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Regulatory fictions and instruments of imagination: how professionals anticipate future bans on chemicals

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Abstract

This article studies how professionals managing chemicals orient themselves in relation to uncertain regulatory futures. Specifically, it interrogates how these professionals strategically use and evaluate a particular device: A list of substances that are deemed likely to become restricted through the European Union REACH legislation. Adopting Jens Beckert's program of fictional expectations to describe this phenomenon, the article seeks to extend this program by introducing the term "regulatory fictions." As a second contribution, the article also interrogates how such fictions about imagined regulatory futures are made credible. Further, as a third contribution, the article places the fictional expectations program in relation to ongoing debates about soft regulation. In so doing, it connects Beckert's micro-level account of strategic economic action with wider politico-economic concerns about the dynamism and regulation of markets.

Key words: economic sociology; regulation; professions; technology; uncertainty; NGOs.

JEL classification: Z130 economic sociology, economic anthropology, language, social and economic stratification; O320 management of technological innovation and R&D; K320 environmental, energy, health, and safety law

1. Introduction

In recent years, debates on the neoliberal governance of economic life (Brandtner and Bromley 2022) have highlighted the role of "soft" regulatory approaches. Initially emerging in the context of international law (Chinkin 1989; Abbott and Snidal 2000), soft regulation implies regulatory instruments—such as voluntary standards, codes, and "clubs"

(Conzelmann 2012)—that provide normative pressure without being legally binding. In this journal, these debates have primarily focused on the practices related to "corporate responsibility" (Cutler 2010; Fransen 2012), which arguably constitute "unimpressive mechanisms of soft regulation" (Kaplan 2015: 150). This literature also prompts the question of whether soft regulation in general can produce the intended effects (Karlsson-Vinkhuyzen and Vihma 2009; Koutalakis et al., 2010; Dietz et al., 2021).

Elsewhere, the respective merits of hard and soft regulation have been debated in the context of how to govern emerging technologies (Rip 2018). In that domain, it has been argued that soft instruments may provide more "responsive" (Ayres and Braithwaite 1992) governance, offering "greater scope for innovation, creativity, and flexibility" (Bowman and Hodge 2008: 202). Moreover, softer approaches also facilitate modes of "anticipatory governance," in which lay and expert stakeholders may imagine, critique, and shape emerging technologies "while such management is still possible" (Guston 2014: 219). More recently, some of these practices have re-emerged in the ongoing discussion on "future making" within organization studies and management research (Comi and Whyte 2017; Wickert 2025). In these fields, the term denotes practices which operate on the nexus between, on the one hand, imagining and describing possible futures and, on the other hand, deliberately and normatively shaping futures in desirable directions (Comi et al., 2025).

This article will bring these discussions in contact with each other by studying how professionals in chemicals management orient themselves toward uncertain regulatory futures. It will present a case study of how such professionals use a particular tool: a list of chemicals and materials, published by an NGO, that identifies substances that are deemed likely to become restricted through the European Union REACH legislation. Unlike previous research on this list (Hysing and Du Rietz Dahlström 2024; Du Rietz Dahlström et al., 2025), this article will not foreground institutionalist themes (such as normative pressures and the diffusion of rules), but instead focus on the strategic *anticipatory* and *prediction-oriented* action that it affords.

This futures-oriented analysis of the case study will build upon Jens Beckert's (2016, 2021, 2024) work on fictional expectations in economic life (Svetlova 2022). Drawing on Beckert's terminology, the article will explore how an "instrument of imagination" (the list of substances), published by a "promissory organization" (the NGO), is used and assessed as credible by professionals strategically seeking to orient themselves in relation to uncertain futures. The article will argue that fictional expectations regarding regulatory futures (in short, "regulatory fictions") may influence the dynamism of markets, especially in sectors characterized by environmental or social risks and rapid technological change.

In exploring this case study, the article will interrogate three questions. First, how are fictional expectations constructed in the context of regulating chemicals and materials? Second, how do professionals assess the credibility of claims about future regulation? Third, how do professionals reflect on the fictive quality of predictions of the future and on the fact that such fictions involve both description and normative prescription?

The article seeks to make three contributions. First, it will introduce "regulatory fictions" as a particular type of fictional expectation not previously investigated through Beckert's framework. Secondly, it will contribute to Beckert's more recent theorization of how such fictions are made credible. Finally, it also seeks to make a broader contribution to Beckert's overall project of introducing fictional expectations as a micro-foundation for larger-scale politico-economic dynamics (Fourcade et al., 2023: 706–714). It will show how

this approach complements existing, institutionalism-informed accounts of the work of professionals in chemicals management and suggest that Beckert's perspective sheds light on an anticipatory dynamic that operates between soft and hard regulation.

The argument proceeds as follows. Next section will outline Beckert's approach to describe economic action, and show how it differs from institutionalist approaches. Section 3 will introduce the case study, framing it as a study of fictional expectations, and describe the methods used for the empirical study. Section 4 will outline the findings, and section 5 will analyze these findings using Beckert's approach. The text ends with a concluding section that discusses how this Beckertian perspective contributes to our understanding of the case in question.

2. Beckert's fictional expectations program

This section introduces Beckert's account of fictional expectations in economic life, outlining his general approach to economic action (2.1), his account of organizations and instruments of imagination (2.2), and his framework for studying how fictions about the future are made credible (2.3). It ends with a brief summary (2.4).

2.1 Fictional expectations, economic action, and power

As hinted above, Beckert's work on fictional expectations is an attempt to provide an economic-sociological micro-foundation for politico-economic macro-level dynamics (Beckert 2016: 6–9), and thus overcome an "impasse" in economic sociology (Fourcade et al., 2023: 709). Beckert proposes that economic actors are not following *rational* expectations, but *fictional* expectations. Actors are faced with an uncertain, fundamentally unknowable future and are thus forced to rely on fictions when orienting themselves toward this future. Accounts about future developments can never be factual statements: they can never be true or false; they can only ever be more or less credible *stories*.

This does not imply that actors anticipating the future are deluding themselves: fictional expectations constitute the *only* form of knowledge available for actors seeking to act strategically in the context of uncertainty. Here, Beckert distances himself from institutionalist accounts of how economic action is based on "habit or routine" or "normatively oriented toward other goals than the maximization of utility or profit" (Beckert 2016: 8). Indeed, "the focus on routine practices has largely outplayed future orientations in cultural and institutionalist theories" (52). This reflects Beckert's longer-standing concern with how to account for strategic agency in institutionalist theory (Beckert 1999). Thus, the role of interpretative sociology is not to oppose economics by downplaying economic actors' intention to maximize utility. Instead, the purview of economic sociology is to explore the "social interaction and interpretations of social reality" (Beckert 2016: 7) at play when utility-maximizing actors imagine expected futures.

