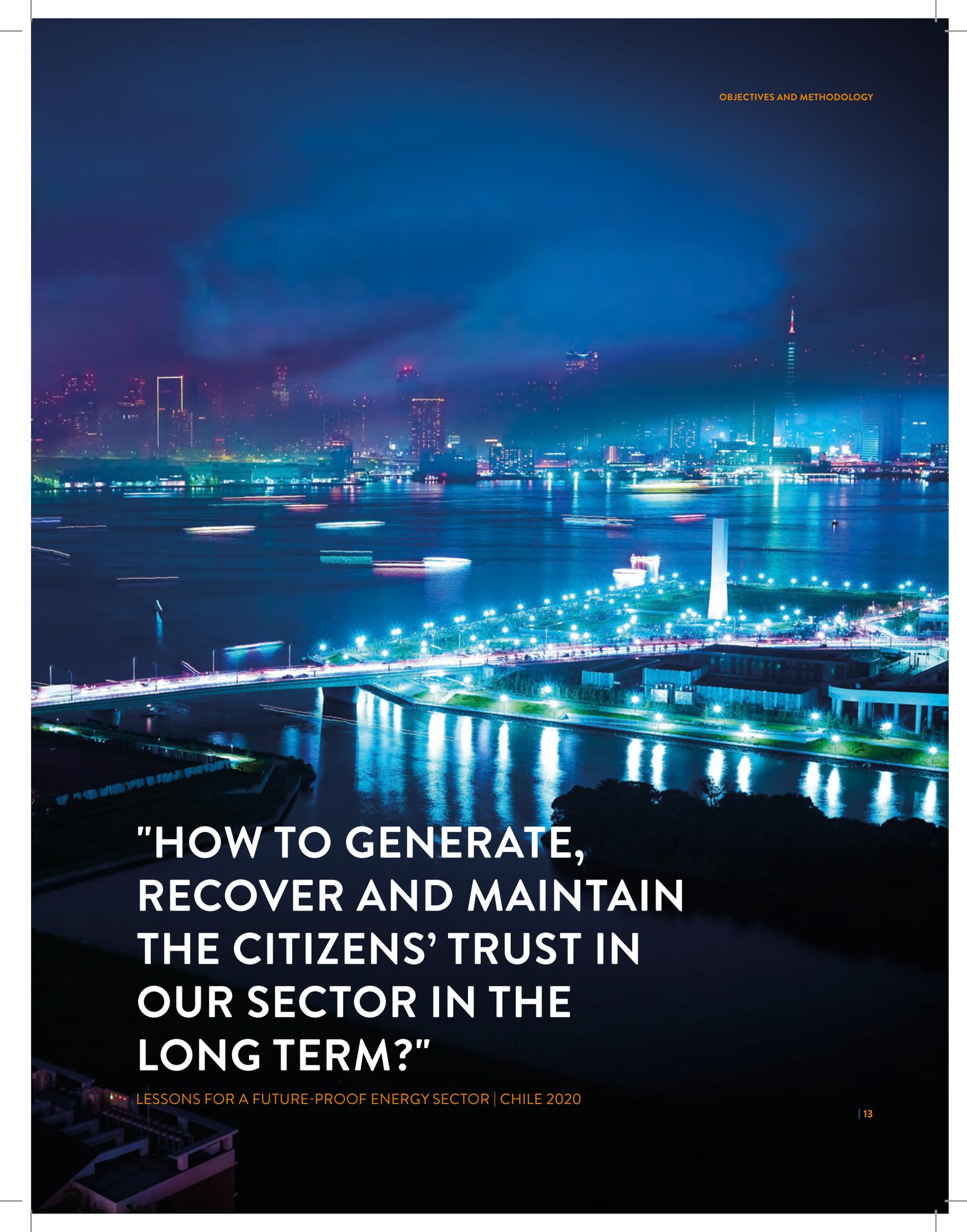
**PHASE 1:** Information gathering from 32 representatives<sup>1</sup> of WEC-Chile's member organizations using a semi-structured interview protocol. The protocol inquired about the reactions and measures taken during the first months of COVID-19, and all interviews were recorded..

**PHASE 2:** All interviews were transcribed verbatim. The transcripts were subject to semantic and content analysis. The resulting codes and emerging themes were analyzed for pattern recognition and through network analysis, which allowed for finding patterns and emergent relationships among variables. In this way, it was possible to go from information to knowledge, synthesizing results that guided the actions and guidelines of the next phases.

2. See the list of workshop participants in Annex 1, B.

**PHASE 3:** After the presentation of results, we held two workshops with 34 representatives<sup>2</sup> of WEC-Chile's participating organizations. The objectives for these workshops were to identify a portfolio of challenges and propose courses of action.

**PHASE 4:** This last phase allowed for generating the final synthesis of the study, and connecting the results of the information-gathering phase with those of the practical development to systematize the lessons learned and present them along with future action plans.

A nighttime photograph of a city skyline across a wide river. The city lights are reflected on the water. In the foreground, a bridge with a tall white pylon and a modern building complex are illuminated. The sky is dark blue.

**"HOW TO GENERATE,  
RECOVER AND MAINTAIN  
THE CITIZENS' TRUST IN  
OUR SECTOR IN THE  
LONG TERM?"**

LESSONS FOR A FUTURE-PROOF ENERGY SECTOR | CHILE 2020

# 3

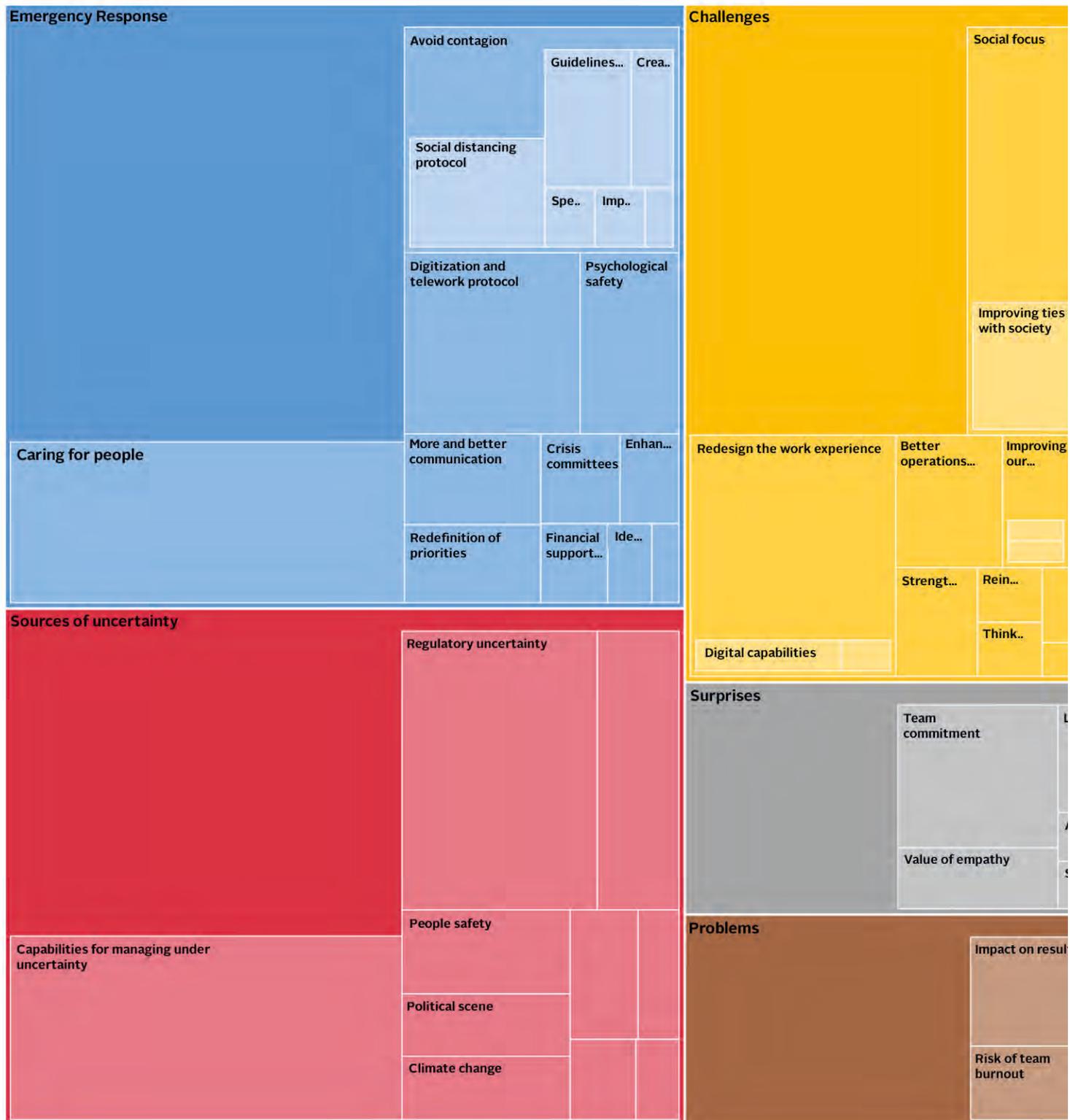
# RESULTS AND LESSONS LEARNED

The mixed-methods (quantitative and qualitative) analysis in Phase 2 allowed the synthesis of 10 emergent dimensions that gather and complement all the variables collected. These are:

