

# Sustainability as a Change Agent? Lessons From the European Airspace Regulation

Marc Mölders<sup>1</sup>

<sup>1</sup> Bielefeld University, Faculty of Sociology, Law & Society Unit, POB 100131, D-33501 Bielefeld, Germany

Correspondence: Marc Mölders, Bielefeld University, Faculty of Sociology, Law & Society Unit, POB 100131, D-33501 Bielefeld, Germany. Tel: 49-521-106-4663. E-mail: marc.moelders@uni-bielefeld.de

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## Abstract

The contribution at hand follows the sociologist Niklas Luhmann in framing ecological problems as communicative ones. This approach offers valuable insights for the difficulties in finding society-wide accepted solutions. Reflexive steering (RS) as well as reflexive governance (RG) took up basic assumptions but also added proposals for working towards solutions. Because actors from different contexts cannot escape from a “vicious circle of first-order reflexivity”, they have to be forced to take into account the big picture (claim 1). In the RG literature it is argued that notions such as “sustainable development” may ease triggering communication across different societal domains by working as a “change agent” (claim 2).

Both of these claims are examined by introducing a case study on European airspace regulation (“Single European Sky”). It shows that economy – usually the system that is intended to be changed – makes use of sustainability as a change agent in order to redirect the pressure to reflect and adapt towards others. It is concluded that, on the one hand, public credibility is a powerful means to induce changes within idiosyncratic societal entities. On the other hand, terms such as “sustainable development” are so widely diffused that they allow for being used by almost any societal actor able to communicate publicly. This multi-directionality has been neglected in the literature so far which calls for thinking of new communicative solutions – especially beyond procedural proposals which are favored by many approaches from RS to RG.

**Keywords:** airspace regulation, communication, reflexive governance, steering, sustainability, sustainable development

## 1. Introduction

Thinking of sustainable development in particular or ecological problems in general from a sociological stance leads to reframe such issues as *communicative* problems. In doing so, sustainability appears as meaning something entirely different when it is viewed in terms of economy, politics, law, science, etc. That these views remain incompatible explains why it is so hard to find societally accepted solutions; i.e. solutions that work across different communicative domains (Van Assche et al., 2013; Amstutz & Fischer-Lescano, 2013). However, this concept is struggling to propose solutions (section 2).

The paradigms of reflexive steering (RS) as well as reflexive governance (RG) do make suggestions for improvement (Meadowcroft & Steurer, 2013; Voß et al., 2006). The core problem – the idiosyncrasy of societal entities – is thought to be tackled by forcing them to reflect upon possible consequences of their behavior for the common good (the forced-reflexivity-claim). Such reflections, it is said, could be facilitated by drawing on concepts such as “sustainable development” because of their impact on public credibility (the “sustainability-change agent-claim”) (section 3). The sociological analysis at hand examines how sustainability is used as a communicative tool.

The case of the European airspace regulation (Single European Sky; SES) shows that economy itself – usually the system that is intended to be changed – makes use of sustainability as a change agent in order to redirect the pressure to reflect and adapt towards other entities (here: politics and trade unions) (section 4).

Thus, the analysis of this case in the light of the two claims introduced above leads to two consecutive theses: 1) Public credibility is a powerful means to trigger changes even within idiosyncratic societal entities. 2) Terms such

as “sustainable development” are so widely diffused that they allow for being used by almost any societal actor able to communicate publicly (section 5). This multi-directionality has been neglected in the literature so far.

Finally, it is concluded that many approaches so far – from RS to RG – focus on procedural questions (Who-questions, such as *who* should take part in reflexive arrangements). This leads to an underestimation of *what*-questions, meaning what kind of communication triggers reflections. Confronting myopic systems with alternatives (“functional equivalents”) to existing routines is an option that was not chosen in the case at hand. Launching a policy initiative such as the SES fixed air traffic as *the* solution to the societal problem of mobility and prevented from thinking of anything else (section 6).

## 2. Framing Ecological Problems as Communicative Ones

Sustainable development, environmental problems, etc. are multidisciplinary issues. Even within one discipline, such as sociology, the corresponding questions may vary significantly. Niklas Luhmann (1989) proposed to frame sociological contributions to ecological questions as communicative ones: “Fish or humans may die because swimming in the seas and rivers has become unhealthy. The oil-pumps may run dry and the average climatic temperatures may rise or fall. As long as this is not the subject of communication it has no social effect” (p. 28).