In short, Beckert's ambition—and his relation to rational expectations and institutionalism—reads as follows:

> "Imagined futures help to explain actors' willingness to commit themselves to endeavors despite the incalculability of outcomes [contra rational expectations] and environmental pressures to conform to established behaviors [contra institutionalism]." (Beckert 2016: 78)

Fictional expectations serve a purpose even when they fail to predict the future. For instance, forecasts should not be understood merely as more or less accurate predictions, but as "expectation technolog[ies]" that facilitate strategic agency and serve as "coordination devices for the actors that produce the future" (242). If credible, these devices "open spaces in which new possibilities may be imagined." They "justify decisions in the present" and "instill confidence" in actors, helping them to make decisions even when they know that they cannot know the future.

However, given that a multitude of competing narratives about the future are produced in contemporary economic life, economic fictions constitute a contested terrain. Actors not only seek to anticipate the future—they also seek to shape it, in part by generating support for their own preferred future. This is where "the political" in the economy emerges: the making of fictions, as well as the taking of them, is a social process in which power may be projected. Fictional expectations generate a battle ground for "actors' struggles in the markets" (261), and for the exercise of "control in the form of knowledge" (262). In such epistemological power games, actors' objectives are "carefully hidden, usually behind claims of 'accuracy' and 'objectivity'." This means that competition

> "always takes place through the shaping of beliefs, ideas, hopes, fears, promises. If a given imaginary of the future is to have credence, an actor must successfully influence others' expectations; being able to exercise that influence is one of the prime expressions of power in the economy." (276)

2.2 Instruments of imagination and promissory organizations

At the end of his 2016 volume, Beckert suggests that future research may explore fictional expectations in organizations, not least through the study of "instruments of imagination"—such as the business plans, budgets, and strategy documents used in organizational life (Beckert 2016: 278). Beckert (2021) continues this investigation, suggesting that organizations are "the prime social arrangements" that provide "cognitive guidance to economic activities through images of [what] the future holds" (3). This is because organizations are "particularly effective in constructing credible imaginaries and aligning actors behind the portrayals of the futures they advocate." In short, an organization is "an engine of imagination" (1), which simultaneously anticipates *and* proactively shapes the future. It does so using "instruments of imagination" that serve to "make the future visible" and thus provide "direction for organizational decision-making" (3). Some instruments, such as strategic planning documents and technology projections, are used internally within organizations. Other instruments, like marketing materials and business plans, target external actors.

Further, there is a class of organizations that specializes on producing imagined futures, in order to "sell them as products" (12) to other organizations. These include consultancies, advertising agencies, economic forecasting institutes, financial analysts, central banks, credit rating agencies, think tanks, and research institutes. Such "promissory organizations" (2021: 12) are influential creators of "future-oriented knowledge claims." Here, Beckert builds upon Pollock and Williams (2010) original account of the technological expectations promoted by the Gartner Group—an industry analyst firm whose "future-oriented research […] not only represents the state of affairs in a particular marketplace but also contributes to shaping such markets" (Pollock and Williams 2010: 526). Such promissory organizations

rarely shape futures by merely "letting loose" speculative visions about the future. Visions—even when packaged as "tools" such as a report—do not "become influential primarily because of their diffusion" (530). Rather, "promissory work [is] made durable" when such tools become incorporated into the "infrastructural knowledge" (533–535) of professionals. Thus, promissory organizations may shape futures when their "promissory activities become obligatory passage points (or not) for those working within technological fields" (531).

Whereas Pollock and Williams (2010) focus on advisory organizations whose business isn't necessarily to shape *desirable* futures, Beckert (2021) goes on to suggest that there are other, more politically oriented types of promissory organizations that deliberately "employ soft power through their predictions." This power is exercised by operating on the nexus between descriptive predictions of the future, and normatively oriented attempts to shape the future. This holds true for "international organizations, foundations and NGOs […] which create imagined futures that are primarily targeting political decisions" (12). This gives rise to a new research agenda for organization studies, focusing on one key question: what makes an imagined future credible?

2.3 The credibility of imagined futures

While the question of credibility is present throughout Beckert's discussion on fictional expectations, Beckert (2024) proposes a general model for describing the mechanisms that determine whether a particular imagined future is deemed credible. This consists of three elements: the *story-maker* that seeks to persuade others, the *story-taker* that must act in the face of uncertainty, and the *social context* of this assessment of credibility.

As regards story-making, both the story and the story-maker matters. A convincing story, Beckert suggests, is one that is "logically coherent, pays attention to existing facts, has a convincing plot, makes effective use of the tools of rhetoric, but also leaves imaginary room that can be filled out by the fantasies of the story-taker" (2024: 5). The credibility of the story-*maker*, in turn, depends on *positional credibility* and *performative credibility*. The former denotes the position of authority that emerges from the expertise or resources that the story-maker possesses. The latter concerns the quasi-theatrical aspects of how credibility is created—through deliberate choices of clothing, wording, body language, and props. Thus, Beckert claims that the credibility of imagined futures is "rooted in the dramaturgic staging of (fictitious) truth claims by the story-maker" (7).

Beckert has less to say about story-takers, but emphasizes that the process of assigning credibility to claims about futures unfolds in a social context determined by *institutional* and *cultural* factors. Institutional-legal frameworks constitute the stage within which the proposed future developments will unfold. The cultural environment also matters, for instance by legitimizing or delegitimizing the use of particular instruments of imagination (cf. Fourcade 2011).

Another contextual factor concerns the structure of the social networks within which stories about the future circulate. The channels of this circulation matters for the distribution of imagined futures; the credibility of a story may depend on from whom one hears the story. Finally, the existence of several stories does not necessarily undermine credibility, because story-takers are not passive recipients of claims about the future. Instead—given that actors are have strategic intent and know the unknowability of futures—they actively experiment with different interpretations of their situation.

2.4 Summary: Beckert's program

This section has outlined Beckert's fictional expectations program. Crucially, Beckert stops short of calling it a theory, pointing out that he does "not provide a new structural explanation of capitalist dynamics, nor establish a more refined rational actor theory, behavioral approach, or power resource model" (Beckert 2016: 7). More modestly, he frames it as an examination of "how macrodynamics are anchored in social interaction and interpretations of social reality," which nevertheless may provide a "starting point for a theory of capitalist dynamics" (9). With this in mind, one may summarize Beckert's program as follows.

Economic action does not emerge from rational expectations, nor from habits, routine or conformity with norms and rules, but from *fictional expectations*. The dynamics of capitalism not only stem from technological change, business cycles, or structural changes, nor only from the existence of (institutional) entrepreneurs, but also from the unknowability of the future, which engenders several contradictory narratives of future developments, prompting divergent routes of strategic action. Thus, *competition* is not just expressed as competition among firms, technologies, or products and services, but also as competition among beliefs, ideas, hopes, fears, and promises about the future. Correspondingly, *political power* in markets is not only expressed through regulations and rules, but also "through the influencing of expectations" (80).

