

# **Conditions for deliberate destabilisation of established industries: Lessons from US tobacco-control policy and the closure of Dutch coal mines**

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## **Abstract**

This paper contributes to recent developments in the literature concerning the need to destabilise existing industries. Challenging established industries through policy can be politically difficult. The purpose of the paper is to draw lessons from examples of policy driven destabilisation of established industries, and from that better understand under which conditions deliberate destabilisation might be possible. The paper presents an analytical framework based on structural, network, and discourse approaches to policy change. Two historical cases are then analysed: the introduction of tobacco-control policies in the US and the decision to close down coal mines in the Netherlands. In its concluding sections, the paper discusses the role of policy network change, national and institutional characteristics, policy countermeasures, and employment as factors that can influence conditions for deliberate destabilisation.

## **1 Introduction**

How transitions can be accelerated has become an important topic in the sustainability transitions literature (Sovacool 2016). An emerging direction in transition studies emphasises how an accelerated transition will require the destabilisation and ultimately outmoding of existing systems (Köhler, Geels, Kern et al. 2017). This direction is particularly evident within the context of energy system transformation, with a number of recent studies on how industries such as nuclear, oil, and coal can be weakened (Karlton and Sandén 2012, Turnheim and Geels 2013, Campbell and Coenen 2017, Rogge and Johnstone 2017).

An important insight from studies of new energy technologies is that their growth relies on various forms of public policy intervention (Rogge, Kern and Howlett 2017). This is no less true for the destabilisation of established industries. Even though fossil fuel industries, and in particular coal, has come under increased pressure from challenging market conditions, the destabilisation of these industries is unlikely to occur without some form of policy intervention (Kivimaa and Kern 2016, Johnstone and Newell 2017). This is partly due to mechanisms of path-dependency and technology lock-in and partly due to the political influence these industries control, which help to maintain favourable market and institutional conditions (Meadowcroft 2016). Because these industries enjoy privileged access to decision makers; subsidy programs that are difficult to remove; infrastructure for transport, heating, and power adapted to centralised and fossil based fuels, a ‘level playing field’ will in practice favour the established players in that field. Economists such as Mazzucato and Perez (2015) have therefore argued that the state needs to come in and ‘tilt the playing field’ in favour of new renewable energy technologies. Such tilting can however be politically difficult.

Examples from countries like Japan, Taiwan, and Korea show how the state has played an active role in changing the industrial structure through purposeful intervention (Evans 1995). The question, however, is whether the state can play similar role in industry deformation. An important question is therefore how the playing field can be tilted, despite opposition from powerful industries. This is a central point in this paper, on which I will elaborate below. First, however, I present a brief review of studies relevant for a discussion on destabilisation and energy transitions.

## **2 Destabilisation and energy transitions**

The multilevel perspective understands transitions to take place through dynamics at the ‘regime’ and ‘niche’ levels. The regime level consists of the dominant institutions, technologies, cultural and political values, and organisations, which collectively secure stability along a technological trajectory (Geels 2004). The niche level is the locus of most of the new ideas, technologies, and organisations, associated with a socio-technical system such as the energy system. Traditionally, regime change has been thought to occur through the combined pressure from exogenous developments, referred to as the

landscape level, and from successful niche empowerment, leading to different transition pathways (Geels and Schot 2007). However, studies of energy transitions has in recent years increasingly recognised that promotion of new renewables is not sufficient for regime destabilisation (Geels 2014, Leipprand and Flachsland 2018). Attention has therefore increasingly shifted towards deliberate destabilisation of established industries at the regime level.

One direction of research related to destabilisation has focused on industry response to pressure at the regime level (Karlton and Sandén 2012, Berggren, Magnusson and Sushandoyo 2015, Mäkitie, Andersen, Hanson et al. 2018). Karlton & Sanden, for instance, show how regime destabilisation can be initiated by actors in established industries that introduce new technologies that disrupt the regime. This research provide nuance to the understanding of regime-niche dynamics. However, the evidence so far suggests that regime destabilisation is unlikely to occur without deliberate policy intervention that aim to phase-out (or at least weaken) established industries such as fossil fuel industries. Recent attention to policy mixes for sustainability transitions has therefore stressed how an energy transformation requires a mix of policies that collectively aim to stimulate growth in new industries whilst at the same time destabilise established fossil industries (Kivimaa and Kern 2016).

While it is possible to introduce policies that stimulate growth in new industries, to successfully introduce policies that significantly challenge the interests of established, powerful industries is more difficult. A deliberate decision to phase out or weaken these industries will rely on governments and state institutions to exert authority through phase out policies or market interventions. Yet, there is often a mutual dependence between the state and fossil fuel industries, which is why destabilisation requires a much closer look at the role of the state (Johnstone and Newell 2017).