This understanding (Note 1) not only refers to a decision for a certain stance, it is also connected to a set of specific problems. According to Luhmann (2012), modern society is functionally differentiated; i.e. there are subsystems such as economy, law, science, politics, religion, education, etc. The specificity of problems attached to that notion is twofold: Firstly, ecological issues appear in an entirely different manner, depending on which system’s perspective is taken. Broadly speaking, economically, they are framed in terms of money, politically in questions of power, science looks for new questions to explore, law cares for dealing with legal conflicts. Secondly, these different systemic perspectives are not interchangeable. Luhmann (1989) raises the question: “How can environmental problems find resonance in social communication if society is differentiated into function systems and can react to events and changes in the environment only through these? (p. 36) The information „the average temperature on earth is rising“ can be dealt with politically only in terms of political programs while economy processes the *same* information in terms of budgets and investments and science uses its theories and methods to examine the accuracy of such statements, solving puzzles and posing new ones.

This may suffice to illustrate why it may be worthwhile to frame ecological problems as communicative ones. Yet, this theory offers an interesting view on problems but is sparingly in giving hints at solutions.

## 3. From Reflexive Steering to Reflexive Governance

This section summarizes conceptual considerations that share the diagnosis of a functionally differentiated society whilst looking for solutions to deal with problems resulting from this as well. From theories of reflexive steering (RS) to more recent approaches of reflexive governance (RG) one claim is maintained: Idiosyncratic societal entities have to be *forced* to reflect. The concepts differ in proposing how this can be achieved. RG picked up the discourse on sustainability claiming that this was a communicative tool helping to enable reflections. This reconstruction of reflexive stances allows for asking whether sustainability works as a change agent, whether such communicative tools make idiosyncratic societal entities reflect.

For RS the main puzzle was how autonomous social entities – like economy, technology, education, science, etc. – could be pushed in a certain direction. More precisely, the assumption was that these fields were self-referential. Thus, the crucial question was, if the objects of steering “re-organize themselves and adapt to operational criteria which they define themselves, how is mutual influence, intervention or even regulation possible?” (Febbrajo & Teubner, 1992, p. 11)

Autonomy was not merely regarded as a theoretical challenge but a practical problem. When fields like the economy, technology, science or law only mind their own business, they create massive “negative externalities” (Willke, 1992, p. 355) for each other and for the system-environment-ecology. Willke refers to global problems, such as resource exhaustion, environmental pollution, the arms race, etc. Nowadays these problems could be subsumed under the term “sustainability”. On the one hand, a “muddling through” (Lindblom, 1959) would only worsen this situation, on the other, direct intervention seemed implausible. Thus, Willke proposed a third way. Taking up the notion of RS, which he put forward in collaboration with Teubner (Teubner & Willke, 1984), Willke refined this concept by advocating “decentralized contextual guidance” (Willke, 1992, p. 375). He was in search of mechanisms and procedures that allowed for breaking up the ruthlessness of societal actors (groups, organizations, subsystems).

These societal actors were to realize that they should take into consideration possible consequences of their behavior for the greater (common) good and not lose sight of the big picture: “guidance aims at a capacity of an acting unit for present decision making which takes into account future necessities, prerequisites or possibilities of

the system – e.g., a society – as a whole [...] it positively promotes only certain options out of an array of contingent possibilities” (p. 372). In other words, idiosyncratic entities should take care for being a *useful environment* to others. To gain this insight, those acting units must see themselves as an interdependent part within the big picture. This is what reflexivity is needed for: “Reflexion induces actors to realize that they cannot avoid being possible (that is: viable) environments of other systems. Reflecting this, systems may decide to restrict the range of their options to the few or even to the single one which complies with the conditions of productive – or at least non-destructive – system-environment-ecology” (p. 374).

Self-minding actors will not adapt their decisions or actions for the sake of others on their part. So, how (and by whom) can reflexivity be induced? Willke proposes law as a medium of guidance, the legal system as a mediator of political interventions into other societal fields in order to “promote reflexion as a modus of controlled co-evolution” (p. 378). It is about finding adequate operational procedures in which actors from different societal contexts would assemble in order to shape each other’s contextual rules. Examples could be concerted actions, socio-economic councils, multi-partite commissions, bargaining systems, or similar institutions of collective discourse (p. 358).

Meanwhile, what once was called “steering” or “guidance” is framed as “governance”. More precisely, there is a development from RS to RG. Willke’s idea of law as a medium or facilitator of reflection has not been taken up by RG proponents. Several ideas introduced above, however, are easily traceable in concepts that were developed almost twenty years later. A particular parallel is the effort to incorporate theoretical considerations into proposals for procedures.