On the organizational level, this implies that firms are not only production functions, bundles of resources, entities that reduce transaction costs, or outcomes of habit and isomorphism, but also engines of imagination that strategically anticipate uncertain futures. They do so by using *instruments of imagination*; tools that enable decision-making by presenting plausible futures. Some of these instruments are provided by a special class of organizations, *promissory organizations*, which produce and distribute claims and narratives about the future. Such organizations become powerful when the tools that they provide become a part of the *infrastructural knowledge* of professionals. Professionals generally judge the credibility of narratives about the future based on the *positional* and *performative credibility* of the actor that produces the claims about the future. The *institutional* and *cultural context* also influences whether a narrative is deemed credible or not.

This set of concepts will be used when analyzing the case study (in Section 5). However, the article will first discuss the methods deployed in this study, and then report on the empirics (in Section 4).

3. Method: how to study an instrument of imagination

This section on method will provide a brief introduction to the case study, clarifying what it is a case of. Further, it will describe the interview study that serves as empirical foundation of this article.

3.1 Introducing and framing the case study

This case study revolves around one key artefact: the SIN List, a list of chemicals and materials that the Swedish NGO ChemSec suggests will fall under the European Union's REACH regulation. By consulting the list, and monitoring new additions to it, organizations can move to substitute such substances. (The SIN acronym stands for "Substitute It Now.") Alternatively, by using the list, organizations who have yet to make use of these chemicals and materials can avoid them.

Du Rietz Dahlström et al. (2025) discuss this list in the context of voluntary restriction of hazardous PFAS (per- and polyfluoroalkyl substances) in the consumer food packaging supply chain. The authors show how, in 2016, the Swedish organic food label KRAV used the SIN List to judge which substances that had to be banned from the food packages bearing the KRAV label. In that instance, the KRAV standard served as a vehicle for disseminating ChemSec's SIN List, thus influencing the operations of packaging suppliers. Thus, the SIN List is described as an illustration of the diffusion of voluntary standards. Correspondingly, Hysing and Du Rietz Dahlström (2024) construe ChemSec as a "regulatory intermediary" operating between rule-givers (regulators) and rule-takers (companies) (Brès et al., 2019).

As such, the SIN List and ChemSec can be placed in the rich (and often institutionalism-informed) discussion on corporate responsibility, accountability and legitimacy (Fransen 2012; Bartley and Egels-Zandén 2016), specifically in the context of environmental and chemicals management (Dietz et al., 2021). Within that discussion, Scruggs and Van Buren (2016) have interrogated the motives for why companies voluntarily and proactively move to reduce chemicals use (ahead of regulation), citing institutional factors like stakeholder influences and management values (Scruggs and Van Buren 2016: 638). However, they also suggest that proactive behavior also stems from *strategic* intent: actors believe that "predicting future regulations well in advance" (649) provides an opportunity for competitive advantage.

This account follows a similar orientation. In contrast to institutional accounts, it follows Beckert (1999, 2016) in assuming strategic agency in the context of uncertainty. By focusing on how actors seek to utilize the foresight supposedly offered by the SIN List, this account highlights the production and uses of imagined futures. Correspondingly, it construes ChemSec as a *promissory organization*, and the SIN List as an *instrument of imagination*. It interrogates the coordination of expectations—inside and between organizations—but stops short of seeking to prove whether such coordinated expectations actually prompt coordinated action, or changes in the regulatory environment. Further, given its interpretive orientation, it focuses purely on the perceptions of the professionals, and does not evaluate the claims of ChemSec or the predictive capacity of the SIN List.

3.2 Data collection

The empirical investigation that underlies this article unfolded as follows. First, data was collected on ChemSec, starting with an interview with a key representative from the organization (June 2022), followed by subsequent observations of the organization's open webinars. The main body of empirics consists of interviews with professionals who either use the SIN List, or advise on the use of it. These spawned additional data in the form of academic literature, company or regulatory agency documents, as well as verbal references or online links. A few interviewees provided follow-up information (over email) regarding interview questions or clarifications.

Interviews were conducted virtually in a semi-structured format (see interview guide in Appendix 1), examining the background and working context of the interviewee, perceptions of ChemSec and its SIN List, awareness of current regulations and anticipated regulatory developments, and the perceived role of ChemSec in relation to chemicals regulation. 35 interview sessions were conducted over 12 months between June 2023 and June 2024, involving 35 individuals (excluding the authors). This amounts to 29 unique interviews. (See Appendix 2 for details.) Most interviews occurred in a single session (66%), whereas

a minority (33%) were continued at an additional time. The combined interviews amount to 35.5 hours, with an average of 65.7 minutes, and a range from 22 to 105 minutes.

3.3 Interview sampling

The sampling aimed at interviewing professionals who either use, or advise on the use of, the SIN List. Initial interviews targeted professionals who were (1) working for companies, (2) familiar with ChemSec, (3) aware of the SIN List, and (4) can recall claims about the SIN List. From these interviews with company representatives, the sample snowballed to include experts, regulators, and molders of opinion that the company representatives cited during their interviews. The geographic scope was delimited to organizations and individuals residing in either Europe or North America; the latter added to gauge the extra-EU clout of REACH and the SIN List. Sampling continued in this manner until responses indicated saturation of the results, and until there were sufficient interviews with respondents working for key types of organizations.

Thus, the sampling was stratified on the basis of organizational context. Respondents were classed as working for large companies, SMEs, NGOs, technical consultants, public municipalities, regulatory authorities, or as other experts. The large company/SME distinction was based on the EU SME (small or medium sized companies) criterion, with non-SME representatives categorized as large companies. Organizations primarily doing advocacy were classed as NGOs. Respondents currently or formerly working for a regulatory authority were assigned in that category. Respondents holding academic positions at universities, or representing intergovernmental expert bodies, were classed as experts. Thus, eight interviewees (23%) belong to large corporations, four (11%) to SMEs, six (17%) to NGOs, four (11%) to technical consultancies, three (8.6%) to municipalities, and six (17%) to regulatory authorities. Four (11%) work as experts.

The corporation-based professionals work in consumer-facing organizations (operating in retail, garments, textiles and transportation products), as well as for business-facing organizations operating in industrial chemicals. (These corporations do not necessarily represent frontrunners in their respective industries.) Both national-level and European-level agencies feature among the regulatory authorities. The respondents do not constitute a small, tightly knit expert community, though some of them know each other professionally. They are dispersed members of the same social network, operating in the same professional field.

3.4 Ethics and consent

All interviewees were informed of the study purpose and research process; all agreed to recording, reviewing and analyzing the sessions afterward by the authors for eventual study publication. Written notes were prepared to facilitate interview recall over time. Sessions were recorded and transcribed (manually and via Microsoft Teams and Word), anonymized and edited for accuracy. The empirical material to be represented as findings was shared for comprehension and consent with interviewees before manuscript submission. While a representative of ChemSec was interviewed, the organization had no part in the research otherwise.

