

# **International Networks as Drivers of Agency Independence: The Case of the Spanish Nuclear Safety Council**

## **Abstract**

This paper discusses how the extension of network governance influences the de facto independence of regulatory agencies. Assuming that agencies gain de facto independence vis-à-vis the government when they experience a substantive increase in their reputation, we argue that agency participation in international governance networks contributes to strengthen agency domestic positions due to organizational learning and the expansion of expert knowledge involved in such interactions. Based on a case study of the Spanish nuclear regulatory agency (CSN), the paper highlights how its involvement in international governance networks promoted the agency's de facto independence during the 2000s.

## **Keywords:**

Network governance, regulatory agencies, independence, nuclear energy, Spain

## **Introduction**

In 2008, just a few months after its re-election, the Spanish President of the Government, the Socialist José Luis Rodríguez Zapatero, announced his aim of closing down the nuclear plant at Santa María de Garoña by 2009, when its 40-year license expired. This was part of a wider energy portfolio as reflected in the 2008 Socialist party manifesto, which promised to close all Spanish nuclear plants. Still, in an attempt to lower the political temperature of the nuclear issue, the president largely relied on technical reasoning. To make this possible,

he required a technical report from the Nuclear Safety Council (CSN) to back up his contention that the plant should be closed by the end of the license period.

Created in 1980, the CSN was formally independent but strongly related, in practice, to the Energy Ministry. Nevertheless, and even though the CSN board was presided by a Socialist, the agency's report, published on 5 June 2009, contradicted the expectations of President Zapatero and unanimously granted the nuclear power plant permission to continue to operate for another 10 years, provided there was a huge investment to improve its safety (CSN, 2009b).

The CSN decision challenged existing expectations about the preeminence of governmental views, and revealed the agency as an independent actor, relying on its *de facto* independence as a risk regulatory agency while failing to act just as an agent of the government. Finally, following the CSN report, the government agreed to grant the nuclear plant a four-year extension, altering its initial aim. This was a political decision made by the government, which thus intended to postpone a major discussion on the future of nuclear energy in Spain, while at the same time, it reduced the investments required to meet the safety goals – especially when compared to the costs of a ten-year permission. Setting apart this, we intend to highlight that the CSN decision raises important questions about the *de facto* independence of regulatory agencies within the Spanish political and administrative tradition. This paper examines the following research question: how did the CSN emerge as an independent actor vis-à-vis the government? More precisely, what elements account for the CSN's independence when dealing with the Garoña case?

The relevance of this episode as a case of *de facto* independence was underscored by most of the CSN officials and board members, as well as by many external actors and

observers we interviewed three years later, in 2012. Certainly, this does not mean that agency independence was thus permanently granted, secured for all cases and permanently settled. Still, the episode revealed the relative occurrence of non-hierarchical policy processes in Spanish regulatory governance. Additionally, it provides us a case of study for better understanding which mechanisms make the *de facto* independent behavior of agencies possible.

For these reasons, this incident demands an explanation. We argue that in the precedent years the CSN had experienced a transformation in its organizational capacities, which in turn opened a space for the agency to overtly confront government positions when deemed necessary. On the one hand, the agency enhanced its *capacity to plan and administer the policy areas* for which it is responsible. On the other hand, the CSN enhanced its *relations and interactions with various domestic audiences*, namely, politicians, business and other societal actors, advancing hence its role beyond formal requirements and gaining visibility and centrality within its policy domain. We believe these developments translated into the agency's policy capacity and consequently its room for maneuver on decisions concerning nuclear risk protection while building a protective shield against external antagonists (Hood, 2011). However, it is our argument that such transformations were triggered by a common factor: the agency's involvement in building and cultivating multiple connections with other actors operating at the international and global levels.

Moving beyond formal-legal status and rules as indicators of agencies' independence, we examine the complexities of regulatory agencies and their role in international governance networks. There is already some evidence claiming that participation in European networks promotes the independence of regulatory agencies (Eberlein & Newman, 2008; Groenleer,

2012) given that involvement in these networks seems to modify the relationships between regulatory agencies, politicians and regulatees (Maggetti, 2007). However, there is a notable gap in the existing literature when it comes to understanding how these domestic inter-relations are transformed and what the particular drivers of this change are. Therefore, this paper intends to contribute to the literature by opening this black box and revealing some possible explanations of this metamorphosis. In so doing, the paper also contributes to the emerging literature exploring how interdependence alters domestic institutions and dynamics through processes of coordination and diffusion, among others (Farrell & Newman, 2014).

In such an interdependent context, regulatory agencies relying on professional identity and knowledge-based orientation underlie the reconfiguration of state structures in the age of globalization. Furthermore, agencies constitute nodal institutions articulating networks of local and global actors and of public and private ones as well. They promote dialogues in transnational governance beyond the national state, and thus contribute to the transmission of values, information and policy innovations. Therefore, interests, preferences and perceptions on specific issues often circulate up and down and across multilevel governance networks due to the role of regulatory agencies. While this strengthens them in the domestic arena, it also promotes in turn more integrated and active regional and global regulatory regimes.