Speaking of *the* RG approach is misleading. There are rather conceptual works as well as practical considerations, adaptive (AM) and transition management (TM) being the most popular ones. In their critical evaluation of RG, Voß and Bornemann (2011) point to the similarities as “they all emphasize participation, experimentation, and collective learning as key elements of governance. As such, they have been grouped together under the heading of reflexive governance” (p. 9). The reflexive stance comes in by acknowledging the impossibility of a supervisory look on the socio-ecological system as a whole.

This article’s focus is on a certain version of RG. This is characterized by (1) accounting for what it calls co-evolutionary conditions and by (2) the assumption that these may not be steered or controlled, but that there are (reflexive) procedures and institutions to cope with them. This, in turn, is thought to allow for working towards more sustainable solutions (Bos et al., 2013; Feindt, 2012; Gottschick, 2013). Obviously, there is a conceptual link to the concepts of RS introduced above. Willke’s notion that reflection has to be promoted as a *modus of controlled co-evolution* could easily be inserted in more recent publications on RG. Van Assche et al. (2013) also point to this link when they note that governance concepts that are aware of co-evolution are also borne out by social systems theory.

Though there is not such a strong assumption that societal actors remain self-referential in a strict sense, we find comparable attributions such as the “nasty politics” (Voß & Bornemann, 2011, 9) where political actors only mind questions of power. Voß and Kemp (2006) designate these forms of idiosyncrasy as “the vicious circle of first-order reflexivity” (p. 6). Actors cannot break out of their specific automatisms of executing problem-solving routines. As there are as much particular rationalities as there are societal contexts, all of them conceiving and solving problems in their very own way, the demand for coordinating these actors along the lines of collective strategies grows. As shown above, authors like Willke and Teubner had social subsystems like law, politics, science or economy in mind. But Voß’s and Kemp’s examples do not differ greatly, when they refer to “state actors and interest groups, producers and consumers, scientists and the media, just to name a few” (p. 16).

The assumption that idiosyncrasy cannot be overcome internally, leads to the question of how to facilitate such learning in a way that takes others (including other parts of the society as well as the environment) into account. Both paradigms, RS as well as RG, can be seen as answers with regard to this question.

As Wynne (1995) already put it, there seems to be a justified “scepticism about the intrinsic capacity of any actor to sustain self-reflexivity without its being encouraged by criticism and challenge from others” (p. 30). Once more similar to conceptions of RS, proponents of the RG paradigm also put much emphasis on procedural ideas in order to overcome “the vicious circle of first-order reflexivity”. Constructive Technology Assessment (CTA) is a very prominent approach to RG. Rip (2006) explicitly names his contribution a “co-evolutionary approach to reflexive governance”. He claims that there are co-evolutionary dynamics as a consequence of partially autonomous developments in science, technology, and other parts of society. Parallel developments of this kind render direct interventions from one part of society into another impossible; changes in one system can lead to unforeseeable consequences for its (societal) environment.

Rip argues that co-evolutionary conditions create extremely high barriers to problems as ambitious as sustainable development. His understanding of reflection aims at taking into account these conditions. Achieving this, it becomes possible “to shape co-evolution together” (p. 90). Practically, this leads CTA-proponents to convene workshop formats in which “future-oriented interactions have to be enabled between actors who constitute each other’s selection environment” (p. 90). CTA is not so much about finding stable solutions but opening up spaces for working towards solutions. It aims at finding new ways on which possibly better decisions might be made – not least with regard to problems concerning sustainable development.

The (main) thread running through the history from RS to RG remains the assumption that actors will not include other perspectives voluntarily: “Actors will invest in learning only when they are forced to do so, to ensure their survival and/or meet contestation” (p. 92). Rip describes the inability of actors to try to see the big picture as “myopic“, yet another synonym for being idiosyncratic, self-referential, nasty or not being able to leave the vicious circle of first-order reflexivity. Rip directly refers to Miller’s (2002) assumption of “forceful foci”. Idiosyncratic entities (groups, organizations, subsystems) must be confronted with “objective contexts of discovery” which means situations in which actors are faced with arguments they cannot reject without contradicting themselves, risking loss of face. I will refer to this as the “forced-reflexivity-claim”.

Interactive procedures, such as CTA-workshops, can be regarded as communicative means of coping with sustainability (as a communicative problem). However, if direct intervention remains impossible and myopic societal actors have to be forced to reflect, the question arises whether there are communicative means that increase the likelihood of at least irritating “vicious circles of first-order reflexivity”.

A possible answer is provided by Voß et al. (2006) when they argue that sustainable development works as a “change agent, a vehicle and a mediator for governance changes towards reflexive governance” (p. 422). Although what is actually meant by sustainability and comparably amorphous terms might be contested, notions of this kind work in that they trigger communication across different domains, attributes such as sustainable facilitate to “contextualise particular actions, concepts, strategies and so on within a broader environment” (p. 422).