3.5 Data analysis

The interview materials (transcripts and supplemental communications) were imported into NVivo for detailed analysis. The analysis was theory-driven, following the

Beckert-influenced themes on fictional expectations outlined in the previous section. Thus, the material was analyzed by first using general codes such as "use," "tool," "credibility," and "prediction," and then organized through more specific, theory-oriented codes related to concepts such as reflexivity, story-taking, and cultural legitimacy, and finally more composite themes.

4. Findings

This section outlines the findings from the empirical study. It will introduce the EU regulatory system for managing chemicals and materials, and the technicalities of the SIN list. It will then describe how professionals make use of this list, how they act reflexively in relation to it, and how they assess the credibility of the regulatory fiction that it offers.

4.1 REACH, ChemSec, and the SIN list

The REACH legislation—an acronym for "European Registration, Evaluation, Authorization and Restriction of Chemicals"—has been in force since 1 June 2007. As hinted by the name, REACH dictates how new chemicals and materials are registered and evaluated as safe to use. Crucially, it also dictates how the use of existing chemicals and materials can become subject to authorization and restriction.

The latter process is triggered when it is established that a substance is hazardous, and thus labeled as a "substance of very high concern" (SVHC). It is then placed on the "candidate list," which implies special obligations for the supplier of the substance. It may subsequently be placed on the "authorization list," and thus only be used by companies who have received specific authorization (generally for a limited period of time). Alternatively, the substance may be outright restricted. REACH thus involves a succession of "softer" regulatory measures, which signal that hard regulation has become more likely within a foreseeable future. When a chemical or material is identified as a SVHC, it has entered a trajectory toward a ban. Through these early warnings, companies are encouraged to find substitutes for hazardous chemicals and materials, well before they are formally restricted.

Nevertheless, the process of adding a substance to the SVHC list is subject to bureaucratic, scientific and political administration. New additions to the candidate list may only be proposed by EU member states or the European Chemicals Agency (ECHA), following the preparation of a dossier stating the scientific grounds for the addition. The submission can only be made twice a year, after having announced the intention to parties involved. Furthermore, the SVHC identification process includes a 45-day consultation. Still, while the administrative process of authorization and restriction is somewhat obscure, the scientific criteria for identifying SVHC are transparent. Member states or ECHA may propose to add it to the SVHC candidate if it can be proved that a substance is—for example—carcinogenic, mutagenic, toxic for reproduction, or bioaccumulative.

ChemSec (founded in 2002) has invented a device that leverages this regulatory transparency, and simultaneously circumvents the cumbersome administrative process of placing a substance on the SVHC list. By collating scientific data that demonstrates that certain substances fit the criteria for being classed as SVHCs, the organization publishes a list of its own—the SIN List—which contains substances that have yet to become placed on the SVHC candidate list, but are likely to do so in the foreseeable future. Since its launch in

2008, the list is regularly updated with new substances, and communicated to professionals who make decisions on which chemicals and materials to use in their products. The list is also used by consultants and experts who advise on these matters. In the 2024 Financial Statement, ChemSec reports that the list was consulted by "approximately 40,000 unique users throughout the year, with most visitors coming from the United States, Germany, and Sweden" (ChemSec 2025: 5). The organization further states that "China and India also rank among the top ten countries, which is expected given the global supply chain structure."

ChemSec proposes that by studying the SIN List, professionals may receive an early warning and proactively phase out substances that are likely to enter the trajectory toward restriction. Here, the NGO has highlighted its track record of accurate predictions. In a post on the organization's website, a representative states that

> "we have done a pretty fine job in predicting which chemicals would end up on the EU Candidate List—we have named 94 percent of the chemicals on the Candidate List well before the authorities did so." (ChemSec 2017)

However, ChemSec is also an advocacy group funded by grants from the Swedish state (roughly 30% of the annual turnover) and from private foundations (ChemSec 2025: 12). The stated purpose of the organization is "to strengthen environmental and health protections against harmful chemicals," and to inform on—but also *influence*—the development of EU chemical policies (3). Correspondingly, the SIN List is a device deliberately designed to shape the future legislation, hastening the banning of hazardous substances. As another ChemSec representative points out during an interview, the list serves a "dual purpose," "predicting" as well as "driving" future regulation. Indeed, when a certain substance has been placed on the ChemSec SIN List, member state representatives may feel compelled to put together their formal proposal to add the substance to the candidate list. Moreover, if professionals proactively move away from the use of a possibly hazardous substance and instead use alternatives, the case for restriction becomes stronger.

Still, this requires professionals to make productive use of this tool, which depends on whether they see it as a credible predictive tool. The remainder of this section will interrogate these issues, referencing the interviews with the users of the SIN list.

4.2 The uses of the SIN list

As discussed in the previous section on methods, the interview study focused on a range of professionals that either use the SIN List, or advise on the use of it. Thus, the respondents include representatives from large corporations, SMEs, municipalities, consultants, regulators and other (non-ChemSec) NGOs. Here, the first three categories of respondents are actors who actively make decisions on the basis of the list, whereas the latter categories are using the list when advising on the use of chemicals, or acting as molders of opinion within the broader professional field.

Across these different professional roles, respondents construe the SIN List as an anticipatory tool that forms a part of their broader business intelligence toolbox. As a sustainability manager at a German SME states, the tool is deemed particularly useful "for companies who are just starting out with the topic of chemicals management or who are not that deep into it yet." In comparison with large corporations, such organizations have fewer resources

for in-house research, either in the form of business intelligence, or actual laboratory testing. Respondents generally use the language of foresight when describing their use of it. Seven of them refer to the SIN List as providing an "early warning" for substances to phase out, and one of them (from a regulatory authority) refers to the list as a "weak signal" about future developments.

Beside that general point, there are specific uses mentioned by different respondents. Users in companies—large or small—refer to the SIN List as a "hit list" for which chemicals to phase out. Again, there is a difference here between large corporations and SMEs: large corporations develop their own, more extensive lists of problematic substances, based on screening from a wider set of restriction lists. This reference to the SIN List being one out of several similar tools is important. None of the respondents talked about the SIN List as their only resource for navigating regulatory uncertainty. Again, the SIN List should be understood as one tool in a larger toolbox.

That being said, the list is used as a decision-making framework for material selection, especially when there are alternative chemicals or materials that can be used. As stated by a chemicals expert at a European environmental regulating agency based in Denmark, companies also use the list "as exclusion criteria directly in their choice for chemicals"—that is, if a substance is on the SIN List, the company chooses not to use it, nor have it in its supply chain (even though it has yet to be flagged as problematic by the EU authorities). A chemicals controller at a large Swedish corporation further testifies to referencing the list in intra-organizational discussions;

> "when our colleagues want to bring in new chemicals, we have said 'take another, take an extra look on this one, because it actually gives a match on the SIN List'. And they go back and have another look for alternatives."