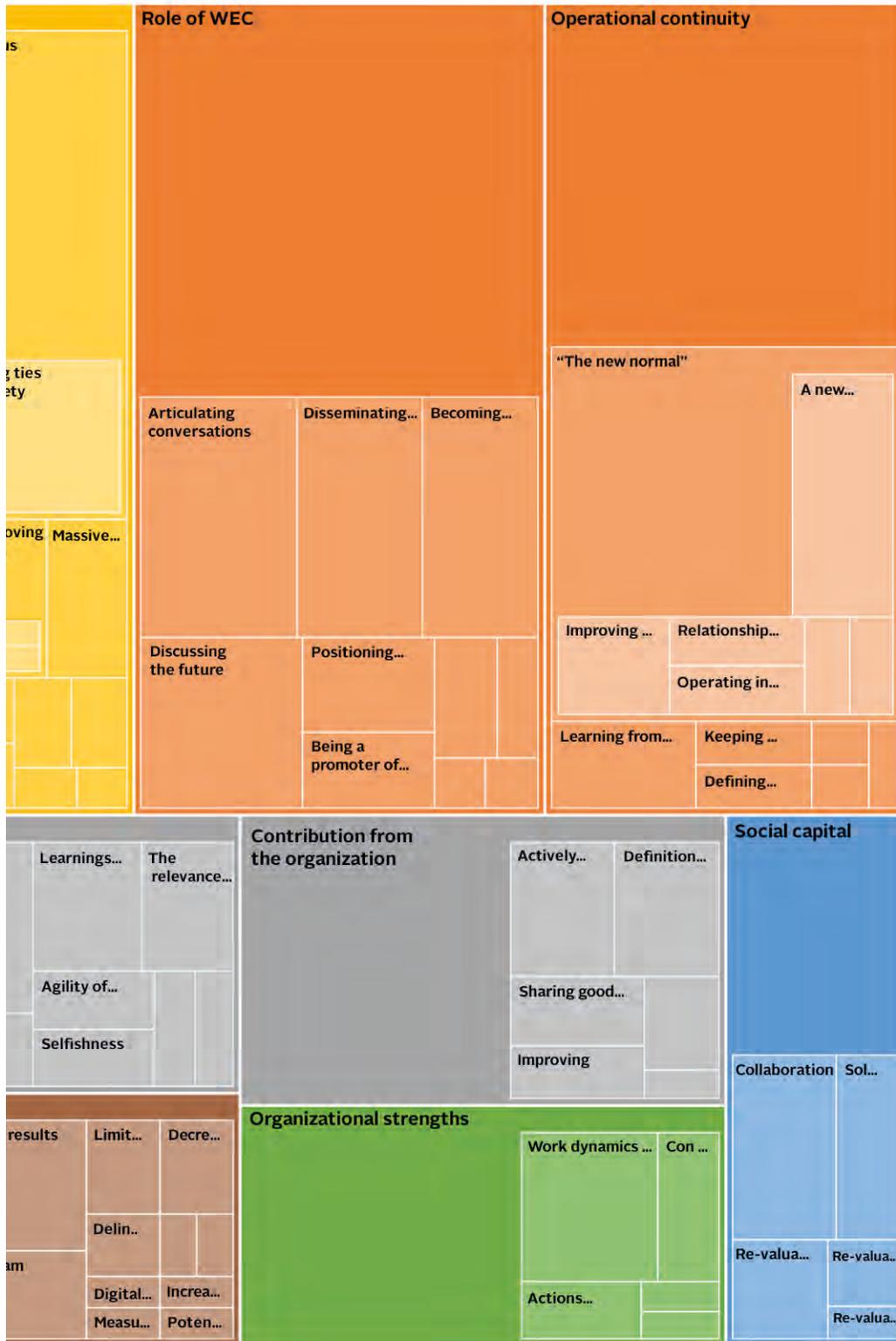
- 1. Emergency response:** Direct responses to the situations generated by the COVID crisis.
- 2. Operational continuity:** Actions aimed at guaranteeing the sustainability of operations (which includes guidelines for “the new normal”).
- 3. Challenges:** Relevant opportunity areas with impact in the medium and long-term.
- 4. Problems:** Short-term difficulties and limitations generated by the current state of crisis.
- 5. Surprises:** Surprising actions, behaviors, and discoveries due to the crisis.
- 6. Organizational strengths:** Assets, actions, and competencies already existing in the organization that allowed for a better response.
- 7. Social Capital:** Resources, norms, trust, values, sense of identity, and shared understandings that facilitate cooperation, reciprocity, and solidarity within a group.
- 8. Sources of uncertainty:** Issues of concern due to their current high levels of ambiguity and uncertainty.
- 9. Contribution of my organization:** Topics or areas where my organization could contribute to address and solve some of the common challenges and problems.
- 10. The role of WEC:** Role, actions, and issues that should be at the center of WEC's work.

Figure 1, on the next page, shows the relative weight of each dimension emerging from the study. Their relative weight represents the recurrence of terms throughout the different interviews.

**FIGURE 1: DIMENSIONS EMERGING FROM THE INTERVIEWS**

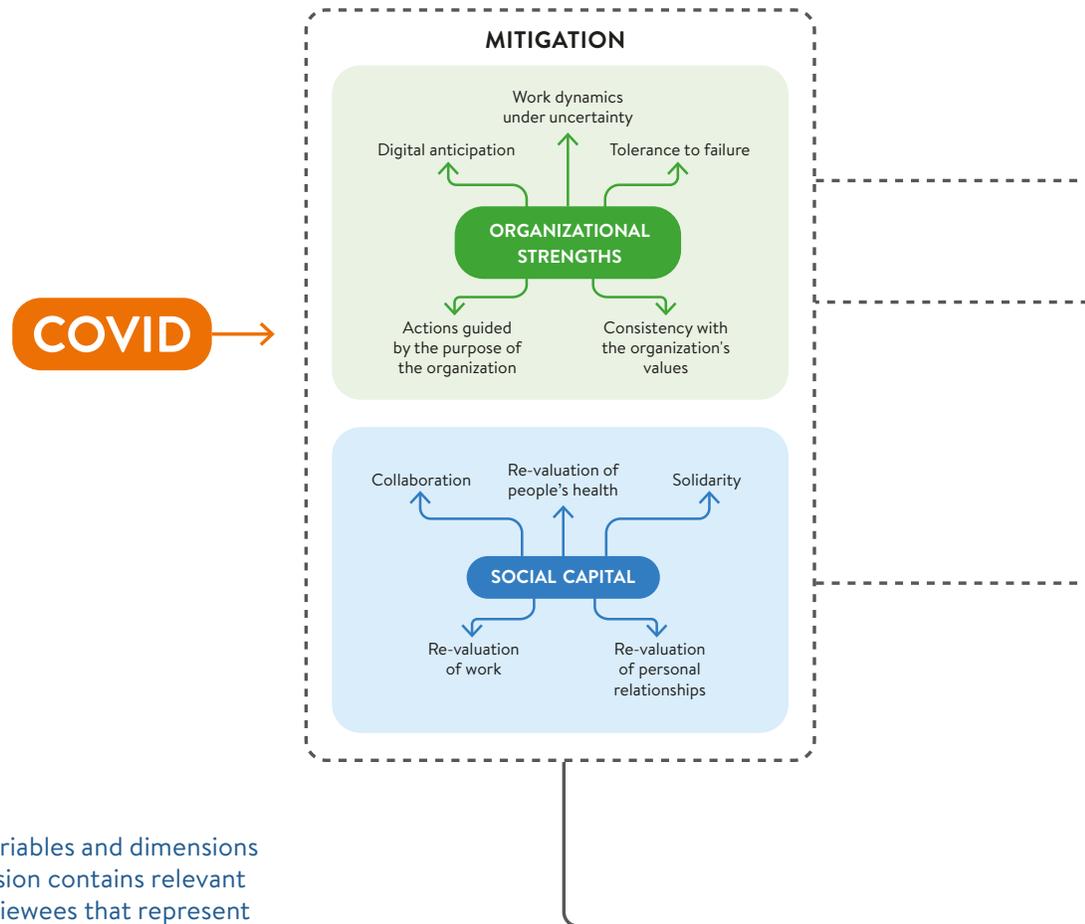


Source: The project team, based on the interviews.