The paper is organized as follows. The following section presents the theoretical framework linking the discussion between governance networks and the *de facto* independence of regulatory agencies. Then, we outline the research strategy and methods. The third section unpacks the process of transformation of the CSN through its origins in

the 1980s to the organizational innovations implemented in the late 2000s. Section 4 introduces an analysis of the CSN's activity as a network node between local and global arenas, and discusses its *de facto* independence sources. The final section reflects on the main insights and the broader implications of our research.

### **From Network Governance to Agency Independence**

Governance networks have proliferated during the 1990s and 2000s. In this paper, we use the term 'governance network' to refer to a web of relationships between clusters of actors capable of diffusing information and ideas in a rather stable manner (Ahrne & Brunsson, 2011; Börzel, 1988; Torfing, 2012). To the extent that actors' relations within networks usually involve mutuality and interdependence, and their decision-making rules are much more flexible and informal than in hierarchies, their coordination relies on informal social systems rather than on bureaucratic structures or formal contractual relationships (Jones, Hesterly, & Borgatti, 1997). These governance networks are associated with new systems for public policy deliberation, decision and implementation (Pierre & Peters, 2000). While these relations usually include government, business and civil society actors (Klijn, Steijn, & Edelenbos, 2010), in this research focused is placed on sectoral governance networks of regulators in the area of nuclear regulation and safety.

From a European perspective, studies have acknowledged the intense proliferation of networks at the regional level to coordinate the domestic implementation of regulatory arrangements and regulatory governance harmonization (Coen & Doyle, 1999; Coen & Thatcher, 2008; Eberlein & Newman, 2008; Thatcher & Stone Sweet, 2002). Furthermore, a burgeoning body of literature has analyzed and assessed how and to what extent the

involvement of national agencies in EU networks affects these agencies' independence at the national level. These networks are portrayed as enhancing the informational capacities and expertise of individual agencies and improving their standards and policy commitments (Eberlein & Grande, 2005; Majone, 2001). They thus provide 'additional leeway in policymaking by linking organizational preferences to emerging consensus in the regulatory domain' (Danielsen & Yesilkagit, 2013). In all, within EU governance networks, agencies operate as hubs for national regulatory implementation, while promoting informal resources and links – namely, information, expertise, reputation and trust (Coen, 2005; Sabel & Zeitlin, 2008). Consequently, networks deliver 'regulation by information' rather than by regulatory fiat (Kelemen, 2005; Majone, 1997). In this context, the rise of EU networks has promoted the independence of regulatory agencies (Eberlein & Newman, 2008; Groenleer, 2012), although even if their effectiveness very much depends on the scope of institutional conditions (Danielsen & Yesilkagit, 2013).

In turn, regulators' activities within these networks allow them to strengthen their authority to innovate, influence the public perception and even make decisions for their areas of responsibility to which politicians, regulatees and societal actors defer even if they go against their preferences. When looking into the supranational arena, the transfer of information from international institutions – as in the case of EU agencies – to national regulatory agencies may also increase the information asymmetry between agencies and their principals (Groenleer, 2009). In a similar vein, Bach and Ruffing (2013) show that involvement in sectoral networks impacts on the agencies' independence at the domestic level because of the information asymmetries it generates between the latter and the corresponding ministries. Put another way, regulatory networks reinforce national agencies

by providing expertise and information, thus altering the relationships between regulatory agencies, politicians and regulatees (Maggetti, 2007). Closely related to this, studies have pinpointed that the implementation of EU legislation may alter the equilibrium between different sources of power at the national level (Egeberg & Trondal, 2009), debilitating the government's position due to their necessary institutional compliance towards EU laws and reinforcing as a result the position of national regulatory agencies (Yesilkagit, 2011). This does not suggest that agencies are able to dictate entire policies, but rather that they are capable of preventing external interferences in their area of responsibility.

Independent regulatory agencies are conventionally defined as structurally separate public organizations, operating at arm's length from government and responsible for delivering regulatory policies (Christensen & Lægreid, 2006; Groenleer, 2009; Thatcher & Stone Sweet, 2002; Verhoest, Roness, Verschuere, Rubecksen, & MacCartaigh, 2010). Measuring formal independence of agencies has become relatively habitual in the literature (Gilardi 2002). However, in practice, fully independent organizations do not exist (Gilardi, 2008; Groenleer, 2009; Majone, 1997), and the literature has increasingly distinguished between *de jure* and *de facto* independence (Hanretty & Koop 2013).

In an attempt to move beyond formal dispositions, scholars have looked into the role of *de facto* independence and its variation according to a number of factors. These refer to the lifecycle of agencies, the significance of other players or domestic policy constellations, and the political prominence of the regulated policy sector (Verhoest et al. 2004; Pollitt, Caulfield, Smullen & Talbot 2004; Yesilkagit 2004; Maggetti 2007, 2009; *name deleted to maintain the integrity of the review process*). Therefore, unravelling how independence develops in practice is fundamental to understand how regulatory agencies operate.

Furthermore, this calls for a qualitative approach as deployed in this study to better identify the drivers of *de facto* independence.

Determining how independence comes about in practice is precisely the focus of this research. Without fully discarding the role of formal rules, which can either promote or hinder an agency's independence, we argue that an agency's capacity to behave independently— taken as the capacity for imposing its own decisions about those issues for which it is responsible – is based on how much respect it generates in its interaction with other public and private actors. This relies on the agency's technical capabilities and expertise, as seen through the eyes of its audiences.