Transition management (TM) takes up this notion of sustainability as a change agent by pointing to the meaning of long-term visions: “A vision of the future is crucial in realizing a transition: an important task for government is to assist in formulating that vision, and to inspire and mobilize other actors” (Rotmans et al., 2001, p. 25). This description of a vision’s function once more entails the notion that other actors have to be mobilized in order to take long-term goals into account. The authors are not thinking of purely technological visions; rather they emphasize that “The social, cultural, institutional and environmental contexts of a transition must be considered carefully if the process is to attract the support of actors involved” (p. 27). Thus, how to create public support is another important question for the reflexive stance. Especially if there is a lack of visible quick results, public support is needed: “One way to achieve this is through participatory decision-making and the societal choice of goals. But societal support can also be created in a bottom-up manner, by engaging in experiences with technologies in areas in which there is local support” (Rotmans & Kemp, 2003, p. 19).

This certain type of RG that was introduced in this section claims to be aware of co-evolution. It acknowledges that this creates high barriers for working towards sustainable solutions. Myopic entities cannot escape from a vicious circle of first-order reflexivity. Rather, they could possibly but will not do that voluntarily. According to several authors, visions within the realm of sustainability might help to overcome the barriers co-evolution and first-order reflexivity generate. Hendriks and Grin (2007) conclude that second-order reflexivity “is about the self-critical and self-conscious reflection on processes of modernity, particularly instrumental rationality. [...] Here actors reflect on and confront not only the self-induced problems of modernity, but also the approaches, structures and systems that reproduce them” (p. 335).

Although the notion of idiosyncrasy refers to any function system, it is beyond doubt that there is a special focus on negative externalities created by economy. In order to force economic actors to reflect, topics such as “sustainable development” are thought to best suit as a trigger. Empirically, this calls for a case in which economy should be forced to behave more sustainable. European airspace regulation is particularly suitable to examine whether sustainability works as a change agent; air traffic is widely seen as an environmental threat. Bearing in mind the two claims, RG would assume that economy was forced to reflect (claim 1) and that sustainability worked as a change agent (claim 2).

## 4. The Case of the European Airspace Regulation

### 4.1 Method

Basically, this case study (Note 2) was carried out as a document analysis (Bowen, 2009). Central documents within the development towards a European airspace regulation were examined in order to reconstruct not only the political development of airspace regulation but more generally to find out how the idea of a European integration *in the air* became a policy issue and what different meanings were attached to it. Taking this into account, it is obviously not sufficient to exclusively focus on policy papers and official documents. In order to get to know other (and earlier) relevant sources, the author exchanged with experts and professionals from air traffic control and management, administration, airlines, aircraft manufacturers, aviation research as well as other academic experts, pilots, and pilot trainers. In some cases this exchange took the form of an expert interview (Meuser & Nagel, 2009; Bogner & Menz, 2009); other conversations took place during conferences, meetings or via email. For this purpose a structured guideline was designed (Longhurst, 2012). Apart from valuable general information, these exchanges pointed the way to additional documents that the author otherwise had not even been able to search for.

### 4.2 Case Study

Looking at the current situation of an overly crowded and highly inefficient European airspace, it seems nothing but consequent that the European Union (EU) assumes responsibility for this part of European integration. However, almost a decade before there is a formal policy initiative it is a study of the Association of European Airlines (AEA, 1989) that calls for action. Delays were mounting up and the airlines stated to face pressure. To them these complaints seemed unjustified as all relevant inefficiencies were due to the system of nationally organized air traffic control. This study directly addressed the EU institutions assuming that airspace fragmentation could only be resolved on this level.

It took until 1996, before this study was responded by the European Commission's (EC) White Paper "Air Traffic Management. Freeing Europe's airspace". Finally, the EU policy initiative "Single European Sky" (SES) was initiated at the end of the 1990s, its eventual implementation is expected in 2020, at the earliest. Following the requests as formulated by the AEA, it aims at the harmonization of air traffic management (ATM) and the regulation of airspace throughout the EU. Its goal is to move airspace management away from the previous domination by national boundaries, which are narrow in Europe, to the use of so called "functional airspace blocks" (FABs).

Like any European initiative that seeks to harmonize different practices and standards, the SES is a contested issue on various levels, e.g. between the EU member states as well as between heterogeneous stakeholders. The EU institutions took that into account and configured the SES as an all-inclusive initiative. Any party that is affected by the changes of the European ATM was asked to participate. In various formats, such as by consultation, as members of High Level Groups (HLG) or as stakeholders within the technology public private partnership SESAR (SES Air Traffic Management Research), heterogeneous parties come together. These assemblies gather diverse players, such as regulators from the European level or representing a member state, the military, air traffic controllers (ATCs), air navigation service providers (ANSPs), scientists and technicians, employers' associations, employee representatives, and many more.