1. Emergency Response
2. Organizational Strengths
3. Surprises
4. Operational continuity
5. Problems
6. Challenges
7. Sources of uncertainty
8. Social capital
9. Contribution of the organization
10. Role of WEC

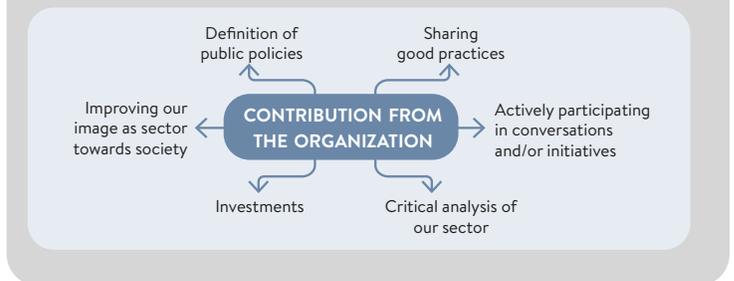
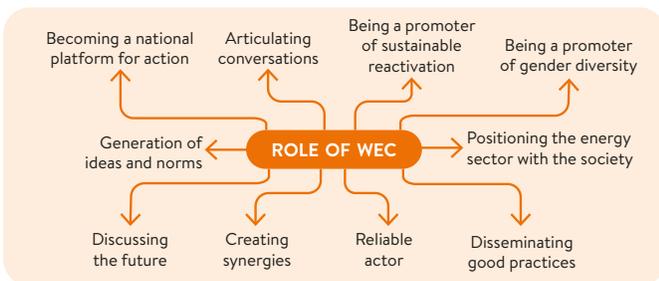
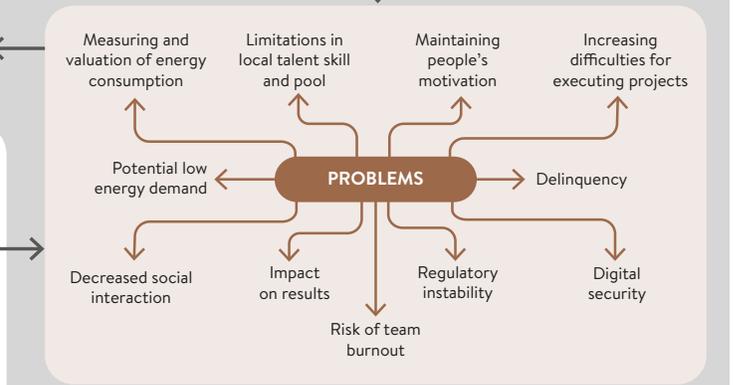
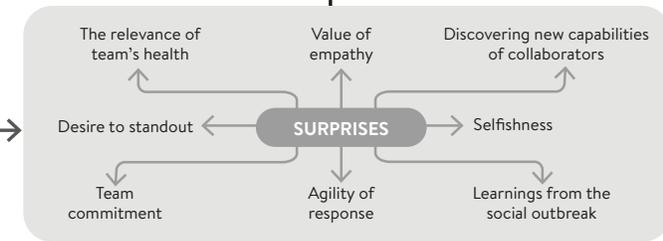
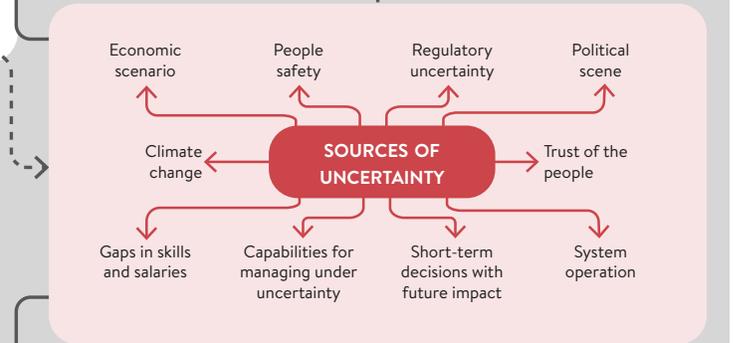
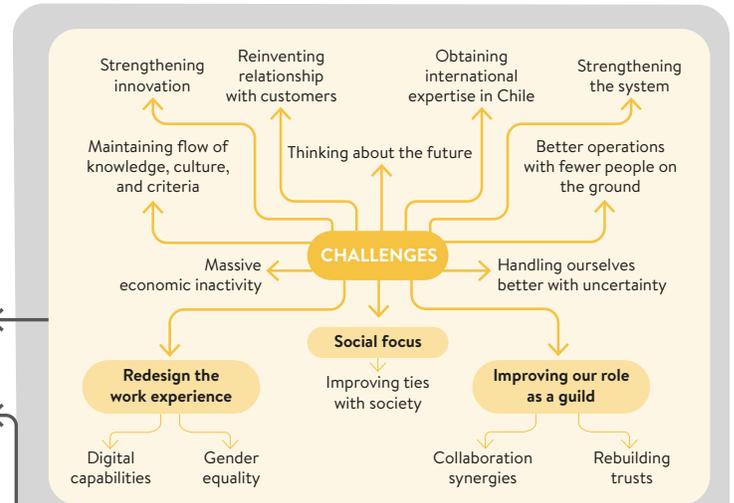
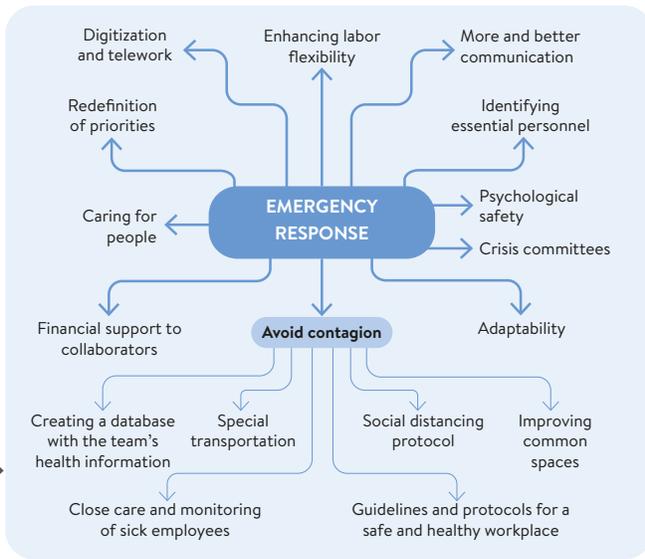
**FIGURE 2: RELEVANT DIMENSIONS EMERGING IN THE STUDY**



Recurrence and frequency of variables and dimensions was not everything. Each dimension contains relevant variables identified by the interviewees that represent (i) strengths of those companies that responded best to the crisis, (ii) actions for responding to the emergency and maintaining operational continuity in the short term, and (iii) the relevant tasks to be accomplished in the medium and long term.

Figure 2 shows a detail of the dimensions and their variables, which also identifies those that can be considered as good response practices to COVID-19, and the tasks to be completed in the short, medium and long term.

Along with this, the figure also shows positive and negative surprises that were identified and attracted attention during the first six months of the pandemic.



Source: The project team, based on the interviews.

As a result of the analysis, we found:

3. See list of initiatives in Annex 2.

- **Emergency response:** 76% of the organizations reacted simultaneously in responding to the emergency and guaranteeing the safety of their employees, at the same time, guaranteeing operational continuity. The responses to the emergency focused on (i) avoiding contagion and guaranteeing people's health and psychological safety, (ii) adapting work methods and identifying critical personnel for the operation, and (iii) rapid adaptation, labor flexibility and re-adaptation of priorities<sup>3</sup>.