Technical expertise turns out to be of the utmost importance when acting in policy areas highly dependent on knowledge and innovation, as in the case of nuclear regulation. Whereas innovation is especially crucial in this policy area, there is a fundamental tension between the nuclear utilities' fixed organizational character and their changing technological environment (Rees, 2009). Given this institutional gap, participating in regional and international networks is crucial to keep up-to-date with the latest policy innovations and to act as a transmission belt at the national level. Consequently, the position of the agency within the domestic policy constellation is reinforced if national audiences – principals, regulatees and societal actors – perceive the regulatory agency as the gatekeeper to these regional and international resources.

Within this approach, audiences turn out to be a fundamental factor. Audiences are taken as 'any individual or collective that observes a regulatory organization and can judge it' (Carpenter, 2010:33). Thus understood, they comprise politicians, public servants, legislatures, (regulated) firms, scientific, professional and civil society organizations, and

the media, and can be operative at various levels – national, regional or international – depending on the agencies’ scope. Audiences are normally located within the agency’s sphere of responsibility, being the domestic sphere if the agency operates and has competences at the national level. In a nutshell, sound decision-making is rooted in internal and external factors: the agency’s organizational (administrative and technical) capacities and a set of beliefs about its capacities, objectives and mission that are held by diverse audiences and networks of governance (Carpenter, 2010; Carpenter & Krause, 2012).

### **The Method**

Our study aims to contribute to this new account of regulatory agencies’ *de facto* independence. Taken as our dependent variable, this refers to the degree to which the CSN managed to operate in rather independent terms from the government, and we take the Garoña incident as an indicator of the agency’s *de facto* independence. To do so, the analysis delves into a key independent variable: the active participation of the CSN in governance networks at the international level, which in turn has elicited a learning process through which regulators enhanced their capacity to plan and administer the regulatory area in their domestic arena.

The *de jure* independence of regulatory agencies is conventionally measured by indicators such as the method used to appoint agency executives and the scope of the agency’s competences (Hanretty & Koop, 2013). However, measuring *de facto* independence from politicians is a more challenging endeavor. A way of capturing *de facto* independence would be interviewing agencies’ managers about the degree of independence they perceive they have (Lægreid, Roness, & Rubecksen, 2006). In this study, we have

broadened the scope by interviewing both public officials and regulators in the CSN and relevant audiences with specific reference to their perceptions of the agency's independence vis-à-vis the government.

The paper is based on a qualitative case study of the CSN. Whereas case studies are the best method when 'how' questions are posed (Yin, 2009) as in the case of this study, the selection of the CSN relies on three main reasons. First, the agency operates within an institutional context characterized by rather hierarchical relations between the executive and regulatory agencies. Second, the renewal of the Garoña license exposed the tensions between these actors. Finally, it offered a good case to unravel the deeper dynamics of the agency's involvement in governance network and how this, in turn, impacts on its role within the domestic process of policy formulation. The consequences of such involvement can be better studied in a qualitative manner by focusing on the relations the agency establishes at different levels, and how its position at the international level affects its domestic leverage. The final purpose is not to generalize the findings from this case, but rather to understand the ways in which governance networks contribute to the independence of national agencies in all its complexity, context and entirety.

The research applied the qualitative method of data collection, which comprised a combination of interviews and written sources. There were 28 in-depth, semi-structured interviews with open-ended questions conducted in Madrid and Barcelona between May and June 2012. Six of these interviews were conducted with CSN board members, 13 with CSN officials and 9 with different representatives of the agency's external audiences. In terms of the latter, we interviewed a wide range of representatives from CSN's audiences, including parliamentarians, a representative of the Ministry of Industry, Energy and

Tourism, representatives of business and labor organizations, environmental groups and local authorities in municipalities located near power plants, as well as academics and experts. Interviewees were granted anonymity and interviews were conducted face-to-face, with the exception of five telephone interviews.

While the questionnaire increased in focus and depth because of the iterative and cumulative nature of this research, its focus revolved around three main dimensions related to the relations and interactions set up by the CSN with state and non-state actors: the national, regional and international dimensions. Thus, we intended to capture how the CSN's involvement in governance networks had affected its placement in the national policy domain. In fact, almost all interviewees agreed that the CSN had gained independence from the government during the previous years while pointing to one particular event as an example: the renewal of the Garoña licence.

The data reflect the perceptions of a relative ample range of internal and external actors, selected based on their thorough knowledge of the CSN, and who provided critical and valuable information concerning the agency, its relations and networks, and its role in domestic policy formulation.

These primary sources were supplemented with an analysis of the CSN webpage and relevant documents, together with different secondary sources such as newspaper articles, reports from international organizations, legal texts and relevant secondary literature.

### **The CSN in Historical Perspective: From the JEN to Garoña**

The CSN was established in 1980 as the continuation of the risk control department within the Nuclear Energy Board (JEN, Junta de Energía Nuclear).

Created in 1951, the JEN was involved in all nuclear issues in the country, though under strong ministerial control. As Spain established new nuclear generating plants its functions expanded concomitantly. Within the JEN, a nuclear security group brought together various Spanish engineers who had completed their studies in the U.S. and who seeded the future Technical Corps of the CSN (Pascual 2005). In 1979, just three months after the TMI nuclear accident in Pennsylvania that brought about a wave of public distrust of nuclear energy and led to stringent safety regulations both at the national and international levels (Rust & Rothwell 1995; David, Maude-Griffin & Rothwell 1996), Spain debated the creation of an organ to control nuclear risks. A year later, the CSN was finally set up. Most of the personnel of the new regulatory agency came from its direct predecessor: the by then, extinct JEN (Arquer 1984).