Empirical studies examining industry decline and destabilisation has shown that destabilisation policies can be easier to introduce following exogenous shocks or crises. The nuclear accidents in Pennsylvania (1979), Chernobyl (1986), and Fukushima (2011) provided an opportunity for the decision to phase out nuclear in Germany (Grossman 2015). In the case of coal in the UK, sustained economic pressure opened up for the government to target the coal industry with destabilisation policies (Turnheim and Geels 2012). Yet, as Grossman and Turnheim & Geels point out, crises do not necessarily lead to radical policy change. Rather, crises can open up windows for policy change. It is therefore meaningful to understand why crises sometimes lead to significant policy shifts, and sometimes not. Based on a comparison of responses in Germany and the UK to the Fukushima accident, Johnstone and Stirling (2015) point to the importance of factors such as the ‘quality of democracy’. Their main argument is that established industries enjoy the benefit of asymmetrical distribution of power and privileged access to decision makers. Qualities of democracy then refer to the many ways in which the wider political environment afford ‘access by the least powerful, to capacities for challenging power’ (Stirling 2014, cited in Johnstone and Stirling 2015). Whereas

Johnstone & Stirling highlight how certain institutional characteristics might open up for destabilization policies, Turnheim and Geels (2012) as well as Kungl and Geels (2018) show how the effect of crises can be greater if these are preceded by social and political pressure that undermine the industry's legitimacy. This illustrates how different perspectives will emphasise different explanations for policy change

As Johnstone and Newell point out, the main obstacles for phasing out fossil fuel industries is the dense relationships between public and private sectors that aim to preserve fossil fuel based industry structures. Campbell and Coenen (2017) therefore argue that attempts to introduce phase-out policies depend on the political-economic context within which such initiatives are attempted. They emphasise how studies of conditions for phase-out policies should focus on how coalitions of interest groups work together, and how these alliances might shift in response to different policy choices. This attention to coalitions has led some scholars to point to the potential importance of trade unions in destabilisation processes (Johnstone and Hielscher 2017). Phase-out of established industries can meet resistance from labour organisations due to the potential job loss. The potential for job creation in a region, which can also be enhanced through policy, can therefore be an important condition for deliberate phase-out of established industries (Campbell and Coenen 2017, Kungl and Geels 2018).

Sustainability transitions involve conflicts of interests, power struggles, and politics (Geels 2011, Lockwood, Kuzemko, Mitchell et al. 2016). This is particularly true for transition processes that involve the potential for industry or technology phase-out. Actors can use discursive strategies to influence such processes. In their study of the *Energiewende*, Leipprand and Flachsland (2018) show that the debate around coal phase-out in Germany has been one centred around arguments related to climate change versus arguments about costs of phase-out. To understand how these debates shape the conditions for destabilisation, studies of phase-out processes hence need to attend to which actors resist or promote phase-out, the strategies they adopt, and the extent to which actors change position.

We can assert that destabilisation can be possible due to a combination of institutional factors, exogenous shocks, various forms of pressure (social, economic, political), and shifts in alliances. An important question is whether all of these conditions are necessary, or whether destabilisation might also be possible without some of these conditions present. Moreover, it remains unresolved what it might take to induce some of these conditions. Finally, it is important to keep in mind that destabilisation is more likely to occur when industries have first been eroded, and then subjected to a crisis (Kungl and Geels 2018). Yet, an accelerated transition will likely require phase-out of fully profitable industries (Smil 2010), perhaps with little help from exogenous shocks.

In the remainder of this paper, I will draw on examples from US tobacco control policy and the phase out of the Dutch mining industry, and analyse under which conditions deliberate phase-out might be

possible. I will then draw lessons from this analysis on how policies that challenge the fossil fuel industries and energy intensive industries might be introduced. The next section, however, will introduce the analytical framework.

### **3 Analytical framework**

The analytical framework can be broken into two parts. First, the framework will provide tools to assess the extent to which policy initiatives have challenged the interests of established industries. I use the following indicators for assessing the importance of the established industries: absolute number of people employed directly and indirectly in industry; share of regional or national employment; contributions to public revenue; and the extent to which other industries have depended on continued activity in the focal industry.

Second, the framework will provide guidance for the assessment of the conditions that opened up for policy change. The review in section 2 shows that the potential for destabilisation can be influenced by institutional characteristics, the interests and power of actors and coalitions – and how coalitions might change, and changing discourses and how certain issues are framed. In addition, examples of destabilisation in the energy sector underscores the potential impact of exogenous shocks. The importance of these factors (and the extent to which all matter) in the analysis of destabilisation processes will be influenced by the analytical lenses. It is therefore necessary to draw on different perspectives for the analysis. Because I am predominantly interested in explaining policy change specifically, rather than industry change more generally, I draw particularly on theories that help explain policy change.

#### *3.1 Interests and networks*

The interests represented by established industries are important because economic groups and actors rely on policies and institutional structures and therefore have interests in the development and maintenance of these (Thelen and Mahoney 2010). Opportunities to influence policy and institutions tend to be distributed asymmetrically between groups meaning that some actors have greater power than others to influence the policy process (Pierson 2000). Access to decision makers will more often be provided to established firms due to their economic and political importance to state and political actors (Geels 2014). However, groups may also enjoy privileged access through their presence in tight networks (Daugbjerg and Marsh 1998).