4. See list of initiatives in Annex 3.

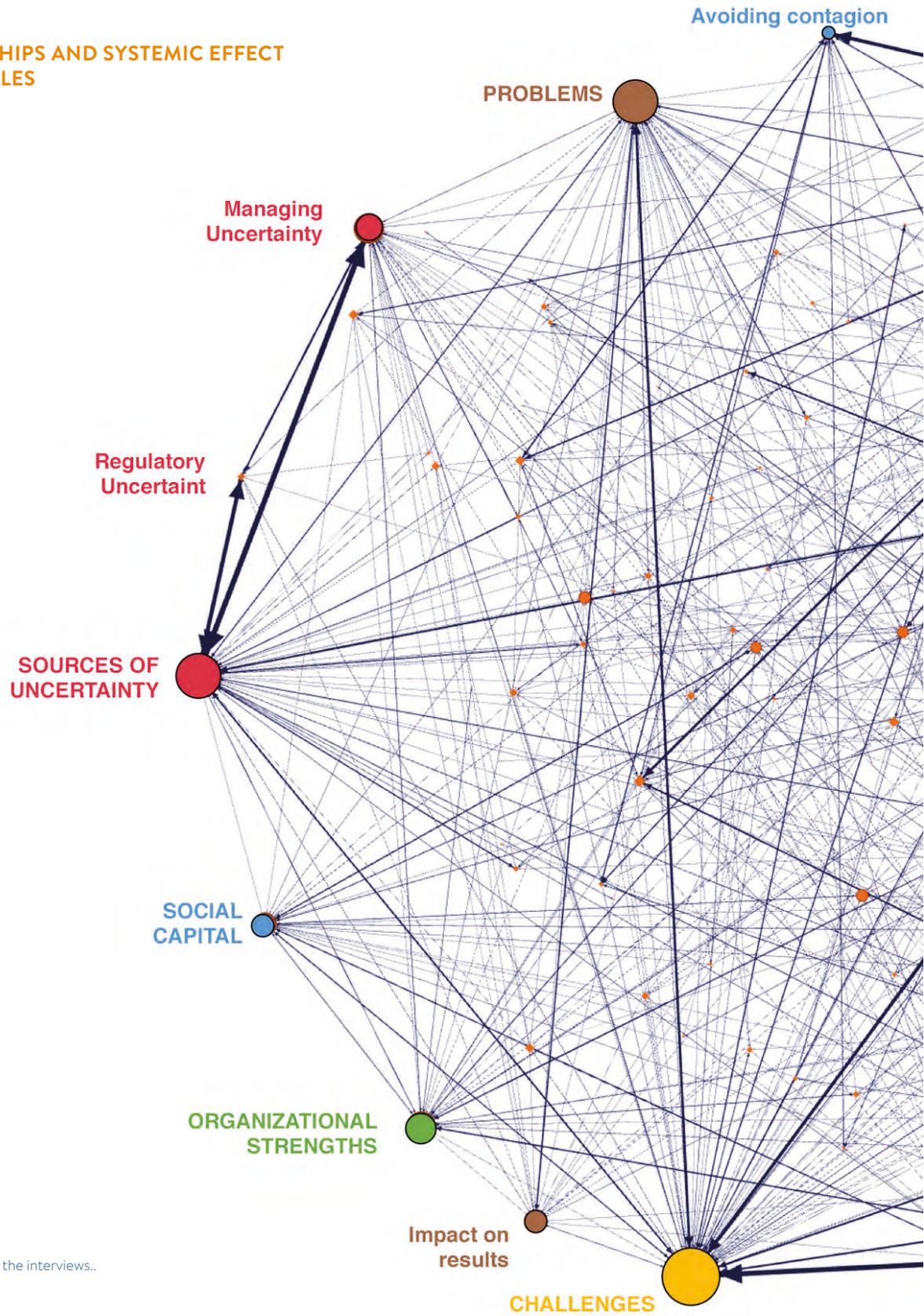
- **Operational continuity:** The response mentioned above served as the basis for, at the same time, taking the following measures for keeping operational continuity: (i) defining and listing critical operative functions, (ii) keeping minimum teams for maintenance, and (iii) taking care of suppliers and providers. A relevant part of the fast reaction to maintain operational continuity was the high motivation of the sector's workers to keep the country active and with energy supply. High-performing organizations tend to keep unaltered their long-term strategic decisions. Also, there was an approach towards learning from this crisis to create a "new normal" that allows redesigning organizations and their processes to generate a new way of working with better management in the face of uncertainty, better internal social dynamics, and better relations with society<sup>4</sup>.
- **Short-term problems:** The crisis revealed a series of problems, common to more than 60% of organizations, and some challenges shared by 90% of them. The most relevant problems are (i) financial effects (measurement and valuation of consumption, decrease in demand, and impact on results), (ii) regulatory instability, (iii) crime and digital security, (iv) maintaining motivation and reducing the risk of burnout of employees in a context of decreased social interaction, (v) limitations on availability of skilled local talent, and (vi) difficulties in the current context and its effect on project implementation.
- **Medium and long-term challenges:** The current crisis and its problems revealed the following present and future challenges: (i) How to face a situation of massive economic inactivity? (ii) How to obtain or to generate international expertise in Chile that is needed but currently unavailable? (iii) How to improve our role as a guild? (To strengthen the system, improve the social focus and reinvent relationship with clients, rebuild internal trust, and generate greater synergies through collaboration), (iv) How to better handle ourselves under uncertainty, think about the future and strengthen innovation? (v) How to redesign the work experience? (maintain the flow of knowledge, culture and criteria, better operations in the field with fewer people involved)?
- **Organizational strengths:** The study showed that 30% of the organizations exhibited a better response to the emergency and in keeping operational continuity. The organizational strengths that helped to face the crisis situation were: (i) digital transformation initiatives in anticipation of COVID, (ii) consistency between the courses of action of the organizations with their mission statement and values (which guaranteed alignment and commitment among its collaborators), (iii) already established work and management dynamics under uncertainty, and (iv) a certain tolerance to failure. A small group of organizations (just over 23%)

showed a combination of organizational strengths and construction of social capital: (i) reevaluation of personal relationships, (ii) increased collaboration and solidarity, and (iii) reevaluation of health and the meaning of work.

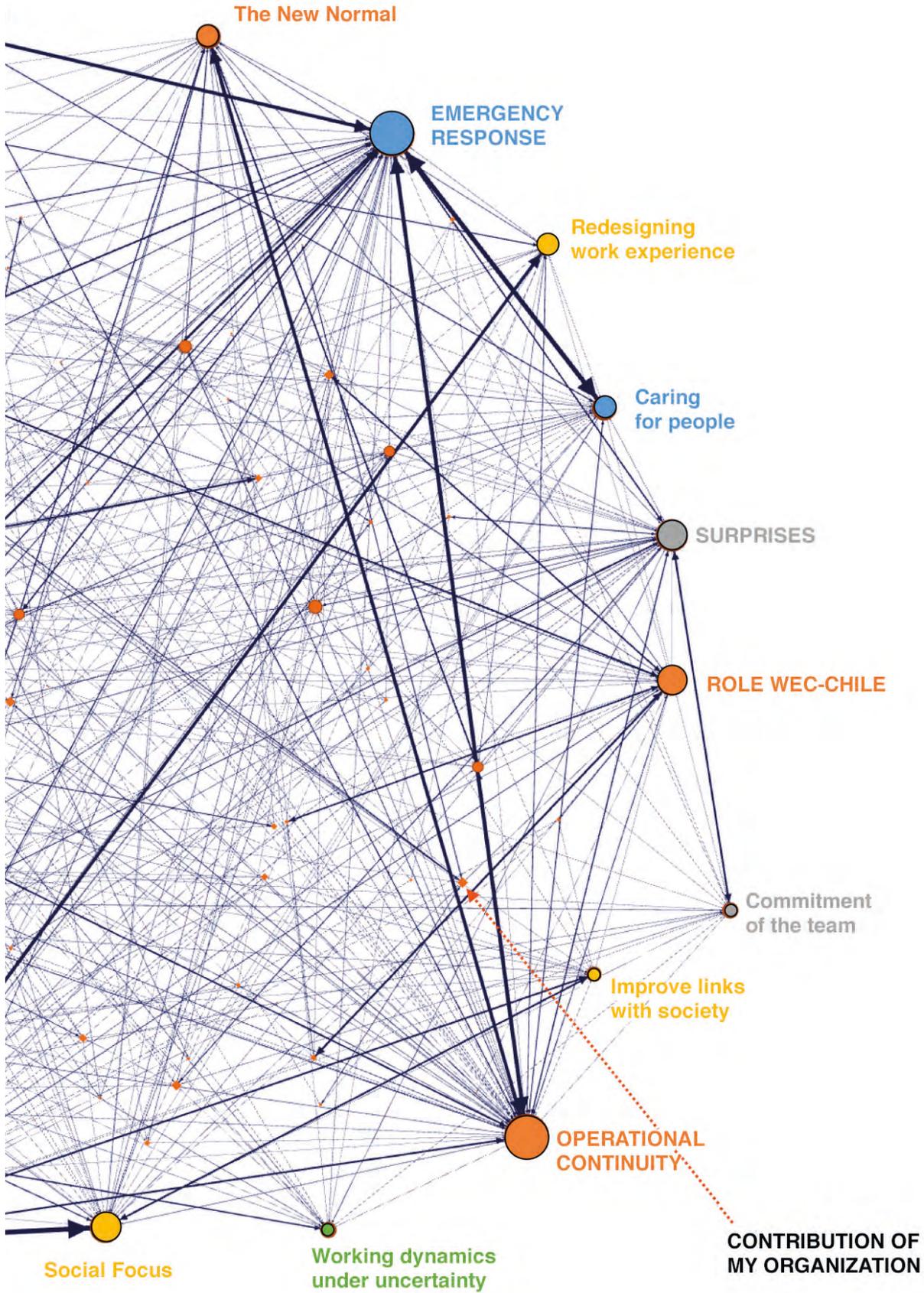
- **Surprises:** In addition to the above, there were a series of surprises in responses to the crisis, many of them triggered by organizational strengths and increased social capital: (i) discovering new capabilities in team members, (ii) timing of response and commitment of the teams beyond what was expected, (iii) certain lessons that were internalized as a result of the social outbreak, (iv) a reevaluation of the power of empathy and the overall health of the team. However, negative surprises also stood out: (v) the selfishness of certain actors in the system when making decisions, and (vi) the perception of the desire to stand out by some people at the expense of the sector.
- **Sources of uncertainty:** Finally, the concern about different sources of uncertainty regarding (i) regulation and system operation, (ii) gaps in skills and salaries in the sector emerged as a dimension that have been evidenced by the combination of social crisis and COVID, (iii) political scenario, (iv) regulatory scenario, (v) climate change, (vi) public trust, and (vii) people's safety. These issues, already relevant by themselves, acquire greater notoriety in the face of (viii) limited management capabilities in uncertain environments, and (ix) the tendency to make short-term decisions, without considering their future long-term effects.
- When asked about what to do for solving the problems, challenges and sources of uncertainty, the interviewees spoke in terms of the contribution of their organization and the role of WEC-Chile as an articulator. In terms of the contribution of organizations, these stand out (i) actively participating in discussions and initiatives, (ii) sharing good practices, (iii) collaborating in the definition of public policies, (iv) investing in improving the system, and (v) work to improve the image of the sector towards society through a critical analysis of the sector.
- In terms of the role of WEC-Chile, it emerges as a reliable actor that should create synergies and be a national platform to articulate discussions, generate ideas and norms to (i) discussing the future, (ii) positioning the sector with society, (iii) promoting gender diversity in the sector, (iv) being a space to disseminate good practices (from Chile and the rest of the world network), and (v) promoting sustainable reactivation.