Transitions as far reaching as those planned within the SES are likely to provoke resistance, especially with regard to the diversity represented among the participants. Bearing this in mind, it seems obvious to legitimize and justify uncomfortable decisions by relating to arguments within the realm of sustainability, climate protection, and other aspects referring to the greater good. Indeed, such arguments played a crucial role within the regulation process of the SES. The manner in which this was done (and by whom) is a fairly revealing one.

The first report of a diversely composed HLG from November 2000 pointed to the need of establishing "strong and independent regulators" on the European level (EC, 2000). The EC was seen to best suit this function. Looking at early (late 1990s) policy papers by the EC, we witness that sustainability is just one aspect among others. In the following sequence it is *queued* with other objectives of equal importance: "It [i.e. ATM] also involves the allocation of airspace to its various users, including military users, and all the measures needed to meet a wide range of *other* policy objectives to do with such issues as environmental protection, town and country planning, national defence and meeting international commitments" (EC, 1996, p. 4).

While the political perspective entails sustainability without using it to convince others or to legitimize decisions, several economic points of view seem very attentive to push issues of this kind. A first reference to a stronger conjunction of aviation policy and environmental protection can be found in the position of an organization called Association Européenne des Constructeurs de Matériel Aérospatial (AECMA), representing not at least the

defense industry. Framed as a key objective, AECMA emphasizes: “As a consequence of more flexibility, a seamless European system and reduced delays of flights, there will be environmental benefits in proportion” (EC, 2000, p. 45). It is possible to achieve the one (economic profitability) without abandoning the other (environmental benefits). In a remarkably transparent way, AECMA states that the industry they are representing is prepared to contribute proactively but that this needed to follow the rule of profitability. Thus, (parts of) the economy already accounted for environmental considerations *before* there was the procedural frame of the SES initiative.

The AeroSpace and Defense Industries Association of Europe (ASD) succeeded AECMA. ASD initiated another public private partnership in the field of ATM, the Clean Sky initiative, between the EC and the aeronautical industry in 2008. This resulted in a shared financing in which the EC brought in the half of the entire budget (1.6 billion EUR), the aeronautical industry made an in-kind contribution of the same amount. ASD recognized that pointing to the societal relevance of the environmental impact of aviation was a political end as well and was able to act quickly. (Note 3) We may interpret this as a first sign of an economy that actually takes into consideration possible consequences of its behavior for the greater good.

The creation of functional airspace blocks (FABs) is at the heart of the SES initiative. Beforehand, there were thirty-five airspace blocks; an intermediate target was the creation of nine FABs until the end of 2012, a target that was missed. (Note 4) Nevertheless, at least some of those already established are in use. At the core of this operational innovation is the idea of orienting the borders of these blocks exclusively alongside traffic flows rather than national territories. Taking a glimpse on the actual shape of the FABs that were agreed upon by now, it seems evident that political and/or cultural reasons were crucial, leaving traffic flows behind. (Note 5) An ideal shape would have included the so called “diamond” (Paris, London, Amsterdam, and Frankfurt) within one FAB (Langner & Schwenke, 2011, p. 25).

It was up to the member states themselves to negotiate the shape of the FABs within a bottom-up procedure. IATA, the international representation of the airlines’ interests, was in favor of a top-down approach from the very beginning. CANSO, the employer representatives within the field of ANSPs, is pushing forward a fast implementation of SES targets wherever it can. This makes it even more remarkable that CANSO tried to slow down IATA by arguing that a top-down approach was tempting – but “it would risk aggravating political and social concerns, which so far have been managed with success” (Schofield, 2009, p. 48).

First of all, this means that political and social concerns can be objects of management (skills). Maybe top-down elements accelerated the harmonization process. But bearing in mind possible political and social consequences, these were too expensive a price to pay. On the other hand, it becomes visible that the bottom-up procedure was meant as a prevention measure with regard to political and civil unrest, at least from CANSO’s point of view. This stance is another example for the industry’s systemic thinking in this context. It anticipates reactions of other participants and tries to adjust its own actions in accordance with this picture.