Approaches that study policy networks or coalitions, typically emphasise how policy is shaped through the mediation of different ideas and interests in networks of actors with mutual goals (Marsh and Smith 2000, Adam and Kriesi 2007, Sabatier and Weible 2007). With the adoption of a policy network approach, policy is seen to be shaped through bargaining, often involving both state and non-state actors. Actors in established industries tend to have central positions in such networks. These

actors are able to use these positions to maintain favourable policies and institutions and resist major policy change that challenge their interests.

In a comparison between the development of offshore wind and carbon capture and storage in Norway, Normann (2017) explains policy outcomes in part by pointing to how policy network structures facilitated different levels of access to the policy making process. The study emphasises especially how the interplay between state, political, and corporate actors shapes conditions for policy.

Established industries are more likely to influence policy when state and business interests are aligned. Thus, an assessment of the conditions under which policies have been introduced should assess the degree of such alignment in different circumstances (depending on policy area and space). Firms in established industries are also more likely to successfully defend their interests when these are aligned with the interests of trade unions.

The interests of state actors tend to be aligned with industries important to the national economy (Smith 1993) and the feasibility of certain policies can depend on their potential to create or threaten employment (Newell 2015). Assessing state interests is difficult because the state is not a unified actor, but a complex of many actors with different (and often conflicting) interests (Jessop 2008). In this sense, there is no such thing as a general interest of the state. Rather, what is manifested in the state through practice is the mediation of multiple interests and ideas, and this manifestation privileges certain actors.

Moreover, due to the importance of some industries to state revenues and the frequency of state investments in such industries, it is difficult to set the boundary of the state. Finally, the state and political leadership can easily be conflated. The stability of key industries is important for political stability, and due to a fear of the political consequences of destabilising policies, it can be hard to disentangle political interests, state interests, and corporate interests in a particular issue. Thus, what is important is not so much the structure of the state but the nature of state-society relations (Evans 1995).

Policy network approaches tend to be better at explaining stability than change (Richardson 2004). However, if we accept that policy networks influence policy, changes in networks or coalitions can lead to a change in the balance of power, and provide opportunities for policy change (Normann 2017). Significant changes in policy networks that include the established fossil fuel industries might be an important condition for successful introduction of destabilisation policies. Relevant factors that lead to network change include changes in political leadership, disagreement within networks that ultimately lead to fragmentation, or actors changing their position on issues.

### 3.2 *The institutional and political context*

There are certain institutional characteristics as well as regional or national properties that shape the struggles over policy, and thus policy outcomes (Lockwood 2016). For example, in South Africa, an industrial complex based around mineral and coal resources has enabled privileged access for industry stakeholders to decision makers due to the importance of this complex to the national economy (Baker, Newell and Phillips 2014). By adopting a political economy approach to energy transitions in South Africa, Baker et al. (2014) show how state-industry relations and mutual interests enabled stakeholders in the minerals-energy complex to influence political negotiations in their favour.

Hansen and Coenen (2015) emphasise how different types of natural resource endowments provide different conditions for supporting certain technologies or industries. Policy support for onshore wind in Denmark illustrates how natural resource endowments represent one of many structural conditions for policy. The OPEC oil embargo in 1973 forced oil importing countries such as Denmark to search for alternative energy sources. Unlike their neighbours, Denmark had no access to offshore petroleum resources or vast biomass resources. This lack of conventional domestic energy resources created the space for onshore wind (Ćetković, Buzogány and Schreurs 2017).

Lockwood et al. (2016) point out that a high number of veto opportunities for established industries to oppose new policies will weaken the conditions for radical policy change. Yet, one might also argue that more veto opportunities could provide opportunities to introduce policies at different levels. Moreover, established and powerful industries tend to have considerable political influence in centralised systems where the size of firms cannot be ignored by policy makers (ibid.)

In addition to these institutional and geographic characteristics, the political context can play an important role in shaping conditions for policy. State interests and capacity depends on the structural relations between the state and the political system that includes politicians, political parties, and unions (Jessop 2008). This implies that state power (and what states do) not only depends on the type of state (as might be suggested in varieties of capitalism literature), but also on how the state is connected to the broader social context. The opportunity for politicians in power to shape the policy process can differ substantially between different issue-areas (Boasson 2015). Changes in political leadership and changes in coalitions can open up or close opportunities for policy change (Kingdon 1984). Important questions to address in the analysis are therefore: what was the composition of government and did changes in government open up for policy change.

Because the structure or political economy of a country or a region can represent a barrier for policy change, we might also expect that structural changes can provide conditions for destabilizing policies. There is, however, one additional point to be made from the examples of onshore wind in Denmark and energy policy in South Africa. One of the ways in which structure influence policy is by shaping

struggles between competing discourses (Jessop 2008). In the case of South Africa, the transition to a lower-carbon economy was seen by some groups as an opportunity for ‘green jobs’, whilst others presented the same transition as a threat to the economy. Baker et al. (2014) describe how there was, rhetorically at least, a rising commitment to the former view indicating a change in the balance between competing discourses. I turn to how actors can shape discourses in the next section.