#### *The CSN: Its structure and functions*

According to the CSN's functioning norms and internal regulations, its Council acts as the agency's main decision-making body (Royal Decree 1157/1982). It is composed of five full-time members, being one of them the CSN President. In terms of the agency's formal independence, the CSN relies on significant statutory guarantees: the Spanish Parliament elects Council members – non-simultaneously – for a six-year term according to the proposals made by the Government and after consultations with the Industry Commission in Parliament. Council members must be persons of professional competence in nuclear safety matters, though in practice, tend to be relatively close to the parties supporting their appointment. Second, the CSN is vested with significant financial guarantees. Apart from being financed by the fees paid by the regulated actors, it has the capacity to draw up a

preliminary bill on its annual budget. Third, whereas the CSN is the only competent body concerned with nuclear safety and radiation protection, its reports are binding on the government when the objective is to impose safety and protection requirements or to refuse permits and authorizations. Fourth, the CSN must provide an annual report to the Parliament, which is of utmost significance given that the government is not responsible for nuclear security issues before the Parliament (Morales Plaza, 2009). Finally, the CSN relies on the direct support of a technical and managerial body of civil servants (comprising over 450 people in 2012), who are employed under general regulations of the Spanish public administration.

Despite these formal guarantees, the Executive still maintains control over the CSN: it approves the CSN's statute, receives the annual budget drafts, proposes candidates for the Council to the Parliament, and appoints the Secretary General and the two technical directors (López Ramón 1991). Moreover, in practice, the main political parties divide the five counselor positions among themselves. This informal procedure has been pointed out by different interviewees, both from some CSN functionaries and also by representatives of agency audiences, as of the major threats to CSN's independence, being characterized as 'very politicized', 'based on political interests', a 'problem' or even a 'stigma'.

Nevertheless, the agency's formal independence has been traditionally well respected by successive governments. No cases of early retirements have been observed even if the 6-year term with non-simultaneous appointments has resulted in occasional periods during which the majority of the Council was not in line with the political color of the Executive. Additionally, public servants working at the CSN, particularly the technical corps, often remain in the agency for all their professional careers. Over the years, this fidelity has

created a strong organizational involvement, which has also entailed a very protective environment for the agency's employees. Yet, the CSN's *de facto* independence vis-à-vis the government was questioned in the past, as shown for example by the case of the *Tireless*, a British nuclear submarine that was stranded for repairs after a pipe leak in Gibraltar for almost a year (2000-2001). This generated growing public alarm in Spanish adjacent areas, to which the then president Aznar and the CSN responded by saying that operations were perfectly safe. Still, both environment organizations and the local administration blamed the agency for putting itself instead 'at the government's service' (ABC Sevilla "La Junta acusa al Gobierno de desprestigiar al CSN con el caso del *Tireless*," 2001). Whereas these close ties with the government have been mentioned by various counsellors interviewed, who recognized occasional 'government's pressure' as well as 'president's attempts to influence CSN's decision making', the CSN was also viewed as having independence starting in the 2000s, particularly by relying on 'technical criteria' in their decision-making. In turn, technical expertise worked as a shield to political interference.

The agency is responsible for regulating risk in the six nuclear power plants – which include eight reactors – in operation under the responsibility of large Spanish and multinational companies, namely, Endesa, Iberdrola and Gas Natural. However, over the years, the CSN has expanded its main areas of responsibility beyond nuclear energy, including a program of control and surveillance of nuclear and radioactive facilities for medical, industrial and research purposes and the radiological quality of the environment, to the provision of technical support in the event of nuclear or radiation emergencies. The agency's personnel have thus grown steadily until late 2000s. In regards to the CSN's

relation with its regulatees, the revolving door phenomenon has not affected the technical corps significantly during the agency's entire life, as far as they remain in the agency during most of their careers. On the contrary, it has been relatively well established within the Council since its creation: most of the CSN's board members have held before, and afterwards, positions in the Spanish nuclear industry. This predominance slightly changed during the mid-2000s when board members with very different backgrounds – including medical doctors – were appointed, reflecting thus the expansion of the CSN's areas of responsibility.

### *Regulating nuclear risks*

The debate on nuclear power peaked during the 1980s, particularly after the Chernobyl nuclear accident. This catastrophe heightened awareness and concern about safety and generated a climate of profound distrust of nuclear energy in many European countries. More than 25 years have gone by, and regulatory standards and regulatory stringency have been increasing dramatically because of the internationalization and growing Europeanization of nuclear safety regulation. More recently, the Fukushima Daiichi accident (2011) highlighted the necessity of improving not only safety standards but also the regulatory infrastructure of countries producing nuclear energy, and led to pressures for a new layer of regulatory stringency in the CSN's supervisory activities. In an era of highly complex and tightly interconnected socio-technical systems, there are serious challenges in risk management and emergency planning confronting nuclear regulators (t'Hart, 2013).