Alexander ter Kuile (2008), CANSO’s secretary general, even goes one step further. In a viewpoint named “The Forgotten Stakeholder” he hints at the risk of the entire aviation industry becoming “the next ‘tobacco industry’” (p. 66). The aviation industry missed to ask society for permission with regard to the growth this field gained in the last decades. Society or the (general) public is the forgotten stakeholder, now attracting attention via “public sentiment on climate change”. Ter Kuile creates a worst-case scenario in which the aviation industry will eventually collapse for different reasons, public sentiment being the important one. He encourages economic actors to convene an open dialogue with the forgotten stakeholder in order to find out: “What can we do to make aviation sustainable in your eyes?” (p. 66)

One may interpret this as a rhetorical move that is easy to see through. However, it should not be overlooked that these utterances build upon the assumption that aviation seems hardly replaceable, what ter Kuile subtly hints at, when he submits: “We are an efficient infrastructure, a global highway that connects markets and unites families and friends” (p. 66). While not denying that there are initiatives against pollution caused by aircrafts, to the author’s knowledge, there has not been any data – except for aspects of aircraft *noise* – that would suggest that the public sentiment addresses the aviation industry in a significantly pressurizing manner so far.

Still, one may object that systemic thinking of this kind is mere *talk* but no *action*, to re-phrase this suspicion with Brunsson’s (1989) famous distinction. A first response could hint at approaches that put forward that talk *is* action. We find this claim in diverse fields, such as organization studies (Czarniawska-Joerges & Joerges, 1988; Grant et al., 1998), gender studies (Kleinman, 2007), or qualitative research (Peräkylä, 2005): They all share the assumption that what is communicated publicly can, in principle, have “hard(er)” structural effects.

There are two sorts of such effects in the SES case. Firstly, there is the technological dimension. More efficient technology is available; this is what makes the industry’s position so strong. As Bernard Miaillier (2011),

Cooperative Network Design Directorate at Eurocontrol (European Organisation for the Safety of Air Navigation), put it: “It is not so much the key technologies that are important, but why we need new systems and what kinds of systems we need.” As early as 2005 Hughes already stated: “The good news is that the technology exists to expedite change” (p. 77). Green approaches, such as four-dimensional trajectories, have been tested successfully long since (Hughes, 2008).

A second type of hard(er) structural effects (“action”) refers to the pressure that is now on the employee representatives and the EC itself. Because the industry succeeded in connecting their technologies to sustainability (talk *and* action), it is now up to the employee representatives and trade unions to justify why they want to slow down the harmonization process. To give a concrete example, the European Transport Workers’ Federation (ETF) holds that “social aspects should be considered if mobility of workers has to become a reality in Europe, notably within the framework of the FABs.” The “mobility issue” refers to the idea that a standardized Human Machine Interface (HMI) for controllers would allow for more mobility among controllers throughout Europe. ETF wants to make sure that “the ANSPs involved [are] not using mobility as a tool for social dumping” *before* the technical harmonization produces a *fait accompli* (Note 6).

David McMillan (2008) was Eurocontrol Director General when he confirmed that trade unions were cautious but that “[t]here are not any real threats to the jobs for a considerable time to come [...] jobs might not be in places they are now.” Asked for the airline industry’s position on SES, he admits that “they are keen to see it delivered more quickly [...] they face public concerns about the environment and their performance” (p. 61).

Who is facing the pressure becomes clear in what McMillan calls a “cheerful note of warning” at the end of his opening address to the conference “The role of the European Social Dialogue in the implementation of the Single European Sky” in 2011: “If you can work together – management and staff – and make a joint case to the politicians then there’s much more chance of them accepting it – even if it requires investment. If not, then I think you can expect unpredictable and probably unpleasant changes being rapidly forced upon you.” (Note 7)

If we take as read that there are no public concerns directly addressing the aviation industry, we witnessed that it – nevertheless – succeeded in exerting pressure on other stakeholders by referring to these public concerns. In the next section it is analyzed more systematically what these results mean for the “forced-reflexivity-claim” and the “sustainability-change agent-claim”.

## 5. Discussion: Reflecting the SES Case in the Light of Reflexive Stances

A core assumption of co-evolutionary approaches (RS as well as RG) was that myopic actors, organizations, (sub-) systems or the like do not reflect voluntarily (“forced-reflexivity-claim”). Taking their social and/or natural environment (“the big picture”) into account and not only minding their own businesses was conceptualized as impossible due to a “vicious circle of first-order reflexivity” that those entities could not break out of unless they are forced to do so.

In the case of European airspace regulation, airlines and aviation industry, *inter alia*, virtually pointed to possible consequences of their behavior for the(ir) environment. Economic actors were able to reflect their actions, to anticipate reactions, and to adjust timely. Of course, this still follows an economic perspective but does not preclude doing this with an eye on the big picture. As there is no public sentiment known directly addressing airlines or the aviation industry, we cannot claim that there was an external pressure forcing these entities to reflect in this way. But can we claim the opposite – did this happen without *any* external pressure, i.e. voluntarily in a narrower sense?