### *3.3 Ideas and discourses*

The perspectives discussed above emphasise how networks and relations, as well as institutional characteristics will influence the feasibility of destabilisation policies. Additionally, as I pointed to in section 2, major policy change can be explained by referring to exogenous shocks or crises. However, the impact of crises matters most if the opportunities that open up as a result are translated into action. This translation is influenced by ideas. Moreover, structuring networks and institutions are the result of social decisions, and even though they often change slowly, they change nonetheless (Baumgartner and Jones 1993). Structures can be changed through serendipity, but also from actors’ purposeful attempts to influence the structural conditions. Here, the role of ideas can play an important role in shaping the dominant discourses and the efforts to influence structures.

Issues will be framed differently depending on actors’ perception and ideas, and consequently attract preferences for different policies. How actors frame issues, problems and opportunities shapes the way in which these issues are accompanied by policy, and whether they are attached to articulated problems (Kern and Rogge 2017). Struggles over policy outcomes is thus not only a result of material interests, but the outcome of contesting narratives or stories.

The institutional and interest based perspectives point to potential influence of political parties as part policy networks and as part of a broader political context. Political parties are considered important because they control the government, and therefore have more influence on policy than other types of organisations. Burstein and Linton (2002), however, argue that public opinion is more important than political parties because parties tend to follow public opinion.

In his analysis of the design and implementation of the Carbon Trust in the UK, Kern (2012) shows how discursive politics shaped this important policy initiative. Kern’s argument is that the particular understanding of a problem, such as climate change or energy security, influenced policy-makers’ perception of the problem and how they tried to address it. In the UK, the dominant policy principle has been one of cost-efficiency and technology neutrality. Kern then trace how a coalition of actors promoted an alternative understanding focusing more on developing low carbon technology – thus challenging the principle of cost-efficiency.

If we are to understand conditions for policy change we must acknowledge the independent causal and constitutive role of ideas. It is the articulation of ideas that render interests actionable (Hay 2004). The



analysis should therefore attempt to capture how ideas concerning the focal policy issues have been articulated over time.

Table 1 summarises the different factors that might shape the conditions for destabilisation policies, and the indicators that will inform an assessment of each factor. Additionally, the table summarises the indicators used for assessing the importance of focal industries.

**Table 1**  
Relevant indicators for analyses of conditions for destabilisation policies

Factor	Indicators
Assessment of industry importance	Contribution to national and/or regional economy. Absolute number employed directly or indirectly. Percentage of workforce. Other industries' dependence on focal industry.
Interests and networks	Alignment between trade unions, state, and business interests. Shifting alliances. Relations between political parties and established industries.
Institutional and political context	State centralization and number of veto opportunities. Nature of state-society relations. Composition of government and changes in government.
Ideas	Articulation of ideas related to issues concerning the established industries.
Exogenous events	Exogenous shocks, crises, and events.

### 3.4 Case selection and methods

For this study, I have adopted a multiple historical case study analysis of two separate examples of deliberate destabilisation of established industries: the US tobacco industry and coal mining in the Netherlands. In both cases, the destabilised industries have been important to influential political and state actors (in a broader sense as described above), which is why policy outcomes that could destabilise these industries are of interest. These are extreme cases where the purpose is to get a better understanding of the deeper causes behind a particular outcome (Flyvbjerg 2001). A common feature with policy processes more generally is that they are often unique and context specific (Hill 2013), and the study of policy processes are often based on individual case studies. By analysing two cases, I aim to strengthen the analytical insights through the identification of commonalities (Yin 2009) without losing sight of the specifics of each case. At the same time, the cases can complement each other by highlighting different factors in different contexts (Robson 2011). The two cases have previously been studied by a number of historians and political scientists, and I draw extensively on these studies as data for my analysis. I reference these studies as appropriate in the following sections. Data from the review of previous studies was categorised according to the framework outlined in **Error! Reference source not found.** and is presented in the following two sections.

## 4 Tobacco-control policies in the US

Tobacco was in the US in the early parts of the 20<sup>th</sup> century considered, like wheat and corn, an important crop that generated export earnings, supported millions of farmers, which whole communities and even some state economies depended on (Baumgartner and Jones 1993). Tobacco production and processing has been particularly important in six major tobacco-growing states (Kentucky, North Carolina, South Carolina, Tennessee, Georgia, and Virginia). Even though the value of tobacco to the economy has fallen, tobacco companies are still major taxpayers and lobbyists (Cairney, Studlar, Mamudu et al. 2012). As late as in 1997, Kentucky's tobacco production and processing sectors accounted for 6% of total gross value of goods and services and 6% of Kentucky's total employment (Snell and Goetz 1997). Tobacco accounted in 1997 for around half of Kentucky's crop receipts and a quarter of Kentucky's total agricultural cash receipts, yet tobacco uses only 1% of the farmland in Kentucky. Other traditional Kentucky crops, such as corn, soybeans, and wheat, yield significantly lower returns per acre and thus do not offer a viable alternative to most small Kentucky farms. Moreover, many of the most tobacco-dependent counties are located in regions with limited off-farm employment opportunities (Snell and Goetz 1997). Thus, policies that would destabilise the tobacco industry were seen to threaten state level revenues and employment in the most tobacco-dependent counties. For this reason, attempts to introduce tobacco-control policies has been met with heavy resistance from a pro-tobacco network consisting of producers, growers, retailers, advertisers, and the hospitality industry (Givel 2006, Cairney et al. 2012).