A quality manager at a large Danish corporation states that the list is "based on scientific proofs and the very data evaluated by experts and universities, so it's easy for us to refer to that list when I have to convince some in my organization that would need to do this [phase out a substance]." Further, seven of the interviewed professionals also pointed out that investors use the list when choosing whether to invest in an upstream producer of chemicals and materials.

Beyond those uses in business settings, experts pointed to using the list as general toxicological primer; a go-to resource for any kind of information about a particular substance or particular hazard. Still, the prime rationales for using the list tend to be described in terms of being "proactive," thus projecting an image of being environmentally aware, and potentially saving money by being early with substitution of substances (but only to the extent that they have come to expect actual restrictions of such substances).

Municipal professionals use the SIN List when making decisions about procurements. For instance, a chemicals manager in a Swedish municipality states, the list is useful when the organization needs to agree on a shared vocabulary for what constitutes "sustainability." These respondents also point to the list being useful for learning more about hazardous substances—that is, moving beyond the simple list of substances, to understanding the underlying criteria for hazards. Along with the issue of being proactive, municipalities construe the use of the list in terms of protecting citizen health.

Consultants and other professionals who work in advisory capacity use the SIN List as a conversation starter for getting clients to think about the issue of chemicals substitution. In particular, it is used when communicating with "progressive" companies who may want to be early movers on chemicals substitution. Some experts also integrate the SIN List into other tools for managing the selection and phasing out of chemicals and materials. For these advisory professionals, the list is also used as a more general resource for learning about particular chemicals or materials.

Finally, professionals working for regulatory authorities use the list as a prompt for investigating particular substances a bit more in detail. Here, again, is the idea of the SIN list as a "weak signal" for a change that is coming.

4.3 Perceptions of predictiveness

Despite verifying that they are indeed using the list as a tool for anticipating futures, there were diverging accounts of the predictive capabilities of the SIN list. A Chief Technology Officer at a Canadian SME stated that the list can indeed be said to predict future regulation, since it merely short-cuts the regulatory process. Thus,

> "once toxicology studies are done, you can meaningfully rank them [the hazardous chemicals], and there you go, that's really all you need to do to be able to predict them [future regulations]. And then you look at the volume of what is actually becoming more popular and is not yet subject to regulations. So yes it [the SIN List] is meaningfully predictive, that's obvious."

Though this aspect of the SIN List is recognized, other respondents pointed to the uncertainties introduced by the regulatory process. This is where, as a public health expert at an American NGO put it, "prediction runs up against the regulatory reality."

Indeed, when probed about the suggestion that the SIN List predicts regulations, respondents found various ways of qualifying this proposition. As the chemicals expert at the Denmark-based European environmental regulating agency responded, "you can never predict something 100%." One chemicals manager working for a municipality responded by not talking about prediction per se, but nevertheless referred to the 94 per cent prediction rate cited earlier by the organization (see section 4.1). Some respondents (from large corporations) simply asked to pass on the question of prediction.

As such, the respondents appear to be reflexive about the fact that the tool that they use cannot be understood in terms in pure prediction. This reflexivity also extends into a recognition of how the list simultaneously describes and shapes future events. Tellingly, when asked about the predictive capability of the SIN List, an environmental affairs manager at a Brussels-based international NGO adds that "I hope they predict their [the substances'] phase-out […] we are working towards their phase out." This "dual function" of the SIN List is also recognized by users within business. A professional at an American SME states:

> "I mean it's a little circular, right? Like you make people more aware of it [a hazardous substance], it's more likely to get regulated, but I … you know … I think it is. It's a fair claim and I think they [ChemSec] do it well."

So, in summarizing the past two subsections, the SIN list is used for a range of purposes, by actors who are reflexively cognizant of how it not only describes but also makes futures. How, then, do actors judge the credibility of it?

4.4 The credibility of the SIN list

As stated in the beginning of this section, the SIN list seeks to predict legislation, but also to drive legislation. ChemSec not only acts as a consultancy guiding organizations in the face of uncertain futures—it also acts as an advocacy group. The aspect of ChemSec's activities is evident when studying the website and social media content it produces. Visually, and in terms of tone, the SIN List is communicated through a zestful rhetoric that resembles that of many other NGOs. However, when asked about the credibility of the NGO's claims, respondents mention the consultancy-like facets of the organization. Specifically, the vast majority of the respondents cite the scientific credentials of ChemSec. (During the interviews, respondents collectively cited fifteen other NGOs as points of comparison.)

The professionals interviewed in this study are well aware of the institutional idiosyncrasies of the REACH legislative process. Though they disagree on the extent to which political and administrative processes may make the legislative process unpredictable, they broadly agree about the scientific basis of the SIN List. After all, it simply lists non-regulated substances that are increasingly proven to be hazardous. Here, ChemSec's story about regulatory futures is deemed credible because the SIN List is put together following the "same methodology" that REACH uses. It is thus seen as founded on factual claims based on recent toxicological research, as well as on the transparent REACH criteria for identifying hazardous substances.

Here, the credibility of the story is tied to the credibility of ChemSec itself. In order for the SIN List to be convincing, ChemSec must be seen as an entity that can stay updated on scientific developments in toxicology. It must also be seen to be able to judge good research from bad research, and to assess when there is enough evidence to state that a particular substance has been proven hazardous. On this point, an overwhelming majority of the respondents agree that this is the case. ChemSec performs the scanning and evaluating toxicological findings, and packages this into a list that two respondents (in separate interviews) describe as "well-curated." Given that the organization employs toxicologists publishing in outlets such as *Nature Nanotechnology*, they are seen to be "part of the scientific community," not least by other NGO's that are excluded from that community. In short, as a Danish independent expert states, ChemSec is credible because it employs "really skilled staff" who deploy "the same methodology as used by authorities."

Aside from this scientific image, the majority of the respondents see ChemSec as a constructive organization, especially in relation to private business organizations. As the quality manager from the large Danish corporation phrases it; "they're an NGO, but they're not an NGO where they come, they point fingers at [the corporation], but they're trying to support us in … in the right development." This is also the view of a chemicals manager at a Finland-based European regulatory agency, who states:

> "I might be wrong, but the image is that they think the private sector is actually needed. They aren't sort of hostile towards the private sector, whereas many NGOs are […] ChemSec sort of is working with companies, and tries to sort of pick winners in a positive sense. And companies which are, sort of, progressive, want to do things, from ChemSec's point of view, of course, correctly, and get other companies to join in."

Nevertheless, the respondents do not construe ChemSec as pure consultancy. The majority of the respondents recognize the political agenda of the organization. As a Swedish technical consultant adds, the SIN List casts a wide net, listing a wide range of chemicals and

materials that cannot all become subject to phase-out. Thus, the consultant suggests, the organization is erring toward presenting a future of sweeping regulation. Crucially, this prescriptive agenda does not cause the list to be dismissed as an expression of a subjective, political opinion. An executive at an American SME states:

> "The SIN List in particular is helpful because it … it specifically uses an advocacy tool, right? It's like the things that they want listed next. So it's … it is a kind of near term look into the future of … of kind of where chemical regulation in Europe might go."