From the very beginning, theories of RS especially focused economy. This societal context was “the prototype” of ruthless idiosyncrasy. With his approaches to policy learning and innovation theory, Lundvall (1985, 1988) pointed to a higher degree of “reflexive activity” within the economic sphere. As an explanation for this change, Lundvall referred to the intensification of user-producer relations initializing interactive learning.

Johnson (2011) extends Lundvall’s description by proposing “that the learning economy is driven by its internal contradictions, and by the institutional responses to these contradictions” (p. 703). Johnson’s approach entails an explanation why the economy does not need to be triggered by external pressure to invest in learning. The learning economy looks for internal contradictions, which gives rise to the question: Where is the source of these contradictions?

Johnson claims that the “incentives and possibilities of learning are determined by economic, social and political relationships. Learning is anchored in the institutions and structures of society.” He gives an instructive example, especially with regard to the case at stake, when he notes a “growing social and political acceptance of change and the development of morally and socially restricted economic greed as a basic value in society” (p. 706). Qualifying

the restriction of economic greed as a basic value of modern society explains why the economy is able to find internal contradictions in the context of sustainable technology or the like. Knowing that a prioritization of profitability at the expense of sustainability is likely to cause severe problems triggers the economy to search for (internal) solutions that combine both, profitability and sustainability, just as the “green aviation technologies” do within the SES context. Of course, this does not justify speaking of an absence of external pressure, respectively an entirely voluntaristic manner of learning. Nevertheless, for RG this means that those heterogeneous perspectives it intends to align are less myopic. Still, the objection could be raised that there is no RG process dealing with the future of European airspace regulation. Yet, there is no reason to doubt that what Johnson describes as a “learning economy” will display in any RG procedure involving economy.

Another important assumption for RG was the “sustainability-change agent-claim”: that sustainable development as a long-term vision could trigger communications across different domains.

The case of European airspace regulation supports this thesis but highlights that sustainability works as a multi-directional change agent. Economy made use of arguments within the realms of sustainability, environmental protection, and public sentiment and used them as a vehicle. Referring to a more or less invented public sentiment allowed for turning the tables: the economy came in a position to put pressure on other stakeholders and decision-makers. Trade unions, for instance, could then be treated as operating against sustainability by slowing down the pace of the SES implementation.

Similarly, creating public support is said to be an important task for the reflexive stance, especially if quick results render unlikely. Again, this task is not only on the state’s (or whoever organizes RG processes) agenda; economy also knows about the value of public support and how to create it: public relations (PR). In the SES case, though, we witnessed a type of PR that goes well beyond usual practices. Creating a public by PR practices would be business as usual. Doing so in order to put (political) pressure on other societal contexts is what makes this way remarkable. This strongly reminds of what Habermas (1989) called the “Transformation of the Public Sphere’s Political Function”: “Beyond influencing consumer decisions this publicity is now also useful for exerting political pressure because it mobilizes a potential of inarticulate readiness to assent that, if need be, can be translated into a plebiscitarily defined acclamation” (p. 201).

Even if there is no forced reflexivity, the case at hand provides a remarkable answer to how autonomous social entities could be pushed in a certain direction: *public credibility*. Demonstrating that someone acts *against* sustainability definitely is a means to discredit public credibility – and *vice versa*.

The problem with terms such as “sustainable development” is that they are so widely diffused that they allow for being used by almost any societal actor able to communicate publicly – without having to clarify what sustainability exactly means in a certain context.

## 6. Concluding Remarks

This article started out by framing ecological problems as communicative ones. The reconstruction of the genesis of such concepts – from RS to RG – emphasized its similarities: Many authors claim that co-evolutionary conditions create extremely high barriers to problems as ambitious as sustainable development. Nevertheless, it is assumed that being aware of co-evolution in concrete procedures facilitates shaping issues of, for instance, environmental policy.

The last section showed that those actors RG frames as myopic or the like reflect issues like sustainable development; they display “systemic thinking”. Using reflexive capacities to make others reflect (and change) is not a one-way street. The core idea of co-evolutionary governance approaches is what Van Assche et al. (2013) describe as: “Impacts on one thing will be considered in their effects on other factors” (p. 10). If one knows that there are several autonomous societal developments and knows what characterizes them, one should try to take them into account for the design of corresponding procedures. Trying to draw co-evolution into the design of a governance process definitely can help to foster awareness for unintended consequences of idiosyncratic actions. The crucial point is that co-evolution does not stop when a governance process starts. Rip (2006), for instance, tries to counter this problem by incorporating “anticipation-in-action” as a permanent task for RG procedures and organizers. This amounts to an anticipation race whose complexity cannot be processed by whoever convenes a reflexive arrangement. The case of European airspace regulation showed: On the one hand, it took a very long time until the “learning economy” accommodated its (talk *and* action) routines to aspects of sustainable development. On the other, since this accommodation economy is able to act faster compared to, for instance, political entities. The EC is quite busy trying to align the interests of its member states, of management and staff representatives etc. *Meanwhile*, aviation industry produces *faits accomplis* – green aviation technologies as well as green aviation talk.