At the domestic level, the CSN had to deal with two nuclear incidents at two of the three plants installed in Catalonia. In 2004, the Vandellós II plant experienced the breakup of a

pipe in the essential services water system (CSN, 2005a). The investigation ran by the CSN revealed serious management deficiencies and argued that it had been operating under 'degraded' conditions for several years. This report was in line with the charges put forward by Greenpeace and Ecologistas en Acción, which accused ENDESA and Iberdrola – the companies responsible for the operation of both Vandellós I and Ascó – of deliberately disregarding the degradation of the pipes (Greenpeace, 2006). Nonetheless, the report revealed a strong division between the CSN board members, so much so that the report, which was finally sent to Congress, omitted all the negative details and information regarding the private companies. Nevertheless, those responsible for plant's operations were sanctioned in 2006.

The CSN behavior, however, was very different in a new nuclear incident occurred on 21 April 2008. Then, Greenpeace exposed the presence of radioactive particles in areas outside the nuclear plant of Ascó I, which triggered wide media coverage of the event, and at the same time left the CSN exposed. The regulatory agency rapidly started an investigation concluding that the origin of the incident was an operational accident occurred between October and December 2007 (CSN, 2009a) and finally graded the event as Level 2 on the INES (El País "La central nuclear de Ascó detecta nuevas partículas radiactivas," 2008). Greenpeace, on the other hand, stated that Ascó Nuclear Association-Vandellós (ANAV) had already known about the problem for some time and had failed to take action. Later on, the Prosecutor's Office of Tarragona requested a 16-year prison sentence for the plant director (Greenpeace, 2011).

Both events triggered a learning process within the CSN. The different reaction in 2008 compared to that of 2004 showed a process of organizational transformation within the

agency, revealing the need for the CSN to demonstrate its technical capability and capacity to react. In 2008, just when Greenpeace was announcing the existence of nuclear particles, the agency was preparing its own press release. Actually, a new climate increasingly permeated the CSN as a reaction to these problems in the late 2000s. This was particularly evident after the Ascó I accident. It generated intense public debate during most of 2008, as did the episode of confrontation with the government's intention of closing down the Garoña plant that followed in 2009. The need for higher levels of security was progressively acknowledged by the CSN as a component of its organizational culture, with the aim to provide a stronger image of professionalism and high specialization, given that nuclear energy is such a sensitive issue.

#### *Adapting to new regulatory times*

The organizational culture of the CSN underwent a 'revolutionary' change in the late 2000s, which until then had remained traditionally based on technical expertise and averse to information disclosure on nuclear risks, whereas other aspects such as transparency or public accountability were generally neglected.

An important organizational turn took place in 2007 when the Spanish Parliament passed a new law regulating the activities of the CSN (Law 33/2007). Even if it did not represent a major institutional change and left almost unaltered the *de jure* independence of the CSN, it introduced new procedures for information disclosure and access to the agency's materials, while opening it to new forms of social participation. Additionally, Law 33/2007 compelled the CSN to acknowledge any incident or event in due time, and required nuclear plant workers to report any facts that might affect their safety while protecting them from

possible retaliation. While the CSN had traditionally maintained relations with the Parliament, for the executive and regulatees to establish direct communication mechanisms with other actors was a rather recent development. This is even more marked in the case of wider societal actors, namely environmental organizations and trade unions. The law created a new body within the CSN: the Advisory Committee for Public Information and Participation that includes representatives from business, labor and environmental organizations, together with policy experts. The Advisory Committee was responsible for encouraging improved transparency and public participation.

In all, a profound change of mentality occurred within the CSN's community and its interaction with the public: technicians and council members 'no longer think that communication is just the responsibility of the press department, but rather that informing the public is part of everybody's job'. Consequently, the organization has not only developed a policy of internal transparency, but its attitude towards its external environment has also changed. This was precisely the focus of the CSN's first Strategic Plan (2005-2010) that emphasized the need to stress the instrumental objectives of the CSN, including its transparency, neutrality and independence, all of which should strengthen the organization's credibility (CSN, 2005b).

Interviewees attributed these transformations to several sources. From a domestic perspective, the change in the organization's leadership was characterized as a turning point in terms of the openness to dialogue with different social actors. Other interviewees argued that the increase in transparency was a consequence of environmental groups' efforts to promote access to information as in the case of Vandellós II, which in turn revealed the agency's accountability deficit, this being particularly marked during Rodríguez Zapatero's

first legislature (2004-2008). Furthermore, even some CSN members argued that ‘to some extent we owe something to environmental organizations: if more information was made public [this] was to prevent their constant demands and requirements; thus the CSN ended [by] being more transparent.’ In other words, from the agency perspective, the growing social concern over nuclear risks pushed the CSN ‘to improve the public’s perception of the agency while stimulating a safety culture’.

From an international perspective, some of the interviewees argued that these improvements reflected the new governance standards and settings promoted by the Aarhus Convention, which pushed for greater transparency on environmental issues, showing in turn the relevance of the agency’s involvement in international networks. This is also our perspective in this paper, observation on which we will come back in section 3.

### **The CSN and the Quest for Independence**

This section delves into the process of organizational transformation undergone by the CSN during the 2000s that contributed to strengthen its *de facto* independence vis-à-vis the government. We focus on the participation of the agency in international governance networks and the impact on its interactions with its audiences and societal actors at the domestic level. As already suggested, we expect that relevant connections among these variables will indicate the main drivers underlying the transformation of the CSN.