Despite the tobacco industry's significant influence over tobacco policy, different kinds of pressure and changing conditions opened up for destabilisation represented perhaps most significantly by the Master Settlement Agreement (MSA) in 1998 and the Tobacco Buyout in 2004. The MSA instructed the industry to provide financial compensation to US states for the costs of healthcare for smokers. The settlement also put limitations on the industry's marketing and political activity. The Tobacco Buyout was part of the Fair and Equitable Tobacco Reform Act, which ended the federal price support program for tobacco (Fallin and Glantz 2015). The buyout required tobacco manufacturers to pay more than \$3 billion to tobacco quota holders, which enabled smaller farmers to stop growing tobacco (ibid).

What, then, led to pressure and subsequent changes in US tobacco-control policies? Most studies of tobacco policy in the US highlight how the tobacco discourse changed during the second half of the 20<sup>th</sup> century. Until the early 50s, tobacco policy was almost exclusively treated as an economic issue. In the early 50s, new medical evidence linked smoking to cancer (Saloojee and Dagli 2000). However, it was particularly after the publication of the Surgeon General's report on smoking and cancer in 1964 that the tobacco industry came under stress (Worsham 2006, Studlar 2008). The 60s and 70s has been characterised as a tug-of-war (Derry and Waikar 2007) where health groups and the tobacco lobby

employed different tactics to discredit the opposition. The tobacco industry's main strategies was to discredit health science, for instance through the establishment of the Tobacco Industry Research Council (Saloojee and Dagli 2000, Derry and Waikar 2007), and to try to shift public attention from health to a portrayal of tobacco as important for jobs and tax revenue (Saloojee and Dagli 2000). An important strategy of the anti-tobacco group was to promote distrust of the tobacco industry (Studlar 2008), which gradually influenced consumers and regulators (Derry and Waikar 2007).

According to Studlar (2008), economic concerns continued to trump public health until the early 80s. However, in the 80s and 90s, economics became increasingly challenged by health concerns. Evidence from US legislation shows that whereas legislation through the mid-60s focused on the economic dimension of tobacco, economics represented a smaller part of the legislative picture during the 80s and 90 (Worsham 2006). Worsham argues that the two major reasons for this shift was new scientific evidence, most significantly the Surgeon General report in 1964, and that tobacco moved into new venues in the Senate and House where other arguments than economic were dominant.

Even though the main conflict was between arguments about health and costs (Worsham 2006, Cairney et al. 2012), a weakness with too much focus on the anti-tobacco and pro-tobacco groups, and the way in which these groups competed over how tobacco was framed in public and in US legislation, is that it overlooks the fact that both groups consisted of organisations and sub-groups. The representation thus far does therefore not fully recognise the potential impact of changing alliances (Derry and Waikar 2007).

Until at least the 1980s, tobacco policy was heavily influenced by a pro-tobacco policy network. An important reason for the influence of this network was that it included both producers and growers. These two groups had united behind a mutual goal of promoting the industry in the 50s through to the 70s, and were thus collectively important for both employment and state revenues. The presence of large tobacco producers in the tobacco states restricted introduction of tobacco-control policies at the state level. Moreover, the tobacco states had considerable influence in Congress from the 1930s to 1980s when there was a democratic dominance in Congress (Cairney et al. 2012).

Three noteworthy developments influenced the structure of the pro-tobacco policy network, which led to a shift in the balance of power between the pro-tobacco and anti-tobacco groups. First, the break-up of Democratic dominance in the 80s and 90s weakened the influence of the tobacco states through the Democratic party South (Cairney et al. 2012). Second, the relations between the tobacco producers and growers became strained in the 90s because the tobacco producers were increasingly using less expensive foreign tobacco, whilst also circumventing price agreements with local growers (Fallin and Glantz 2015). This reduced the tobacco growers's loyalty to the pro-tobacco network. Health advocacy groups and organizations leveraged the growing distance between tobacco manufacturers

and tobacco growers to create a new alliance between public health and tobacco growers (Washington, Barnes and Glantz 2011). Finally, the pro-tobacco policy network was fractured following a split between the cigarette companies and the hospitality organisations after it became evident that smoke-free policies did not harm the restaurant business (Fallin and Glantz 2015).

Thus, attention to the political context and political networks suggests that the changing discourse around tobacco policy co-evolved with changing alliances. Until the 1950s, the dominant frame was that tobacco production and consumption benefitted large groups of society due to revenues and employment. Anti-tobacco advocates tried to reframe the issue with the development of an argument that emphasised the economic costs of consumption due to public health costs (Studlar 2008). When the relationship between growers and producers fell apart, the argument about jobs in the tobacco industry lost legitimacy and the public health issue became stronger. This further opened up for ideas concerning scientific evidence linking smoking to ill-health to become more accepted within the policy system (Cairney et al. 2012).