**Small actions of great consequence.** Many of the identified variables include problems and challenges that have been common to the sector for a long time. However, the analysis of relationships among emerging variables revealed that some of them that, while less well known and common, present an relevant and systemic effect that can be used to strengthen Chile's energy system. Figure 3 illustrates in graphic way the relevance of dynamics and capabilities for managing under uncertainty; organizational strengths; the strengthening of social capital; avoiding contagion; caring for people; and social focus for actions of the members of the system.

**FIGURE 3: RELATIONSHIPS AND SYSTEMIC EFFECT OF RELEVANT VARIABLES**



Source: The project team, based on the interviews..



Thus, there are two types of challenges emerging for WEC-Chile and its members: (i) those that allow us to solve high-impact issues, and (ii) those that make us stronger and immune to face situations of high uncertainty and impact, such as those we have lived through these months.

### **Towards a Future-Proof Energy Sector**

Based on these results, the World Energy Council WEC-Chile brought together its members to analyze them and propose ways to move forward. Representatives of WEC member organizations reviewed the dimensions and variables to identify the most relevant underlying challenges. A first review of the results revealed seven major areas of work and 24 challenges that we must take on in order to build a future-proof energy system in Chile.

These issues and challenges are shown in Table 2 (and are presented in greater detail in Annex 4). A significant number of these challenges are considered short or short-medium term and are marked with an asterisk (\*).

The workshops' participants decided to begin working in three of these areas: (i) regulatory and political uncertainty, (ii) economic uncertainty, and (iii) management, capabilities and decision-making under uncertain environments. For each of these areas, the teams presented a preliminary analysis of (i) opportunity of the challenge area, (ii) relevant actors, (iii) strategic alignment, and (iv) key risks and mitigation strategies was performed.

TABLE 2: AREA AND CHALLENGES FOR FUTURE-PROOF ENERGY SECTOR

Area	Challenges
<b>Regulatory uncertainty</b>	1. How to achieve a better understanding of regulatory changes or modifications? (Among ourselves, how to better communicate to “non-technical” people) *
	2. How to communicate regulatory changes, their relevance and impact in the clearest, most direct and effective way possible? *
	3. How to manage/reduce anxiety in the face of regulatory changes in the best possible way? *
	4. How to generate conversations in the sector with a long-term vision of the country, beyond contingency and ideologies? *
	5. How can we guarantee citizen participation in future regulatory changes?
	6. Along with the above, how to deliver quick solutions from regulation to companies?
	7. How to generate a known and participatory process to face unforeseen events and emergencies in the national context? *
	8. How to face contingencies in the best possible way? *
	9. How to have access to tools, processes, cases and reference models to face contingencies in the best possible way? *
<b>Trust and the relationship with society</b>	10. How to generate/recover and maintain public trust in our sector in the long term?
	11. How to enable a process of listening to society at the regional level that leads us to raise issues of interest to the communities in the energy sector? (distribution, transmission, accumulation, DTAG generation)
	12. How to perform a measurement process and baseline perception of social actors on the valuation of the actors in the energy sector (D + T + A + G)? *
	13. How to reinvent the relationship with customers for the Portability Bill?
	14. How do we evangelize the community/society? *
	15. How to increase the business credibility of the sector, in the context of the Portability Law? *
<b>Climate change</b>	16. How to support the distribution operators?
	17. How do we increase our resilience to climate problems?
<b>Economic uncertainty</b>	18. How do we ensure long-term sustainability?
	19. How to empower the team to keep working and collaborating even considering this uncertain environment?
<b>Management, capabilities and decision-making in uncertain environments</b>	20. How to ensure operational continuity considering less human capital, schedules and management of people in the different operations? *
	21. How to have greater clarity on short, medium and long-term regulatory changes?
<b>Digital capability</b>	22. How to generate greater flexibility and adaptability in the working environment to contextual changes and sources of uncertainty? *
	23. How to manage change to capture high levels of productivity associated with digital transformation, considering the skills and challenges of our current workers?
<b>Gender equality</b>	24. How to generate and maintain the best environment of gender equality among the productive sectors of Chile, and be an example at the international level?

Table 3, below, presents a summary of the opportunities of these three challenge areas (Annexes 5, 6, and 7 present the detail of the work carried out for each of them).

**TABLE 3: OPPORTUNITIES OF THE CHALLENGE AREAS**

	Regulatory and political uncertainty	Economic uncertainty	Management, capabilities and decision-making in uncertain environments
Challenge area opportunity	<ul style="list-style-type: none"> <li>Regulatory framework that creates incentives for greater competition, quality of service and social benefit in technical, social, environmental and economic terms.</li> </ul>	<ul style="list-style-type: none"> <li>Reducing the impact of a possible economic crisis on the system operation, and people's quality of life.</li> </ul>	<ul style="list-style-type: none"> <li>Actors in the system that respond with greater flexibility and resilience, and lower costs to <i>shocks</i>.</li> </ul>
No. of micro-challenges included	9	2	5
Focus	<ul style="list-style-type: none"> <li>Quality of regulation, quality of institutions, and relationship with associations and companies.</li> <li>Quality of relations between system operators.</li> </ul>	<ul style="list-style-type: none"> <li>Capabilities of the energy-related organizations and companies.</li> <li>Quality of relations between system operators.</li> </ul>	<ul style="list-style-type: none"> <li>Capabilities of the operating organizations and companies.</li> </ul>

Our findings show that the most disruptive threats to the system are those that can affect the regulatory, political and economic stability of the system. However, since their inception, energy systems have been facing operating contexts where large-scale investments are made in planning, development and exploitation horizons go far beyond the of stability in any other economic sector.

In this context, a relevant area of challenge is strengthening the management, capabilities and decision-making approaches in uncertain environments. This is consistent with the lessons learned from those organizations that responded better to the arrival of COVID-19. This, however, is just the beginning. We need to make a rule from these exceptions.

**"HOW TO HAVE A CLEARER  
VIEW ABOUT SHORT,  
MEDIUM AND LONG-TERM  
REGULATORY CHANGES?"**

LESSONS FOR A FUTURE-PROOF ENERGY SECTOR | CHILE 2020

# 4 COMMITMENT AND RECOMMENDATIONS

There are many sectors that –as a system– support the “normal life” in our current societies. However, in times where society is increasingly demanding, technology increasingly at hand and instantaneous, and changes increasingly frequent. Few industries, however, are faced with technical, political and social performance requirements under similar restrictions to those of the energy sector. Gas and electricity must always be available to all.

**In contexts such as today, more than ever, we must be a future-proofing energy sector. A future-proofing energy sector needs future-proof organizations: that have capabilities, methods and processes that allows them to minimize the potential negative impact of emergencies, changes, disruptions, and have access to our best available future.**

This effort was born from the desire to learn from the social and Covid crises of recent months and, as members of the World Energy Council WEC-Chile, also learn from our response, mistakes, successes and possibilities. The objective was to synthesize what we did well, where were our pain points, what possibilities we have and how could we move forward.

The member organizations of WEC-Chile are committed to taking the first steps towards a future-proof energy:

- Identifying and synthesizing different initiatives that were carried out to respond to the emergency and maintain operational continuity in an effective manner: which can be part of a *playbook* for the sector, with lessons learned, recommendations, and good practices.
- Synthesizing the behaviors that showed to be strengths for inhibiting the negative effect of the crisis: (i) consistency with the values and mission statement of the organization (which gave a sense of security to employees), (ii) working dynamics under uncertainty, (iii) tolerance to failure (knowing how to differentiate their different types and learn from them), and (iv) digital anticipation.
- Gathering the most relevant areas of challenge: (i) regulatory uncertainty, (ii) trust and relationship with society, (iii) climate change, (iv) economic uncertainty, (v) management, capabilities and decision-making in environments of uncertainty, (vi) digital capacity, and (vii) gender equality. Then, for each of them, identify the challenges with the greatest impact in the short, medium and long term.
- Finally, proposing for three of them –regulatory uncertainty; economic uncertainty and management, capabilities and decision-making in uncertain environments - the opportunities and micro challenges that should be considered and resolved; proposing the actors that should be involved in the process; aligning solution efforts with a long-term strategic vision for the sector and, for achieving this, identifying some of its key risks and proposing mitigation strategies.