*The CSN in a Web of International Policy Networks*

While initially reliance on foreign input remained limited to the U.S., the CSN became increasingly enmeshed in a web of policy networks at the regional and international levels, particularly during the 2000s.

At the global level, the CSN participates in various advisory committees and technical working groups. These include those related to the elaboration of norms and standards and nuclear plants at the International Atomic Energy Agency (IAEA) and the Nuclear Energy Agency (NEA) of the Organization for Economic Co-operation and Development (OECD), all of which require the preparation of sound technical documents and reports. Concomitantly, the CSN associates with peer institutions. Whereas the Western European Nuclear Regulators Association (WENRA) is intended to promote European nuclear regulation and practices, since the late 1990s the CSN has also actively participated in the International Nuclear Regulators Association (INRA). This brings together senior officials of the nuclear regulatory authorities in Canada, France, Germany, Japan, Spain, Sweden, the U.K. and the U.S. to discuss and enhance nuclear safety. At the EU level, the CSN is actively involved in the advisory committees on various articles of the Euratom Treaty, the European Council's Working Group on Atomic Questions (WGAQ), the Regulatory Assistance Management Group (RAMG) and the European Nuclear Safety Regulators' Group. EU coordination has become relevant as it offers an opportunity for national agencies to promote their leadership.

The impact of these international activities is twofold. First, according to CSN's officials, international governance networks were valued as fundamental because they provide a continuous flow of information. The CSN's increasing involvement in international networks was thus closely related to the need to respond to new regulatory challenges. For

instance, the CSN has worked intensively within WENRA in the homogenization of security requirements and their national transposition. Interviewees from the CSN agreed on the positive impact of participating in these activities, which opened up new opportunities to build public relations and to keep updated in the field, thus enhancing the CSN's competitiveness. In turn, these activities offer a site for learning and socialization and for the homogenization of regulatory standards, norms and practices across countries and regions. As an interviewee from the technical corps of the CSN simply put it, they allow 'the export of regulatory models.'

Secondly, participating in regional and international networks gives visibility to CSN's activities and boosts 'the competitive position of the organization as a serious and credible regulatory agency.' This enhanced reputation impacts on its influence and relationships with other domestic actors involved in the regulatory policy-making process. Additionally, and as put by an interviewee from the CSN, such intense participation in international networks triggers collaborative initiatives with agencies in other countries, including the exchange of experiences and technicians. Following the creation of the Advisory Committee for Public Information and Participation within the CSN, the agency is actively promoting the diffusion of this model at the international level, mainly among peer regulatory agencies. The CSN has particularly focused on advising several Latin American and Mediterranean countries.

CSN's officials and board members agree on the relevance to and positive impact of international networks on the organization, which is seen as a source of recognition and international prestige, but also as a source of individual benefit: the interchange with peers in regional and international activities promotes motivation and individual growth. This

internationalization process has promoted the specialization and increasing professionalization of the CSN's technicians and board members. Despite the persistence of some rigidity typical of bureaucratic systems, over the last few years the agency has promoted various initiatives to enhance the organizational and technical capacities of the CSN, officials and board members. They entailed an update of the traditional logic of Spanish public administration, both in style and structure. In terms of the agency's technicians and public officials, the CSN implemented an ambitious training plan that has been complemented by the participation of CSN personnel in international networks to motivate them and enhance their technical specialization and expertise.

The CSN has also undergone relevant internal and organizational changes. First, the organization and communication system within the CSN was redesigned as a matrix structure to cope with the difficulties experienced in terms of communication and coordination between the two agency directorates and with other areas. Whilst some officials consider that 'this matrix structure is well-consolidated', others argue that there is still 'scarce flexibility and excessive compartmentalization.' Actually, a traditional hierarchical culture still predominates among large segments of the agency, as in the case of many technical departments in the central government. Several internal mechanisms were developed to overcome this segmentation and promote greater fluidity in communication among the various technical and political units of the CSN. In informational terms, 'a great effort was made; everything is now very accessible, including documentation of the agency's first years.' However, while horizontal access to information has undergone a major change, other sources of organizational power, based on traditional models, are still in place.

Several internal and external factors account for this radical transformation in the CSN. The latter include the greater openness in the nuclear regulatory world together with the increasing role of environmental movements. At the European level, the Aarhus convention (1998), which establishes procedural obligations for policy-making, implementation and enforcement with the aim of enhancing public participation, is also an important factor promoting this increased openness towards the public. Furthermore, coordination at the European level turned out to be fundamental in promoting the CSN's credibility and professional image through increased social trust. This was also reinforced by the Aarhus Convention as this extended international law on transparency and accountability in environmental governance by promoting access to information, public participation and access to justice. It thus turned out to be a fundamental element underlying the application of new standards in the transparency and accountability of the CSN decision-making process in the late 2000s, including the legislative reforms above mentioned.