Attention to institutional characteristics reveal two additional factors that seem to have enabled policy change. First, the US political system is fragmented, with multiple potential venues for policy making. For example, states and local governments can enact policies on taxes and smoke-free environments. This provides multiple venues for change (Cairney et al. 2012). A second important feature is that there is a strong judiciary in the US. Both of these characteristics were important for the implementation of the Master Settlement Agreement (MSA) in 1998. The MSA represents a pivotal moment in US tobacco policy. The settlement instructed the industry to provide financial compensation to US states for the costs of healthcare for smokers. The settlement also put limitations on the industry's marketing and political activity. The policy initiative had first been pursued at the national level but was refused by the US Senate in 1998. A substitute legal arrangement was then enacted between 46 states and the industry. The process was a judicial one rather than an executive-legislative process, and no groups of states could veto the process (Cairney et al. 2012).

## **5 Closing down Dutch coal mines**

In the first half of the 20<sup>th</sup> century, coal was the dominant source of energy in the Netherlands. The Netherlands had vast coal resources in the region of South Limburg, close to the coal districts in Germany and Belgium. At its peak in 1958, the Dutch coal industry was directly responsible for 56 000 full-time equivalents. In 1965, approximately 53 000 people still worked in the mining industry and an estimated 30 000 people were indirectly dependent on the coal industry (Kasper 2012). The industry was particularly important for employment and to the economy at a regional level, where 35 per cent of the active work force in South Limburg was directly or indirectly employed in the coal industry (Kasper 2012).

Towards the end of the 1950s, the coal industry came under pressure from overcapacity in the European coal industry and competition from imported oil (Smil 2010). Dutch mines had run out of coal that was easy and cheap to access. Due to increased supply in Europe, increased extraction costs could not be met by raising pricing (Kasper 2012). After 1958, the South Limburg mines were therefore considered unprofitable (Smil 2010).

Pressure on profitability in coal also had consequences for the national mining company Staatsmijnen (later named Dutch State Mines). Staatsmijnen had in the 1950s started large-scale activities in chemicals and related activities. Coal was the most important basis for its chemical division, but the company wanted to switch to cheaper oil and gas. In 1962, Staatsmijnen reported a loss for the first time due to the unprofitable mining division of the company (Moharir 1979). As a result, the company put pressure on the government to close down the first mines (Zanden 1998).

Between 1962 and 1965, the government did not do much in response to the problems in the coal industry. In 1963, a government appointed expert committee concluded that the problems in the coal industry were mainly short-term and recommended that the government increased industry support (Moharir 1979). These ideas were shared by the Minister of Economic Affairs from the Christian Democratic Party and in 1964 he gave financial relief to the industry, despite calls from parts of the state and private mines, trade unions, and members of local parliament for government to close mines and introduce reindustrialisation policies. However, following elections in 1965 a new cabinet was formed that included the Socialist Party for the first time since 1956. The leader of the Socialist Party, Den Uyl, went on to become Minister of Economic Affairs, which included responsibility for energy policy. The new minister faced a difficult problem (Moharir 1979). On the one hand, there were reasons for closing down mines. On the other hand, government had to ensure supply of energy and maintain employment.

In December 1965, Den Uyl announced through the First Mining Memorandum that the government would reduce coal output by closing a number of mines. Closing down the first mines went faster than projected, and in 1969 the new minister of Economic Affairs suggested in the Second Mining Memorandum that all remaining mines should be closed by 1975 (Moharir 1979). In a country with a tradition for non-interventionist policies and preference for the free market, this decision to steer the phase-out of an industry can be considered as a far-reaching public intervention (Zanden 1999). With this intervention, the government would remove 75 000 jobs and the economic basis for more than 200 000 people (Smil 2010). Despite the lack of profitability in the industry, this policy decision put employment in a large region under pressure and also threatened the revenues of several large firms. Yet, in 1976 the last Dutch coal mine was closed.

What, then, were the conditions under which it was possible to destabilise, through deliberate policy intervention, and ultimately close down an industry of such regional importance?

In contrast to the case of tobacco-control policies, exogenous factors played an important role. Economic pressure on coal reduced the legitimacy of continued support of the coal industry. Moreover, the large Groningen gas field was discovered in 1959. The gas deliveries from Groningen from 1963 provided both an alternative source of energy, whilst also promises of a new industry that could provide large state revenues (Holsgens 2016). However, Gales and Holsgens (2017) argue that attending only to economic pressure and exogenous events is an oversimplification because closure was a political decision, not a business decision.

First, certain institutional characteristics opened up for policy change. The problems in the coal industry presented a potential conflict between the interests of state finances, energy security and regional employment. That the Ministry of Economic Affairs was responsible for energy policy, industrialization, and regional development helped coordinate the policy of mines closure and reindustrialization (Moharir 1979). Moreover, in the Dutch area there was no steel industry next to the coal mining industry. By contrast, in the Ruhrgebiet in Germany, jobs disappeared in both the steel industry and the coal mining industries. These industries were interrelated, and Dutch policy-makers were not constrained by this interdependence (Kasper 2012). Further, the Netherlands was at the time a centralised state where national laws took precedence over regional decisions. Local municipalities also relied significantly on national state finances (Moharir 1979). This gave the state sufficient capacity to act upon broader state interests.