This view, which is shared by several respondents, implies that the political ambitions expressed in the SIN list does not undermine its credibility—on the contrary, it is read as an indicator of the general direction of travel, as influenced by the views of stakeholders like NGOs.

Finally, one group of respondents argued that the SIN List is credible due to the fact that it is widely used. However, a roughly equal number of respondents pointed the fact that it is primarily used in Europe (Sweden, in particular). This latter group emphasized that the list—as mentioned above—constitutes one tool out of many other tools with which to navigate the field of chemicals regulation.

5. Analysis

This section will analyze the findings presented above making use of Beckert's framework. It will focus how the empirics shed new light on fictional expectations, instruments of imagination, infrastructural knowledge, promissory organizations, as well as performative and positional credibility.

5.1 Fictional expectations regarding future regulations

The empirics show the different ways in which professionals orient themselves toward uncertain regulatory futures, using the SIN List. When probed about the predictive powers of this tool, respondents—in their own different ways—described how it can never be more than a plausible speculation about the future. This is broadly in line with Beckert's suggestion about how economic actors' rationality as based on fictional expectations. Moreover, the respondents are cognizant of how the story about regulatory futures presented by ChemSec is competing with other stories about the future, often bound up in other tools. Thus, they recognize that in this space of diverging imagined futures, a particular kind of politics is played out. The respondents reflexively make sense out of the fact that ChemSec's story about future regulation can—and is indeed *designed* to—shape the future. As such, they recognize the Beckertian type of power (section 2.1) that is exercised, but this political agenda does not dissuade them from using SIN List when making when making informed assessments of future developments. Indeed, ChemSec does not seem to need to "hide" this agenda by claims of objectivity (cf. Beckert 2016: 262). There is, then, a "knowing" or reflexive aspect of the users' rationality, which helps them negotiate the joint process of predicting and shaping future regulation.

More fundamentally, these findings show how this phenomenon—that is, fictional expectations regarding regulatory futures—is a suitable case for connecting micro-level interpretative economic sociology to broader politico-economic questions regarding the

dynamics of capitalism. Again, this article does not seek to prove whether such expectations actually drive changes in the regulatory environment, as that would require a longitudinal study. Nevertheless, the micro-level interactions described above show the mechanisms through which intra-organizational social action and political agency may generate inter-organizational coordination of expected regulatory futures. As such, these activities may feed into higher level dynamics—into the continual re-organization of markets and commodities. This issue will be further developed in the concluding discussion.

5.2 The SIN list as an instrument of imagination

As shown above, the SIN list is used in a plethora of ways, serving as a Beckertian "instrument of imagination" that makes regulatory futures visible. In so doing, it instils confidence for professionals faced with the highly technical and regulatory complex issue of hazardous chemicals, and provides direction for organizational decision-making. It is enacted in different contexts—it serves as an entry point to thinking about hazards and substitutions, it is a go-to reference to find information about substances, and it specifies the notion of "sustainability." It guides investment decisions—not only for companies choosing materials, but also for investors choosing what companies to invest in. Interestingly, it also serves intra-corporate purposes, as a means to persuade colleagues about particular decisions to be made about chemicals and materials. All of these uses suggest that the instrument does generate a shared expectation of the future—a coordination of expectations. This is primarily evident when individual respondents talk about intra-organizational coordination. Still, the fact that several professionals in different organizations use it in similar ways suggests that it also facilitates coordination across organizations.

These uses suggest that the list is included in some of the professionals' "infrastructural knowledge," much like the categorizing tools described by Pollock and Williams (2010). When used as a go-to references or primer, the list "sink[s] into the background" of everyday work (Pollock and Williams 2010: 533). As a final point, also in line with Pollock and Williams, it is worth noting that this instrument of imagination is not simply a prophecy whose influence emerges from the mere fact that it circulates. Indeed, such a proposition "places undue emphasis on the *acceptance* of this knowledge as opposed to its *production*" (530, italics added). Instead, the list should be understood as a proxy for a vast infrastructure of devices and laboratory instruments that—as a knowledge-producing collective—may be judged as indicators of a regulation-to-be. The list is the manifestation of this knowledge production, along with a judgment about this body of knowledge, provided by ChemSec.

5.3 ChemSec as a promissory organization

The NGO studied in this article can meaningfully be described as a promissory organization. Like the industry analysts studied by Pollock and Williams (2010), ChemSec produces imagined futures, offering them to other organizations as a product. However, it also acts like an NGO, employing soft power through its predictions. In other words, it is an amalgam of the two types of promissory organizations that Beckert (2021) describes. In contrast to the traditional campaigns of politically oriented promissory organizations discussed by Beckert (2021), the SIN list is not "primarily targeting political decisions"—that is, decisions made by legislators. Instead, the aim is to shape the imagined futures of private organizations, thus influencing them even before regulators (perhaps) force them to act.

However, in prompting private organizations to act proactively, they also hope to make the emergence of binding legislation more likely.

More broadly, the findings show how an organization like ChemSec—a promissory organization that straddles the traditional divide between consultancy and advocacy—fits into the anticipatory practices of organizations. The empirics show how the professionals reflexively negotiate the fact that the organization offers an amalgam between "objective" scientifically-based information that facilitates proactive behavior (cf. Scruggs and Ortolano 2011) and a "subjective," politically motivated "agenda."

5.4 What makes the SIN list credible?

Following Beckert's tentative framework, the SIN list is a *story*, told by a *story-maker* (ChemSec), to *story-takers* (the professionals), in a particular *context*. The story's credibility hinges on the story-maker ChemSec, which the professionals deem trustworthy in monitoring and interpreting toxicological findings. Here, the *positional credibility* of ChemSec is imperative: a majority of the respondents see the organization as an authoritative scientific actor which employs skilled individuals. It helps that ChemSec's staff occasionally publishes on SIN list-related issues in well-respected journals, adding to the *performative credibility* of the organization.

This scientific credibility is coupled with the idea that the organization is genuinely interested in advising private companies on the phasing out of hazardous substances. Taken together, these factors are enough to convince the story-takers that the SIN list—even though it is recognized as an "advocacy tool"—can be used as a credible guide for anticipating future regulation. This also implies that the "dramaturgical" aspects of Beckert's approach (Beckert 2024; see also Oomen et al., 2022) are less useful for explaining the credibility of regulatory fictions is less applicable in the context of the empirics presented above.

Crucially, the SIN List is a story that can only be told in the context of a particular institutional framework. The twin characteristics of the REACH process—slow administrative process, clear and transparent criteria—"set the stage" for a particular story to be told. The parameters of this story are clear for the respondents interviewed, even to the point where some of them argue that they themselves could produce a similar prediction about future regulation. In this professional community, the method of identifying substances of very high concern (SVHC) is widely agreed upon. Thus, the replication of this method—the one that underpins the story—is also seen as legitimate. This professional community, in turn, consists of social networks of experts, within which membership and status is tied to perceived scientific competence.