Regarding the CSN's organizational renewal, the visit of an international auditing committee from IAEA, the Integrated Regulatory Review Service (IRRS) Mission in 2008 and its follow up in 2010, were highly relevant. To measure to what extent the application of safety standards and regulatory practices in Spain fulfilled international standards and good practices as set by the IAEA and international legal instruments, the CSN proposed to the Spanish government that it would subject itself to an IAEA-IRRS Mission. The process involved three stages. The first and second stages included a self-assessment phase and a visit by the IAEA to the CSN headquarters to discuss the review's objective, purpose and scope. Finally, in 2008, an international team composed of 22 experts in Nuclear, Radiation, Transport and Waste Safety and Nuclear Security reviewed the CSN's

regulatory framework and its effectiveness. In addition to other purposes, the mission identified major organizational weaknesses and suggested an agenda for reforming the agency's operation and structure. The IAEA-IRRS Mission's final report recommended that the agency should further develop and strengthen 'the oversight on human and organizational factors in all areas for which the CSN is responsible to reflect that the safety of nuclear and radiation facilities depends strongly on good safety culture and measures and robust design as well' (IRSS-CSN, 2008:19). The report also called for balancing various approaches to promote transparency against the need for nuclear and radiation safety. Two years later, a follow-up IRRS mission examined the CSN's progress in acting upon these recommendations and suggestions, concluding that the agency had made progress in most of the areas previously identified. The most significant improvement was in inspection and public communication practices after the learning process triggered by the Ascó I incident.

In sum, although some other factors clearly contributed to the CSN transformation, as we have already identified, we sustain that the key driver was the internationalization of the agency as it became enmeshed in regional and global governance networks. This process provided the agency a combination of technical knowledge, organizational practices and legitimizing ideas that contributed decisively to trigger a major change in its behavior as a risk regulatory agency.

### *Knowledge, Audiences and Independence*

All the CSN's organizational and technical capabilities and its accountability mechanisms have been enhanced during the 1990s and 2000s. While these changes have been positively assessed by interviewees, who perceive the CSN as a prestigious institution, two main

factors underpin these relevant transformations: the CSN's extensive expertise in its regulatory field and its greater neutrality towards nuclear energy and the increased significance it has for its audiences.

First, expertise and competence appear as relevant sources of independence. Even those critical of the CSN – namely, environmental groups –, recognized that the agency gained considerable expertise during recent years. The CSN is increasingly acknowledged as a conduit and transmission belt that converts regional and international expertise available through networks into domestic nuclear regulations. Whereas ‘knowledge transmission is crucial’, participation in regional and international networks is equally essential as these entail extensive exposure to the latest policy developments in European and international contexts. Furthermore, this enhanced participation and visibility within networks has promoted the CSN's reputation among domestic audiences. Indeed, the CSN is trusted in the decision-making process because it has the necessary knowledge and relies extensively on technical reports. The Garoña episode showed that the board members' verdict was based on the deliberations and technical reports from the CSN professionals, rather than on the preferences of the parties appointing them. As an interviewee from the CSN put it: even if ‘the Board knew what the government wanted, they followed what the technical reports said.’ Thus, the Council – the CSN's main political body – abides by the decisions made by the technical corps because ‘they don't have the knowledge to change [them]...’

Second, the CSN is increasingly recognized as being much more open to previously marginalized actors. At one time, the CSN seemed too close to the nuclear industry, but now it has moved from its almost exclusive dialogue with the Ministry of Industry, the Parliament and electrical firms, to engage with other actors, such as environmental groups,

trade unions and professional associations. This effort to include new actors was very much appreciated by the CSN's audiences, particularly by environmental groups: 'the CSN has made considerable efforts to get closer to ecological groups. There has been an important improvement to the extent that the CSN is now much more neutral.'

As the CSN has assumed a more neutral stance towards nuclear energy, its reputation as an independent actor has been enhanced. In relation to this, the Garoña episode seems again very relevant to the CSN and its audiences, as it pictures the CSN as an actor able to behave independently from other actors' preferences. On the one hand and as already mentioned, the CSN's decision to renew the license of the Garoña power plant contradicted President Zapatero's expectations, as expressed in its party's manifesto. The international media also reflected how the CSN's decision had jeopardized Zapatero's 'green credentials' (Financial Times "Zapatero's green credentials come under nuclear stress," 2009). On the other hand, the CSN's decision also contravened the preferences of Nuclenor – the company in charge of the plant – given that renewal was made dependent on a huge investment to upgrade the plant's safety. As a result, the CSN's ability to resist pressures and the preferences of different and opposing actors boosted its reputation as an independent and neutral regulator.

Indeed, neutrality constitutes a relevant source of trust and makes people more relaxed. As clearly put by a CSN official: 'Citizens feel safer if they think the CSN is neutral and independent.' Additionally, nuclear safety regulation is regarded as an important factor, which ensures independence from government, from the point of view of both the CSN and its audiences.

Despite some limitations to independence, the CSN managed to build a shield against external interference in the decision-making process, both from the government and other

societal actors – business and civil society. This increased independence is mainly the result of the interaction of two factors: the CSN’s technical capabilities and its neutrality. Thus, these two (internal and external) components have promoted the agency’s reputation, which in turn has impacted on the agency’s independence. The value of this was seen during the Garoña episode, which ‘was very important in defining the *de facto* independence of the CSN in opposition to political pressures.’