At the same time, parliament had limited power as policy was often shaped in policy networks where government, employers' and employees' interests were represented (Moharir 1979). This collaboration was institutionalised through the Mining Industry Council. Potential conflicts between employers and the unions were often reconciled in this council, and a coordinated view developed on what had to be done with the coal industry (Moharir 1979). This was important because it ensured trade union support. Kasper (2012) and Moharir (1979) both emphasise the role of the unions as an important condition for the decision to close down the mines. The most important union, the Catholic Mine Workers Trade Union, had expressed concerns since 1958 and had in 1964 suggested the possibility of closing down some mines. Once the decision was made in 1965, the unions supported this decision (Moharir 1979).

The change in cabinet in 1965 was another important change in the conditions for policy. Despite several calls for change between 1958 and 1964, government did not do much in this period. The socialist party had struggled with poor election results and had developed a strategy to target the Limburg region where it polled well below country average in the early 1960s (Moharir 1979). This

strategy focused on the development of policies for reindustrialisation, and following the elections in 1965, they had the opportunity to carry out those policies.

Finally, the government promised that mines would be closed only when the miners had reasonable opportunities for new jobs and when other arrangements for work could be made (Kasper 2012). Such promises was aided by a number of policy countermeasures including: subsidies for new industries setting up activities in the region; financial incentives for retraining and employing ex-miners; establishment of offices of public services in the region; and investments in infrastructure to attract business and stimulate tourism (Moharir 1979, Smil 2010, Kasper 2012). Moreover, and importantly, the government had in 1963 decided to give Staatsmijnen a share in the exploit of the gas reserves (Davids and Zanden 2000). In sum, these countermeasures decreased opposition towards the decision to close down coal mines and ensured that the Staatsmijnen and the unions remained cooperative. This is in stark contrast to the approach adopted in the UK where the tensions between the Thatcher government and unions resulted in the Great Miners' Strike (1984-1985) and social unrest (Turnheim and Geels 2012).

## 6 Discussion

The cases I present here are exceptions rather than normal cases. It is generally rare that established industries are deliberately destabilised through policy. We should also keep in mind that these are unique cases, which means that they are not only different from one another, but that there are limits to what we can say more broadly about conditions for destabilisation policies. Trade unions have very different political positions in the US and in many European countries, and the role of technology as well as exogenous change is clearly quite different in the two cases. The institutional context in terms of state centrality differ. Yet in the two cases, both state centrality and fragmentation help to explain the policy outcomes. The case of mining in the Netherlands, where policy was decided and implemented at the national level by the Ministry of Economic Affairs, is an example of destabilisation policies introduced in a centralised system. The case of tobacco-control policies provides an example of policy change in a system with less centralised control. State fragmentation provided opportunities to adopt a strategy of suggesting policies at different venues such as committees and courts at different government levels, referred to as venue shopping (Baumgartner and Jones 1993), which improved conditions for destabilisation policies. It is therefore not clear what we should take away from these examples with regards to state structure and degree of centralisation. There are, however, also some similarities to which I will devote the remainder of this discussion. These similarities related to the role of *networks*, *employment*, and *policy countermeasures*.

A considerable body of the literature on policy making in the US and in Europe focus on the constraining role of various forms of policy networks and how these are mobilised to oppose attempts to introduce policies that threaten established and powerful industries. The tobacco-control case shows

how a coalition of groups with different interests were organised behind a mutual goal of maintaining government support for continued industry growth. This organisation also included a common narrative that emphasised revenues and employment. In both cases the successful introduction of destabilisation policies were preceded by changes in these networks, which led to redistribution of power. The two cases provide some examples of what might lead to policy network change.

First, reduced competitiveness as in the case of coal in the Netherlands can reduce the legitimacy for continued public support of an otherwise important industry. We might interpret this as the result of new technologies or niches that put pressure on the established industries as the niches become more mature and cost-efficient (Rip and Kemp 1998). We might also relate this to ideas about the need for solutions or alternatives to be sufficiently developed in order to provide realistic alternatives (Geels and Schot 2007, Normann 2015). Thus, even when our focus is on destabilising established fossil fuel industries, we must not forget the importance of continued and long-term efforts to develop and scale-up alternative solutions such as renewable energy, battery technologies, and distributed energy systems.

Second, changes in the political leadership and in governments helped shift the policy network dynamics. Although it is difficult to assess the actual impact, it is noteworthy that in both cases, major policy decisions were made after changes in the political leadership, which created a more favourable political environment for those decisions. In the case of tobacco-control, this was important because the tobacco industry had particular strong links to the Democratic party South. Thus, changes in governments or political leadership within parties are not only important due to different ideologies or policy preferences within different parties, but also due to certain industry-political relations of mutual dependence that when broken up create new opportunities.