6. Concluding discussion

This article has sought to show how fictional expectations of future regulation are produced, circulated, and used among economic actors. The analysis of ChemSec as a promissory organization has contributed to the work of Pollock and Williams (2010) and Beckert (2021), showing that such organizations may simultaneously be *both* advisory *and* advocacy-oriented, selling imagined futures while at the same time deliberately employing soft power through its predictions. Further, the article has shown that actors may not only be reflexive regarding the descriptive and the performative effects of fictional expectations (cf. Birch 2023)—they may also be reflexive regarding the political stakes of instruments of

imagination like the SIN List. Finally, in relation to Beckert's (2024) propositions about how imagined futures are made credible, the empirics highlighted the importance of positional credibility (stemming from scientific expertise).

The remainder of this concluding discussion will interrogate how Beckert's approach contributes to the understanding of cases like ChemSec's SIN List. What aspects of the studied phenomenon emerge when examined through the lens of fictional expectations? Conversely, how does this specific case illustrate Beckert's account of the dynamism of markets?

By introducing the Beckert-inspired notion of "regulatory fictions" and making use of the terms "instrument of imagination" and "promissory organization," this article has provided an account of ChemSec's SIN List that differs from that of Hysing and Du Rietz Dahlström (2024) and Du Rietz Dahlström et al. (2025). As these authors show, this phenomenon may productively be understood as one voluntary standard among other voluntary standards, exerting normative pressures on organizations. However, Beckert's approach—by assuming a *strategic* intent to maximize utility by predicting regulatory futures—brings another aspect of this case into view: the epistemological and political struggles of promissory work, the contestation of expected futures, which in turn force the individual actor to place bets on one out of several alternative stories about the future. While an institutionalist-oriented approach may interrogate whether the SIN list produces widespread isomorphism, a Beckertian approach examines whether it provides sufficient coordination of expectations among one or several actors, giving them confidence to act, thus producing competition and dynamism.

Similarly, the case also highlights how the fictional expectations approach frontstages processes that are less visible when seen through the lens of rational expectations. Again, the European REACH legislation features both softer measures (a substance may appear on the SVHC list), which are generally followed by hard regulation (restrictions on the use of that particular substance). A rational expectations approach would suggest that once a substance is on the SVHC, actors will make plans for the substitution of that substance. Phenomena like the SIN List are not, from a rational expectations perspective, all that different: the market either assumes that the prediction is correct (the SIN list simply creates a longer period of anticipation) or rejects the supposed predictiveness (the SIN list is inconsequential). Beckert's approach, in contrast, zooms in on the confused situation when *conflicting* narratives about possible futures cause actors to place *different* bets on the future, adding to the competition, political struggles and the dynamism of markets.

As this brief comparison with institutionalist and rational expectations approaches suggests, the fictional expectations approach is especially useful when the use of a particular instrument of imagination is *not* legion (when it has *not* become accepted as a standard or norm), and when its predictive capacities are *not* generally accepted (when it has been accepted as "factual," readily available information about a certain future). This is the situation studied in this article: the professionals were sampled on the basis of their awareness of the SIN list, and they describe how they use it when forming their expectations about regulatory futures. Yet, they point to the SIN List being merely one tool in a larger toolbox, thus cognizant of the fact that ChemSec's story is just one out of several stories about possible regulatory futures.

This chimes with the fact that Beckert—as well as Pollock and Williams (2010: 528, 529)—is skeptical toward simplified notions of performativity and self-fulfilling prophecies.

The future is fundamentally open, uncertain, and unpredictable, placing limits on the performativity of expectations (Beckert 2016: 11, see also Beckert and Bronk 2018: 28–32). A promissory device like the SIN List may have significant effects on the economy—adding to the contestation of futures and dynamism of markets—even though it has *not* acquired widespread acceptance. Instruments of imagination matter, even if they fail to produce self-fulfilling prophecies, or become adopted as new regulatory standards.

That being said, it is also the case that the SIN list—as shown by Du Rietz Dahlström et al. (2025)—*has* informed a standard for organic food packages. Thus, it is worth returning to the issue of the effectiveness of soft regulation, and tie it to fictional expectations. Crucially, this article has focused on formation and coordination of *expectations*, and bracketed the question of coordinated economic *action*. Nevertheless, there is empirical research (Biggi 2024) that suggests that the REACH legislation's shaping of expectations—placing substances on the SVHC list ahead of regulation—does indeed prompt companies to innovate on substitutes for hazardous chemicals and materials. Once substances are placed on the SVHC list, there is a spike in new patents regarding substitute chemicals and materials.

Moreover, irrespective of any skepticism toward simplistic notions of self-fulfilling prophecies, it is nevertheless the case that ChemSec seeks to perform a prefigurative politics that operates in lock step with the "prefigurative marketcraft" (Elliott 2024: 1597) of the EU REACH framework. Again, ChemSec's wager is that if the SIN List becomes the predominant expectation about likely regulatory futures, the market moves to substitute a particular SIN-listed substance, making it more likely that it will become restricted under REACH. Here, the fictional expectations perspective highlights how ChemSec's prediction-oriented politics leverages the interrelation between soft and hard regulation: soft devices like the SIN List may shape actors' expectations regarding hard regulation, but such soft devices may also shape the future course of hard regulation. This analysis runs in parallel with that of Koutalakis et al. (2010), who suggest that there cannot be effective soft regulation without effective hard regulation.

That being said, it is important not to overinterpret the results of this article. As one professional working for a regulatory authority stated in an interview: "It's really difficult to measure how much [tools like the SIN List] mean in real life, but I do think they have an important role to play, personally." This article focuses specifically on the establishment of fictional expectations within a professional community, showing how regulatory fictions—via an instrument of imagination—seep into the capillary level of organizational life. Still, the SIN List's influence is contingent upon the extent to which it becomes a part of the infrastructural knowledge of the professional field, or is deemed credible by at least some actors. Even in such circumstances, knowledge may not necessarily prompt action, so there is a need for more research on the *actual* economic action that emerges from the formation of expectations.

Further qualitative case studies of comparable instruments of imagination are needed to provide a more comprehensive understanding of these processes. As already demonstrated by Du Rietz Dahlström et al. (2025), there is considerable scope for complementary institutionalism-oriented studies. Moreover, in the study of how micro-level uses of regulatory fictions relate to macro-level regulatory effects, other methodological approaches are welcome. The empirics presented in this article reflect a snap-shot in time, sampled on the basis of identifying active users of the SIN List. This means that we can only describe the

professed uses of the device, and point to coordination of expectations on the micro-level. Examining the long-term process and final outcomes of such coordination, perhaps with a focus on one particular substance, requires longitudinal studies. Finally, further innovative quantitative studies (Coria et al., 2022; Biggi 2024) are welcome. Taken together, such accounts would create a more comprehensive view of how regulatory fictions influence the dynamism of markets.