However, for these first steps to become the starting point of a transformation towards a country with a future-proof energy sector, we need to articulate all institutional, social and environmental actors around shared short, medium and long-term objectives.

**This work is an invitation to continue this path towards the future in an institutional way and - beyond the ideologies of current and future governments- to continue working in challenge areas found. We need to bring on board all those who have something to contribute; listen to those who have something to say; refine what can be improved upon and, from the point of view of the Chilean Energy Sector, generate a better tomorrow.**

A photograph showing the silhouettes of numerous wind turbines against a dramatic, colorful sunset sky. The sky transitions from deep blue at the top to bright orange and yellow near the horizon, with scattered clouds catching the low light. The turbines are arranged across a dark, silhouetted landscape, creating a sense of depth and scale.

**"WE MUST LEARN  
FROM THIS CRISIS AND  
APPLY THIS WAY OF  
REACTING WHEN WE ARE  
FACED WITH FUTURE  
CHALLENGES"**

LESSONS FOR A FUTURE-PROOF ENERGY SECTOR | CHILE 2020

# 5 ANNEXES

## Annex 1: List of interviewees and participants

### A. Interviewed during the study (in alphabetical order)

Name	Organization
Adriana Roccaro	AES SOUTH AMERICA
Ana María Restrepo	HITACHI - ABB Power Grids Chile S.A.
Annika Schuttler	CAMCHAL
Axel Leveque	ENGIE
Carlos Cortés	GAS NATURAL ASSOCIATION (AGN)
Carlos Gajardo	SONAMI
Carlos Jerez	ADOLFO IBAÑEZ UNIVERSITY
Claudio Huepe	DIEGO PORTALES UNIVERSITY
Constanza Pizarro	GENERATORS ASSOCIATION
Danilo Zurita	GPM-AG
David Noe	TRANSELEC
Diego Hollweck	LATAM POWER
Enzo Sauma	UC ENERGY RESEARCH CENTER
Francisco Alliende	SAESA
Gabriel Melguizo	ISA INTERCHILE
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**"THE SICK WORKER'S  
FAMILY IS CALLED EVERY  
DAY TO SEE HOW HE OR  
SHE IS DOING, AND WHAT  
DO THEY NEED."**

LESSONS FOR A FUTURE-PROOF ENERGY SECTOR | CHILE 2020



## Annex 2: Operational continuity initiatives.

### Setting up of critical functions:

1. Set relevant functions and define framing of actions under remote working conditions.
2. Set the support protocol for critical tasks.

### New normality:

3. Initial focus on the protection of workers: It is a sector that has a high social commitment and its first group of stakeholders are its collaborators.
4. Have clear protocols to guide people in protection, safety, and also in terms of returning to normalcy.
5. Have a permanent epidemiologist who guides and advises us with the new information that comes out every day.
6. Increase the scope by digitizing daily activities.
7. Encourage teleworking.  
*("In some cases, up to 75% of the staff worked from home.")*
8. Train in new ways of inhabiting the home, since the adoption of teleworking.  
*("People were sent slides with instructions to do a routine, get ready as if they were going out of the house, for example: get dressed, have a work area that ideally was not a living room, but an independent area as to avoid interruptions.")*
9. Have frequent meetings with the operational team so as not to lose contact, avoid them feeling isolated and know in what state of physical and mental health the employees are in, through virtual coffee (aimed at a team of managers).
10. Encourage self-care.  
*("After work: disconnect, turn off the computer, clean the desk, spend time with the family, or with the people with whom we live, to recharge energy for the next day.")*
11. Generate alternative ideas towards the return to the office.
12. Be Consistently flexible.  
*("Flexibility at work is going to be an issue that will transcend the crisis, and it shows that people can work more flexibly and with good results.")*

### Preserve maintenance tasks:

13. Consider how to solve the problem of mechanical and electrical systems that will not be able to withstand not receiving preventive maintenance.
14. Maintain maintenance teams –something that it is easy to under-dimension– to do what is essential and guarantee operational continuity; setup some maintenance people as backup from their homes so that, only if necessary, they could go to the workplace.

### Organizational redesign:

15. Design a series of work instruction manuals and protocols for teleworking and for people who are in the field performing critical tasks. Divide the organization into people who are in the back office (the majority) more than eighty percent of the company, and the rest fulfilling critical tasks.
16. Create different work teams and spaces.  
*("Physically separate the critical areas of some offices, in physical places with two shifts for each; in the end, focus on critical tasks. In the case of offices, there were six groups that never saw each other.")*

**Provider care:**

17. Grant credits to suppliers and payment with more efficient and timely terms.

**Learn from this crisis:**

18. Learn from this crisis and apply this way of reacting to future challenges.

19. Empower the worker.

*("The worker can perform well being out of the office if he feels empowered and supported. This will change the vision of having to 'be at the office' to do things well and, in the face of future crises, we will be better prepared.")*

20. Support the work of SEREMIs.

*("It is not understood why, in times of pandemic, the work of the SEREMIs can be so closely supported, and in 'times of normalcy' it is not.")*

**Maintain long-term decisions:**

21. Generate consistency and focus on operations.

*("The most essential thing is to maintain the operation, and be aware that this is going to delay us in some of the projects we had.")*

22. Sustain growth strategy.

*("Maintaining the growth plan convinced that this is an opportunity for us, as an industry, to have a virtuous circle in terms that we are making the necessary investments to combat climate change. These investments are at the same time labor intensive. During construction, it is necessary to put more effort in the institutional sphere, to be able to advance with more fervor.")*

### Annex 3: Emergency response initiatives:

#### Avoid contagion and people care:

1. Dedicated private transportation to avoid contagion.
2. Bring packaged foods for employees to avoid contagion.
3. Thermal cameras to check body temperature at the entrance.
4. In case of suspected contagion, trace all possible contacts with that person. Send the worker an email every morning, where his temperature and other medical information appear.
5. Contact the sick worker's family every day to see how he is doing, and what he needs.
6. From day one, focus on maintaining operational continuity and concern for people's health.

*("There were a series of initiatives that probably at this point are going to sound like, nothing new, but they were very incredible because after three days of implementing telework, we collected health data from more than 6,000 of our employees.")*

#### Greater labor flexibility:

7. Bringing our employees closer to their families has allowed people to become more aware that they have to take care of themselves.
8. Implement new programs.

*("We want to see each other and this plan has all the COVID initiatives: we have strategic work meetings; but apart from that, we have daily coffees, we have birthday celebrations, cooking workshops, gymnastics classes, active breaks. We are all day together, and with the family, the cooking workshops are with the family, the gymnastics classes are with the family, with the children. So, it has been a powerful integration space.")*

#### More and better communication:

9. Direct communication; communicate what is true and what is uncertain; make people participate in the uncertainties as well; not pretending to go through having everything clear and resolved.
10. Weekly communication to the entire organization transferring state of the art. This, given that the feeling of uncertainty generates a lot of anguish regarding emotional health.

*("It is key to have a prospect of what is coming, or where we are standing").*

#### Digitization and teleworking:

11. Aim for digitization and flexible ways of working.

*("We can keep in touch with forms of communication that we had not even imagined, that worked as well as Zoom, as WebEx, and as many others.")*

#### Redefinition of priorities:

12. Changing priorities and short-term goals, but without changing or jeopardizing long-term goals.

**Identification of essential personnel:**

13. Prioritize the safety of contractor employees and their families.

*("In this sense what we have done has been to identify who were the workers who were essential from the labor point of view.")*

**Psychological safety:**

14. Connect and get to know the collaborators from their socio-emotional dimension.

*("We applied a methodology that we call 'Yupi', and that we copy from our colleagues in Peru. 'Yupi', in Quechua, means imprint. We believe that this episode will leave a very deep imprint on humanity and we want that imprint to be a positive one in the relationship with our employees. We interview each worker, all of them, one by one, with a methodology to understand how their workload was versus their domestic burdens. Because there are people, obviously who have a lot of workload and also have a lot of personal burden, because they have children, because home-schooling, because they are caring for elders, etc. So, that gave us in the end a matrix, where we have all our workers in the different quadrants.")*

15. Be communicated in a timely manner.

*("We shared a video at the beginning of the pandemic to tell people to remain calm, that the crisis is going to affect the company, but we are in a financial situation that allows us to face this crisis, we have financial alternatives to address it, and that the collaborators could rest assured that no one will be affected.")*

16. Have on-line psychological care available to employees, anonymously and focused on supporting and delivering stress management tools.