### **Conclusion**

The starting point of our research was a particular case of a regulatory agency’s resistance to political pressure: the license renewal of the Santa María de Garoña power plant. Despite explicit government preferences, the CSN plenary decided to extend the lifespan of the plant. Most interviewees underscored the Garoña episode as being deeply significant in terms of the agency’s independence and reputation. Episodes indicating resistance to political pressures and contradicting the known preferences of elected politicians and societal actors are important observable indicators of regulatory agencies’ *de facto* independence. Here we have examined how independence is constructed in the age of globalization: activism through transnational networks, in addition to technical and professional competencies, confirms the agency’s credibility when facing its diverse audiences.

Our analysis has focused on the interaction between the agency’s increased embeddedness in international governance networks and its enhanced reputation, which in turn grants the agency a more central role at the domestic level. Evidence showed that the CSN has undergone a process of information exchange and internationalization through the

participation of its officials in multiple networks. These networks also provided a learning space for the development of new technical and professional expertise, which favored substantial organizational transformations. We found that internationalization through policy networks underlie CSN's internal organizational dynamics, namely, its structure, culture and coordination and communication mechanisms. In turn this affected the role of the agency within the domestic policy arena, given that these networks provided the CSN with greater credibility and richer information vis-à-vis other domestic public and private actors.

Encouraged by these transformations, the CSN moved beyond its traditional iron triangle made up of the Ministry of Industry and local electrical firms, and became the focal point within the domestic network structure of the regulatory policy regime. The CSN expanded thus its accountability beyond the Parliament and more traditional audiences to a wider range of social and economic actors. Throughout this process, the agency became the focal node of multiple actors, including trade unions and environmental organizations. The establishment of the Advisory Committee – introduced by law 33/2007 – contributed to the institutionalization of the agency's relations with its audiences. The interrelations between the promotion of dialogue mechanisms to reach out to CSN's audiences, namely politicians, businesses, civil society actors and media, on the one hand, and the rapid responses to social concern and demands about nuclear risks and protection in Spain on the other, progressively became habitual among CSN activities.

Our findings suggest that the CSN increased its *de facto* independence vis-à-vis the government, particularly when it managed to occupy central positions within the network, thus becoming a key node for the exchange of information and policy ideas across – and

through – the domestic and international levels of governance. Such transformations also involved a key change in the public profile of the agency: it turned from a pro-nuclear entity connected to a weak audience, into a neutral and risk-focused agency, while its audiences enlarged to include heterogeneous actors. As a result, the regulator was perceived as a referee mediating among different actors and interests, and thus generating respect and trust among its audiences. These developments also offered a shield, increasing the CSN's room for maneuver: the agency was capable of making regulatory decisions contrary to the preferences of both elected politicians and regulatees. In sum, the CSN's more active role in domestic and international network structures, acting as a node for diffusing information and expertise among actors, altered the ways in which public policy was made in the area of nuclear power regulation in Spain until early 2000s.

However, the quest for *de facto* independence is permanent and particular institutional constellations at different moments, highlight the contextual conditions under which such expectations can be fulfilled (*name deleted to maintain the integrity of the review process*). In our case, we find that some institutional changes (a reform of the agency law through the Spanish parliament and the EU presence in nuclear regulation), also contributed to this larger room of maneuver at that moment. Thus, we can infer that based on its new role in international governance networks, the CSN was able to transform such contextual conditions and boost its reputation, which is, in fact, an 'evolving belief' (Carpenter, 2001). In other words, we suggest that the agency must continuously seek to keep its reputation alive to assure thus its *de facto* independence, but changes in the institutional context may hinder the agency's strategies and processes oriented to strengthen such purpose.

For the CSN, its involvement in international networks turns out to be a fundamental asset as the agency strategically used the information and expertise developed at the international level to assure its leading role at the domestic arena. While during the 2000s, its increasing reputation relied on learning how to anticipate, prevent and solve regulatory problems and risks, a question remains open. This refers to whether the CSN will remain capable of using this policy feedback to adapt to new or different institutional contexts in the future, which in turn would sustain and promote this regulatory independence even further or, to the contrary, diminish it.

Finally, and in terms of the broader implications of our study, we believe that this case study stands for a more general and observable trend across national regulatory contexts. As national regulatory agencies become engaged in regional and transnational networks of governance, as shown by the experience of the EU and other regional and international organizations, this increased enmeshment of regulatory actors across levels calls for a more nuanced understanding two element. On the one hand, of how the domestic, the regional and the international levels interact, on the one hand, and how the multiple exchanges derived contribute to sustain reputational beliefs, on the other. This paper has shown that these arenas provide a site for the exchange of regulatory information and expertise, all of which is expected to have a relevant impact on the agencies' internal and external transformations. Quantitative studies could further contribute to this analysis by revealing the threshold value on how *much* participation in international networks is required to trigger relevant organizational transformations at the domestic level. From a more practical perspective, our findings also suggest that regulatory agencies are especially sensitive to new developments in regional and international policy arenas. Therefore, their

modernization strategies and increasing risk sensitivity could be more readily explained by the support and guidance of international governance networks.

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## Annex 1. Summary of Interviews Conducted Interviews

<b>Internal/External</b>	<b>Group</b>	<b>Number of interviews</b>
<b>CSN</b>	CSN Officials	13
	CSN board members	6
<b>Audiences</b>	Representatives of the Ministry of Industry	1
	Members of Parliament	2
	Representatives of local authorities	1
	Environmental groups	2
	Business and labor organizations	2
	Independent experts	1
<i>Total</i>		28