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Appendices

Appendix 1: Interview guide (abbreviated)

The sampled organization
What does your company do, in the big picture, or in a general sense?
What do you do for the company?
Knowledge about ChemSec
Does your organization do anything to predict future chemicals or materials that could be regulated?
Are you aware of the Swedish non-governmental organization called ChemSec (the International Chemical Secretariat)?
If yes:
As a whole, what does ChemSec do for your organization?
Do you or your organization use any service from ChemSec?
Which ones?
Why do you use it/them?
How do you use it/them?
If not, why?
As compared with other third party groups or NGOs, is there anything distinctive or remarkable about ChemSec?
Knowledge about SIN list
Do you know about ChemSec's SIN List?
What does a tool like the SIN list offer your organization?
How do you use the SIN list?
What do you think about ChemSec's claim that the SIN list predicts future materials regulations?
Do you believe that this claim is realistic?
Why?
Can you think of any examples where a SIN list entry remains unregulated?
What about any example where a SIN list entry has not been added to regulations, including the average or typical regulatory time gap?
When you think of these voluntary third-party lists of concerning substances, do others come to mind?
If yes, then which ones?
Knowledge about (European) regulations
Are you familiar with any European regulations on chemicals or materials?

If yes: which ones?
What about national level regulations?
And what about international or regulations from other jurisdictions?
Which regulations are most relevant to your organization?
Why?
How do you learn about new chemicals or materials that will be regulated?
Do you use other lists or inventories here?

Interest in new materials

Does your organization take an interest in the use of newer material classes?
If yes, how do you do this?
If no, why not?
Would you like to see ChemSec apply its tools to these types of materials?
Why or why not?
Do you think these materials will become regulated in Europe, for instance with REACH and chemical substances?

Appendix 2

Table A.1. Summary of interviews, in chronological order.

Number	Duration (minutes)	Session	Interviewee role	Place of work	Detailed role	Interviewee fictious name	Seniority
1	67	1/1	NGO	Denmark	Head of chemicals project within NGO	Mikkel	54 (age)
2	42	1/1	NGO	Belgium	Deputy manager for public affairs, ozone, climate, energy, and chemicals	Jack	31 (age)
3	42	1/1	SME	Canada	CTO at company	Justin	37 (age)
4	22	1/1	SME	Germany	Managing director and CTO	Erich	35 (age)
5	53	1/2	Other expert	Denmark	Associate professor, analytical and environmental chemistry	Mette	51 (age)
6	79	2/2	Other expert	Denmark	Associate professor, analytical and environmental chemistry	Mette	51 (age)
7	52	1/1	Technical consultant	Sweden	Technical consultant	Tove	59 (age)
8	41	1/1	Other expert	Sweden	Director of institute, researcher, policy engagement director	Sven	55 (age)
9	84	1/1	Large company	Denmark	Quality manager	Sofia	53 (age)
10	82	1/1	NGO	USA	Postdoc researcher	Joy	28 (age)
					Director of applied research	Amy	52 (age)
11	50	1/2	NGO	USA	Professor of public health	Adam	56 (age)
12	50	1/1	Large company	Sweden	Product portfolio management	Albin	56 (age)
					HSE specialist	Henrik	50 (age)
					Chemical controller	Tanja	41 (age)
13	41	2/2	NGO	USA	Professor of public health	Adam	56 (age)

continued

Table A.1. *Continued*

Number	Duration (minutes)	Session	Interviewee role	Place of work	Detailed role	Interviewee fictious name	Seniority
14	42	1/2	Regulatory authority	USA	Public information officer Lead, chemicals evaluation unit Senior environmental scientist (unit lead, external communications and environmental justice)	Jerry Mary Selena	N/A 39 (age) 38 (age)
15	42	2/2	Regulatory authority	USA	Public information officer Lead, chemicals evaluation unit Senior environmental scientist (unit lead, external communications and environmental justice)	Jerry Mary Selena	N/A 39 (age) 38 (age)
16	84	1/1	Other expert	Denmark	Associate professor of environmental risk and uncertainty	Lucas	20 years experience, 14 post PhD
17	52	1/1	Technical consultant	Denmark	Technical consultant, "R&D of innovative and sustainable solutions"	Oliver	3 years post PhD experience
18	68	1/1	Large company	Belgium	Senior innovation manager Product stewardship	Freya Sara	13 years post PhD experience 13 years at association
19	72	1/1	Large company	Sweden	Project leader, chemical strategy and regulatory affairs (also called governance and compliance)	Hedda	6+ years experience
20	36	1/1	Municipality	Denmark	Circular economy team (technical and environmental department, waste resources)	Frederik	8 years at present employer

continued

Table A.1. *Continued*

Number	Duration (minutes)	Session	Interviewee role	Place of work	Detailed role	Interviewee fictious name	Seniority
21	105	1/1	Municipality	Sweden	Head of unit at chemicals center	Lars	23 years post PhD experience
22	24	1/2	NGO	Spain	Policy manager for chemicals	Victoria	30 years plus experience
23	51	1/2	Regulatory authority	Sweden	Focus on chemicals and "environmental policy and related areas"; "strategy implantation"	Karl	30 years plus experience
24	54	1/2	Technical consultant	Sweden	Researcher/consultant at sustainable materials unit	Tobias	15 years experience
25	29	2/2	Technical consultant	Sweden	Researcher/consultant at sustainable materials unit	Tobias	15 years experience
26	41	2/2	NGO	Spain	Policy manager for chemicals	Victoria	30 years plus experience
27	98	1/1	Regulatory authority	Finland	Responsible for risk management of chemicals	Olof	30 years experience
28	98	2/2	Regulatory authority	Sweden	Focus on chemicals and "environmental policy and related areas"; "strategy implantation"	Karl	30 years plus experience
29	90	1/1	Other expert	France	Environment health and safety division	Camille	15 years at organization
30	68	1/1	Regulatory authority	Denmark	Chemical expert	Peter	16 years at agency
31	89	1/1	Municipality	Sweden	Chemical requirement specialist??	Charlotta	29 years since Master, 8 at muni

continued

Table A.1. *Continued*

Number	Duration (minutes)	Session	Interviewee role	Place of work	Detailed role	Interviewee fictious name	Seniority
32	83	1/1	SME	USA	Founder of VC fund	Daniel	15 years post PhD (8 since VC founding)
33	89	1/1	SME	Germany	CSR department (sustainability management)	Gemma	1.5 years at department
34	30	1/1	Technical consultant	Spain	Technical consultant, focus on plastic and polymers	Teresa	20 years
35	82	1/1	Large company	Sweden	Senior eco-design expert	Agnes	10 + 8 professional work after PhD
Total duration 2132 minutes							

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