**Financial support to collaborators**

17. Provide timely and focused support on the financial dimension.

*("Some of the workers have some loans with the companies, so the loan payments were postponed.")*

**Adaptability**

18. Survey the ability to adapt and be flexible to VUCA contexts (Volatile, Uncertain, Complex and Ambiguous).

*("It has been relevant to realize the adaptability we have to new situations, and how this can help us moving forward and day to day.")*

## Annex 4: Challenge areas and challenges

Topic	Challenge	Temporality
<b>Regulatory uncertainty</b>	1. How to achieve a better understanding of regulatory changes or modifications? (Among ourselves, how best to communicate to "non-technical" people.)	Short term (right now)
	2. How to communicate regulatory changes, their relevance and impact in the clearest, most direct and effective way possible?	Short term (right now)
	3. How to manage/reduce anxiety in the face of regulatory changes in the best possible way?	Short and medium term
	4. How to generate conversations in the sector with a long-term vision of the country, beyond contingency and ideologies?	Short and medium term
	5. How can we guarantee citizen participation in future regulatory changes?	Medium term (1-2 years following)
	6. Along with the above, how to deliver quick solutions from regulation to companies?	Strategic
	7. How to generate a known and participatory process to face unforeseen events and emergencies in the national context?	Short Term (5/9 following months)
	8. How to face contingencies in the best possible way?	Short-medium term
	9. How to have access to tools, processes, cases and reference models to face contingencies in the best possible way?	Short-medium term
<b>Trust and relationship with society</b>	10. How to generate/recover and maintain public trust in our sector in the long term?	Medium-long term.
	11. How to enable a process of listening to society at the regional level that leads us to raise issues of interest to the communities in the energy sector? (Distribution, transmission, accumulation, DTAG generation.)	Medium term, 12 to 24 months
	12. How to perform a measurement process and generate base perception of social actors on the valuation of the actors in the energy sector (D + T + A + G)?	Short term, less than 12 months (can be implemented through the web)
	13. How to reinvent the relationship with customers for the Portability Bill?	Short term
	14. How do we evangelize the community/society?	Medium-long term
	15. How to increase the business credibility of the sector, in the context of the Portability Law?	Short term
<b>Climate change</b>	16. How to support Distributors?	Medium-long term
	17. How do we increase our resilience to climate problems?	Long Term (more than 5 years)
<b>Economic Uncertainty</b>	18. How do we ensure long-term sustainability?	Public policy
	19. How to empower the team to keep them working and collaborating even under this uncertain environment?	Medium, Long Term (strategy)
<b>Management, capabilities and decision-making in uncertain environments</b>	20. How to ensure operational continuity considering fewer human resources, schedules and personnel management throughout different operations?	Short Term (9/12 following months)
	21. How to have a clearer view on short, medium and long-term regulatory changes?	Short and medium term
22. How to generate greater flexibility and adaptability of labor to changes in context and sources of uncertainty?		
<b>Digital Capability</b>	23. How to manage change to achieve high levels of productivity associated with digital transformation, considering the skills and challenges of our current workers?	Medium term
<b>Gender equality</b>	24. How to generate and maintain the best environment of gender equality among the productive sectors of Chile, and be an example at the international level?	Medium term, 12 to 24 months

	Actors	Organizational commitment
	Public authorities, companies, Stakeholders (Associations, etc.)	<p>Give thanks for the work in a communicational way.</p> <p>Use reciprocally (from WEC and to WEC / communities) communication tools and equipment. Little by little "amplifying", spreading and transmitting the messages.</p>
	Public authorities, companies, Stakeholders (Associations, etc.)	<p>Discussion panels on the National Energy Policy 2050, the Consultative Councils of Civil Society</p> <p>Create a white paper with proposals and actions for the Energy Sector, in order to have changes with a long-term perspective (not to be quick fixing).</p>
	Emergency committee: authorities, associations.	<p><i>Energy Sector Playbook</i> - collect past experiences and learn from them.</p> <p>Collect the impact of past decisions in public policy.</p>
	WEC, Partner Companies, Ministry of Energy, Energy SEREMIS, COSOC, Civil Society Organizations	
	WEC, Partner Companies, Ministry of Energy, Energy SEREMIS, COSOC, Civil Society Organizations	Contribution of resources and capabilities
	WEC, companies, civil society organizations, regional unions	Contribution of resources and capabilities
	Companies and users	
	WEC, Partner Companies, Ministry of Energy, Energy SEREMIS, COSOC, Civil Society Organizations	
	Authorities, Companies, Communities.	Imitate the resilience policy of the housing ministry. This is broken down into a national, regional, and municipal plan.
	Private and Public	<p>Establish transversal and "matrix" communication channels where we can visualize the needs and validate anxieties and reduce them through the exercise of conversation.</p> <p>We cannot work on assumptions.</p> <p>Empower communications areas.</p> <p>Share good communication practices (ways of working, procedures, formats, etc.).</p>
	Companies, Ministry, SEC, WEC	<p>Provide us with new change perspectives and where the only certainty is the uncertainty.</p> <p>Provide decision-making strategies in crisis settings.</p> <p>Share our good practices and socialize new ways of doing things.</p>
	Companies, WEC	We are committed to working with our current collaborators to develop skills that allows them to quickly adapt to the digital transformation.
	WEC, Partner Companies, Ministry of Energy, Ministry of Women, Ministry of Labor	improve gender equality ratios in leadership roles in the energy industry, trying to approach the levels of OECD countries.

## Annex 5: Regulatory and Political Uncertainty

	1. Challenge area opportunity	2. Relevant actors
Challenges	<p><b>What is the intent of this challenge area?</b></p> <ul style="list-style-type: none"> <li>&gt; Have a regulation that creates the necessary incentives to create greater competition and greater social benefits, and that considers technical, social, environmental and economic aspects.</li> <li>&gt; Consider the appropriate incentives for the behavior of the actors, and communicating expectations in accordance with those incentives.</li> </ul> <p><b>Micro challenges:</b></p> <ul style="list-style-type: none"> <li>&gt; How to achieve a better understanding of regulatory changes or modifications?</li> <li>&gt; How to communicate regulatory changes, their relevance and impact in the clearest, most direct and effective way possible?</li> <li>&gt; How to manage/reduce anxiety in the face of regulatory changes in the best possible way?</li> <li>&gt; How to generate conversations in the sector with a long-term vision of the country, beyond contingency and ideologies?</li> <li>&gt; How can we guarantee citizen participation in future regulatory changes?</li> <li>&gt; How to deliver quick solutions from regulation to companies?</li> <li>&gt; How to generate a known and participatory process to face unforeseen events and emergencies in the national context?</li> <li>&gt; How to face contingencies in the best possible way?</li> <li>&gt; How to have access to tools, processes, cases and reference models to face contingencies in the best possible way?</li> </ul>	<p><b>Which actors could be positively or negatively affected by solving the challenge?</b></p> <p>Community (society), Public-private and Trade Associations, NGO</p>
	<p><b>What would be the vision of “success” that would be had regarding the challenge, and in what timeframe could it be achieved?</b></p> <ul style="list-style-type: none"> <li>&gt; Achieve a flexible, robust, sustainable system.</li> <li>&gt; Deadline 2050</li> <li>&gt; It is important to be able to identify intermediate stages that can bring closer and more tangible terms.</li> </ul>	<p><b>What relevant stakeholders should be involved in the solution?</b></p> <p>Consumers (priority) - Sector Representatives - Government</p>

	3. Strategic alignment	4. Key risks and mitigation strategies
	<p><b>How should this challenge be aligned with the long-term energy strategy for our country?</b> The Regulatory world identifies the limitations where the actors can act. It is important that the definition of the regulatory framework is clear, simple and stable.</p>	<p><b>What relevant sources of risk could affect or jeopardize the success of this challenge?</b> In the same scenario of carbon neutrality planning, the development of important intermediate milestones is being added. If there is no clear regulatory framework, it is not feasible to act. Regulation should allow actors to act with the rapid changes that are being generated (technological, communications, among others). The fields of the roles of each actor in the sector are being mixed, this is vital to consider when regulating. Do not generate false expectations. Importance of communication to the population with clear and tangible solutions and proposals. Make it clear that there is a disconnect with current projects. In the sense that there is an unheard element that can be made tangible. The incorporation of new skills is discouraged. Under-estimation of international image. The regulatory deadlines do not coincide with those of the investments.</p>
	<p><b>How could solving this challenge improve the performance of Chile's energy system?</b> The result implies obtaining a more competitive system, attractive for local and foreign investment, development of possibilities for technology transfer.</p>	<p><b>What are your most relevant sources of uncertainty?</b> Uncertainty change of the fundamental rules - Constitution. It implies that there may be a change in the way the country functions, at all levels. It involves an extended period of uncertainty that leaves the country in pause for a long period (years). Concept: "stand by". Regulatory changes in the sector.</p> <p><b>What could be done to mitigate these sources of risk and uncertainty?</b> Invite a call for stability with the focus of facilitating long-term investments. Good communication management, delivered to the entire population. Simplify the way of communicating the good intentions. Clear communication of all stages to reach clear results, if a promise is made it must be explained in detail how the benefit will be achieved. Avoid the political tendency to take care of the short-term but without taking care of the medium and long term. Immediacy generates greater uncertainty, you stop thinking about the future in a responsible way.</p>