The coal phase-out in the Netherlands confirms how important unions can be in circumstances where employment is threatened by destabilisation policies. This central role of the unions in cases of established industries threatened by policy can be observed in other areas as well. The chemicals part of the German Trade Union has been an important ally to the German chemicals industry in their efforts to resist regulations. It is, however, interesting to note that the German Trade Union got divided on the regulation issue when the metalworkers' union (Germany's largest union) took a more positive stance towards regulations (Grant, Paterson and Whitston 1988). Similar shifts have been observed within the Norwegian Confederation of Trade Unions on the issue of offshore petroleum exploration (Mortensen 2017). This is an important point when we consider possibilities for phase-out policies. Reduced opposition from unions towards destabilisation policies might lead to changes in power balance within policy networks and influence the position adopted by some political parties.



More broadly, both cases illustrate that employment is something that we need bring to the foreground when we try to understand conditions for deliberate destabilisation of established industries. When the support from the tobacco workers (farmers) vanished, the legitimacy of the tobacco industry for regional importance became considerably weakened. In the Netherlands, union support was crucial. Policy studies more generally provide ample evidence of the potential role of trade unions in the policy process (e.g. Chapman 1999, Kasa 2000), although we also know that this varies across countries and across different issues (Cavanagh 1998). Nonetheless, it is noticeable that employment and the role of unions in particular have not received a great deal of attention in studies of sustainability transitions. I suspect that one reason for this omission is that until recently, there has not been a great deal of attention to industry destabilisation in transition studies. As this has become a more salient area of research, I suspect that the role of unions and employment will feature more prominently in future studies.

Finally, an important reason for why it is difficult to introduce destabilisation policies is that such policies can cause political problems. Both cases, show how the introduction of comprehensive counter-measures can reduce the impact of such political problems. Policies that counter the negative impact of destabilising established industries was important in order to gain support from affected groups. This helped shift the power balance in favour of policies that challenged the established industries. In the example of tobacco-control policies in the US, this included programs to provide job opportunities to farmers and those working in the tobacco-growing part of the industry. Geels, Sovacool, Schwanen et al. (2017) therefore argue that an effort to phase out industries must include a variety of counter-measures.

**Table 2**  
Summary of conditions for destabilisation policies

Condition	Tobacco-control policies in the US	Closing down Dutch coal mines
Assessment of industry importance	Important for state revenues and regional employment in agriculture.	Important for regional employment and national energy security. Not as important for energy-intensive industries as in neighbouring countries.
Interests and networks	Network changed significantly.	Stable network structure provided unions with access to decision makers. Changes in government altered structure somewhat.
Institutional and political context	Fragmented state with strong judiciary.	Centralised. Ministry of Economic Affairs responsible for energy policy, industrialisation, and regional development. Parliament with limited power.
Articulation of ideas	Contestation between ideas. Balance shifted in favour of public health arguments.	Expert reports influenced policy, but changes in government opened up for new ideas.
Exogenous events	Less important.	Discovery of natural gas resources very important.

## 7 Conclusion

With this paper, I set out to understand under which conditions it might be possible to introduce policies that challenge established and powerful industries. These are industries that typically have the means to fight back such policy initiatives, and there are to my knowledge few examples of successful attempts to destabilise these industries. Yet, I have identified two cases: the tobacco-control policies in the US and the policy driven phase-out of coal mining in the Netherlands. I have presented an analytical framework for the analysis of these examples, based on three types of approaches to the study of policy outcome: structural approaches, network approaches, and approaches that follow ideas and discourses. Based on the analysis, I have identified some factors that I chose to label conditions that can facilitate the introduction of deliberate destabilisation of established industries.

The first condition is network change. Reduced competitiveness in established industries as a result of exogenous change or the development of more efficient technologies; changes in political leadership or governments; and changes within the trade unions might all contribute to network change, which in turn can enable the introduction of destabilisation policies. Studies of conditions for policy should pay particular attention to the type of relations different political parties have with the established industries of interest.

Second, the introduction of counter-measures might indirectly also lead to network change. However, counter-measures is also a necessary condition in its own right for destabilisation policies. Two questions then are whether there are sufficient funds available for such measures, and whether the measures are sufficiently effective in the short term to ensure continued legitimacy for destabilisation policies for as long as they are necessary.

Third, and finally, national characteristics are important factors that determine to what extent we might observe ‘favourable’ conditions for policy change. Although this paper does have some things to say about national contexts, I believe that large-N comparative studies are necessary for better insights on conditions at the structural level. This might require new empirical work as well as the development of new methods.

However, for all the benefits of historical case studies, we should also be attentive to the fact that in a historical context the need to accelerate sociotechnical change is a new issue. The motivations for deliberately and policy-driven destabilisation were until the now pressing issue of global climate change completely different to today’s picture. Conditions for destabilisation might therefore be totally different to those found in examples from tobacco-control policies and closure of coal mines in the 1960s. However, I maintain the argument that destabilisation can and should be stimulated by state intervention. Of many possible ways to go about this, efforts to alter policy network structures and comprehensive policy countermeasures seems particularly important. In this regard, researchers as

well as policy makers should attend to the role of maintaining employment and securing support from trade unions in order to accelerate sustainability transitions.

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