The history from RS to RG showed that the effort to incorporate theoretical considerations into proposals for procedures characterizes both approaches. While many criticisms deal with further procedural refinements, Voß and Bornemann (2011) elaborate on at least one aspect unrelated to designs for governance arrangements: This “would aim to stimulate public controversies that are driven by attempts of various interested parties to promote their particular views. Social learning [...] would not require enlightened participants to transcend their political interests, but it would be a result of strategic mutual adaptation within a field of discursive forces. Actors may, perhaps slowly and often secretly, pick up certain elements of each other’s perspectives if it helps them to defend a position and maintain public credibility (just as industry and conservative parties have come to adopt elements of environmentalists’ perspectives). [...] A specific challenge along this route is to devise arrangements that support a broad range of social perspectives, as well as those of marginalized groups, to be publicly articulated and to engage in a pluralistic political debate” (p. 9).

The contribution at hand supports this plea for a wider contextualization beyond procedures. A shared aspect of many critics is the aim to work towards more *democratic* governance strategies. While no-one could afford to deny the value of “nurturing and maintaining a vital democracy” (p. 9), it is interesting, though, that this remains an answer to the question: “Who should have a say?” The last noteworthy aspect from the case of European airspace regulation rather points to a “What”-question. Economic actors within this context were said to successfully accelerate the pace of a European integration in the air. This was, *inter alia*, done by producing *faits accomplis*. One effect of this strategy is that *functional equivalents* to air traffic were pushed out of sight. Aviation industry *also* succeeded in presenting air traffic as a system without alternatives. Launching a policy initiative like SES means that air traffic is the essential solution for the societal problem of mobility; it is then only about improving an existing system (Note 8).

In the light of the contribution at hand it is suggested to think of how to communicate timely about functional equivalents (“What”) as a useful complement to the discourse on finding communicative solutions for sustainable development. This is unlikely to happen within organized procedures which tend to be rarely linked to public controversies (Bogner, 2012). To the author’s opinion, it seems more promising to elaborate on how functional equivalents could become part of public controversies. (Note 9) The crucial aspect in terms of democracy is to gain access to the public sphere, understood as “the shared communicative space within a community where politics as politics of public credibility is conducted” (Ku, 2000, p. 231). But this should not hide that the best access to the public sphere is worthless, if *what* is communicated does not have the capacity to trigger a reflection on existing routines.

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## Notes

Note 1. For a critical discussion on this understanding see Mathur (2005).

Note 2. For a comprehensive version see Mölders (2012).

Note 3. For this paragraph see <http://www.cleansky.eu/content/page/history>; <http://www.asd-europe.org/index.php?id=84>; <http://www.finanznachrichten.de/nachrichten-2013-03/26366583-forschungsinitiative-clean-sky-die-luftfahrtindustrie-auf-dem-weg-in-eine-noch-sauberere-zukunft-bild-007.htm>. In 2014 Clean Sky 2 started: <http://www.cleansky.eu/content/page/towards-clean-sky-2>.

Note 4. See <http://www.eubusiness.com/news-eu/aviation-airline.15t>; [http://europa.eu/rapid/press-release\\_IP-12-1301\\_en.htm](http://europa.eu/rapid/press-release_IP-12-1301_en.htm).

Note 5. An overview of the FABs is frequently updated: <http://www.eurocontrol.int/sites/default/files/content/illustrations/information-management/2011-fab-map.jpg>.

Note 6. For these statements see [http://www.etf-atm.org/attachments/157\\_20110823%20ETF%20Letter%20Graham%20Lake%20Blog.pdf](http://www.etf-atm.org/attachments/157_20110823%20ETF%20Letter%20Graham%20Lake%20Blog.pdf).

Note 7. For this opening address see <http://www.eurocontrol.int/sites/default/files/article/files/role-of-social-dialogue-in-ses-asdelivered.pdf>.

Note 8. This could also be regarded as a reaction to problems in finding alternatives to burning kerosene as well: <http://www.independent.co.uk/news/science/future-of-flight-fuel-for-thought-2284963.html>.

Note 9. For tentative considerations see Mölders (2013).

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