## Annex 6: Economic uncertainty

	1. Challenge area opportunity	2. Relevant actors
Challenges	<p><b>What is the intent of this challenge area?</b></p> <ul style="list-style-type: none"> <li>- Reduce the impact that a possible recession or economic crisis could have on the operation of the system</li> </ul> <p><b>Micro challenges:</b></p> <ul style="list-style-type: none"> <li>- How to empower the team to continue working and collaborating even considering this uncertain environment?</li> <li>- How to ensure operational continuity considering less human resources, schedules and personnel management in the different operations?</li> </ul>	<p><b>Which actors could be positively or negatively affected by solving the challenge?</b></p> <ul style="list-style-type: none"> <li>- The general population (regulated),</li> <li>- Investors (local and foreign),</li> <li>- Regulators,</li> <li>- Decision makers.</li> <li>- Stakeholders of citizens with a mission of environmental care</li> </ul>
	<p><b>What would be the vision of "success" that would be had with respect to the challenge and in what timeframe could it be achieved?</b></p> <ul style="list-style-type: none"> <li>- Maintain investment levels, responding to the organic growth of the population.</li> <li>- Maintain the operational continuity and stability of the system</li> <li>- Achieve compliance with the current challenges and commitments of energy policy</li> </ul>	<p><b>What relevant stakeholders should be involved in your solution?</b></p> <ul style="list-style-type: none"> <li>- Industry actors (Generation, Transmission and Distribution)</li> <li>- Communities based on citizen participation</li> <li>- Regulators</li> <li>- Legislators</li> </ul>

	3. Strategic alignment	4. Key risks and mitigation strategies
	<p><b>How should this challenge be aligned with the long-term energy strategy for our country?</b></p> <ul style="list-style-type: none"> <li>- 100% aligned (transversal axis of the sector)</li> </ul>	<p><b>What relevant sources of risk could affect or jeopardize the success of this challenge?</b></p> <ul style="list-style-type: none"> <li>- "The press does not love us so much"</li> <li>- The current perception of the general public towards our sector.</li> <li>- Radical environmental activists with messages that misinform the population.</li> <li>- Growing populism in some political sectors.</li> <li>- Uprising and social opposition.</li> </ul>
	<p><b>How could solving this challenge improve the performance of Chile's energy system?</b></p> <ul style="list-style-type: none"> <li>- Promote higher levels of innovation in the sector, including the entities that operate the system</li> <li>- Higher level of transparency and communication in the technical elements for the determination of prices.</li> <li>- From WEC, the role of supporting the democratization of the system should be taken, promoting the delivery of a simple message and each particular entity must align itself to this role from its individual performance.</li> <li>- Establishing a continuous and systematic communication network between the relevant actors in order to transmit in an aligned and adequate manner the policies, advances and programs of the sector.</li> </ul>	<p><b>What are the most relevant sources of uncertainty?</b></p> <ul style="list-style-type: none"> <li>- Possibilities of economic recession</li> <li>- Political stability (historical context of the country and proposed changes.)</li> <li>- Reduction and/or elimination of the sources of financing and human capital available for the daily development of activities.</li> <li>- Decisions of foreign capital companies not to continue participating in the market.</li> </ul> <hr/> <p><b>What could be done to mitigate these sources of risk and uncertainty?</b></p> <ul style="list-style-type: none"> <li>- Achieve levels of political certainty.</li> <li>- Development of clear energy policies.</li> <li>- Present a common story with clear leaderships in each of the entities that make up WEC.</li> <li>- Ensure that the concerns of the communities are incorporated.</li> <li>- Promote that leaders are informed and live according to the reality of the environment in order to incorporate a correct perception of the country's situation.</li> <li>- Promote informed decision-making about the reality of the communities.</li> <li>- Gather experiences and good practices from international entities to rescue and adapt those best measures to mitigate sources of risk and uncertainty. Through WEC, make them available to partners so that they can apply them in their operation.</li> </ul>

## Annex 7: Management, capabilities and decision making in environments of uncertainty

	1. Challenge area opportunity	2. Relevant actors
Challenges	<p><b>What is the intent of this challenge area?</b> That the organizations in the sector are able to respond in a resilient and flexible way to different shocks with the least possible vulnerability and costs, adapting to the continuous changes that threaten their strategic programming and professional routines.</p> <p><b>Macro-challenge:</b></p> <ul style="list-style-type: none"> <li>&gt; How can the authority prepare for a constantly changing context without losing sight of the long term?</li> <li>&gt; How to have a clearer view about short, medium and long-term regulatory changes?</li> <li>&gt; How can we intervene in short, medium and long-term regulatory changes, correctly managing uncertainty?</li> </ul> <p><b>Micro-challenges:</b></p> <ul style="list-style-type: none"> <li>&gt; How to generate greater flexibility and adaptability of the works to the change of context and sources of uncertainty?</li> <li>&gt; How to manage change to capture high levels of productivity associated with digital transformation, considering the skills and challenges of our current workers?</li> </ul>	<p><b>Which actors could be positively or negatively affected by solving the challenge?</b></p> <ul style="list-style-type: none"> <li>&gt; Generation companies</li> <li>&gt; Distribution company</li> <li>&gt; Public sector: CNE, Ministry, SEC, CNR, Sustainability Agency, CORFO, DOH, SEA</li> <li>&gt; WEC Chile</li> <li>&gt; End customers</li> <li>&gt; Communities</li> <li>&gt; Rural drinking water</li> <li>&gt; National Industry</li> <li>&gt; Mining</li> <li>&gt; Agricultural</li> <li>&gt; Construction</li> <li>&gt; Paper and cellulose</li> <li>&gt; Metal mechanics</li> <li>&gt; Telecommunications</li> <li>&gt; Commercial, Public, Residential Sector</li> <li>&gt; Sanitary</li> <li>&gt; Residential</li> <li>&gt; Commercial</li> <li>&gt; Public</li> <li>&gt; SMEs</li> <li>&gt; Transportation Sector</li> <li>&gt; Terrestrial</li> <li>&gt; Railway</li> <li>&gt; Aerial</li> <li>&gt; Maritime</li> </ul>
	<p><b>What would be the vision of "success" that would be had regarding the challenge, and in what timeframe could it be achieved?</b></p> <ul style="list-style-type: none"> <li>&gt; Faced with a multi-systemic impact evaluation, look for positive impacts. For example, elimination of rush hour, elimination of winter limit.</li> <li>&gt; Obtain a perception of external stakeholders as a responsible sector and as a contribution.</li> <li>&gt; That the good practices of the sector are adapted by other sectors.</li> <li>&gt; That the decisions and regulatory changes are sustainable in the long term. For example:</li> <li>&gt; Negative: The transmission law had to be modified again (not all impacts were measured).</li> <li>&gt; Success story: Fare fairness law.</li> <li>&gt; The conversation should be more mixed, not so focused on the electricity sector.</li> <li>&gt; For example: The Gas Portability Law, pilot project for technological modification from firewood to electricity for heating</li> <li>&gt; Lower the SAIDI. Reduction of power supply interruption.</li> </ul>	<p><b>What relevant stakeholders should be involved in the solution?</b></p> <ul style="list-style-type: none"> <li>&gt; To be defined in more advanced stages of development</li> </ul>

	3. Strategic alignment	4. Key risks and mitigation strategies
	<p><b>How should this challenge be aligned with the long-term energy strategy for our country?</b></p> <ul style="list-style-type: none"> <li>&gt; Cross the axes defined in the roadmap with response capabilities in the event of unforeseen events.</li> <li>&gt; Incorporate the capabilities to respond to uncertain environments in all long-term strategic plans.</li> <li>&gt; Commit to work with our current collaborators to develop digital skills.</li> </ul>	<p><b>What relevant sources of risk could affect or jeopardize the success of this challenge?</b></p> <ul style="list-style-type: none"> <li>&gt; Lack of convocation.</li> <li>&gt; Mismanagement of the <i>Eisenhower Matrix</i> (important versus urgent)</li> <li>&gt; For example: wanting to respond urgently, we make mistakes</li> </ul>
	<p><b>How could solving this challenge improve the performance of Chile's energy system?</b></p> <ul style="list-style-type: none"> <li>&gt; Investing in human resources and training. It can be by strengthening the networks between companies, the public sector and communities. Sharing good practices both within the organization and between organizations.</li> <li>&gt; Investing in digitization and process automation. Cost efficiency.</li> <li>&gt; Generating uncertainty scenarios to be able to seek the long-term positive impact. Improve the regulatory impact analysis and monitor the measures taken.</li> <li>&gt; Through organizations such as WEC, to be able to share good practices with other countries.</li> </ul>	<p><b>What are your most relevant sources of uncertainty?</b></p> <ul style="list-style-type: none"> <li>&gt; To be defined in more advanced stages of development.</li> </ul> <p><b>What could be done to mitigate these sources of risk and uncertainty?</b></p> <ul style="list-style-type: none"> <li>&gt; Generate instruments or specific areas to frequently face changes. With this, we avoid being reactionary, without losing at the long-term focus.</li> <li>&gt; <i>Energy Sector Playbook</i> - gather past experiences and learn from them. Gather the impact of past decisions both in public policy and from the private sector.</li> <li>&gt; Strengthen the "Regulatory Analyst". It is essential to be able to monitor the national impact on both regulatory and company decisions.</li> </ul>

