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Prof. Kim Talus
 UEF
[View profile](#)



Topi Turunen
 UEF
[View profile](#)

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The Policy Challenge of Waste-to-Energy: Lessons from France by D. McCauley

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The Policy Challenge of Waste-To-Energy: Lessons from France

Darren McCauley¹

Abstract

National policy-making is increasingly re-orienting towards the common goal of achieving effective renewable energy solutions. This paper focuses on the policy challenges of technological advances in energy recovery from waste designed to facilitate the generation of 'clean' renewable energy on a national scale. At the heart of this challenge, waste management policy communities in France have discouraged advances in this technology as it could potentially discourage waste prevention strategies. Conversely, energy policy networks are increasingly fostering its development as an important contributor to national renewable targets. France has emerged as a world leader in the promotion of this 'new' energy solution. The sustainability of the French approach to waste-to-energy is however threatened by its failure to successfully incorporate and engage with societal input. Concerns over waste prevention strategies continue to place a break on the technology's future. An assessment of policy structures reveals a crippling division between anti-incineration attitudes expressed in waste management and support displayed in energy policy making.

1 Introduction

The drive for a low carbon society is a key imperative for policy processes and structures in Europe. Policy-makers and stakeholders must face up to a highly industrialized European economic structure that relies on a carbon-intensive energy system. In this way, human activities that have increased the concentration of greenhouse gases in the atmosphere must be transformed.² This paper concentrates on the role of energy from waste in offering alternative renewable sources of energy in national policy-making. Biofuels and waste represents 10.1% of the world's total primary energy supply³. All other renewable sources amount to only 3.7%. *And yet*, biofuels and waste only contribute 1.8% of global electricity production, in contrast to hydro at 16.4%. The gap is, of course, societies' current inability to convert biofuel and waste more efficiently. This gap is closing with new technological advances. I trace below the development of energy recovery practices from a waste disposal solution to a proposed renewable source of energy. France, as a leader in the technology, provides a stimulating context to explore the challenges faced when implementing new energy based solutions.

It is argued below that climate change should be seen in the context of sustainable development and its associated policy imperatives.⁴ In the current EU strategy for sustainable development, climate change is mentioned as one of the main threats to a sustainable future. Energy use is explicitly linked to this threat by proposing an increase in clean energy as a priority objective.⁵ In particular, sustainable development provides an opportunity to explore

¹ Senior Lecturer in Energy Policy, University of St. Andrews.

² Benjamin K. Sovacool et al., "Energy Decisions Reframed as Justice and Ethical Concerns," *Nature Energy* 1, no. 5 (2016): 16-24

³ IEA, "Renewables Information: Statistics and Data," (Paris2016).

⁴ Simon Niemeyer, Judith Petts, and Kersty Hobson, "Rapid Climate Change and Society: Assessing Responses and Thresholds," *Risk Analysis* 25, no. 6 (2005): 1443-56

⁵ European Commission, "Mainstreaming Sustainable Development into Eu Policies," (Brussels: Commission of the European Communities, 2009).

the ‘social’ dimensions of climate change mitigation⁶. Often associated with the sustainability agenda, governance theory allows researchers to examine how decisions are taken with recourse to not only government, but also business, trade unions, employer federations and more generally civil society⁷. This paper explores, therefore, the response of French policy makers to the low carbon agenda as a ‘policy’ challenge in national energy policy.

The evidence presented below is derived from thirty-five research interviews with government, businesses and civil society throughout France. The interview data is used in this paper to form a chronological understanding of policy development. France is selected as a single country case study for two key factors. The traditional exclusion of civil society from policy-making offers, firstly, an intriguing context for exploring how policy makers are approaching the ‘policy challenge’ of climate change. A long-term commitment to waste-to-energy has, secondly, resulted in a more expansive infrastructure in France than any other Western country. It is argued below that the French experience on waste-to-energy provides insight into the consequences of ‘sustainable policy’ for France, as well as more generally, the implementation of waste-to-energy solutions.

2 Achieving Sustainable Governance in Energy Solutions

The term ‘governance’, as opposed to government, has become both increasingly prevalent and highly contested among social scientists. It opens the much narrower term of government to include a myriad of complex relationships between institutions and non-state actors. New forms of bottom-up and horizontal multi-actor understandings of governance have equally assimilated the traditional top-down structures of government. It refers, above all, to both a variety of institutional arrangements and structures as well as processes and outcomes.⁸ In terms of institutions, governance covers a series of research areas: networks, the inclusion of wider parts of society, multi-level government involvement, new public management and hierarchies. As a process, this term reinforces the need to examine policy making in individual sectors. In order to understand governance, it is imperative that changing levels of power and influence among conflicting actors are taken into account.⁹ This paper concentrates on the particular governance issue of including civil society and its consequent interaction with state actors.

Sustainable development is an equally fashionable and multi-definitional term in numerous academic disciplines¹⁰. Above all, it is argued here that this concept effectively represents a policy challenge within the context of energy policy-making. The Johannesburg declaration on Sustainable Development pronounced that “sustainable development requires a long-term perspective and broad-based participation in policy formulation, decision-making and implementation at all levels”¹¹. More recently, the UN sustainable development goals

⁶ Darren McCauley, "Sustainable Development and the ‘Governance Challenge’: The French Experience with Natura 2000," *European Environment* 18, no. 3 (2008): 152-67

⁷ Andrew Jordan, "The Governance of Sustainable Development: Taking Stock and Looking Forwards," *Environment and Planning C: Government and Policy* 26, no. 1 (2008): 17-33

⁸ "The Problem-Solving Capacity of the Modern State: Governance Challenges and Administrative Capacities," *West European Politics* 39, no. 4 (2016): 908-09

⁹ F Biermann, "Response to John S. Dryzek's Review of Earth System Governance: World Politics in the Anthropocene," *Perspectives on Politics* 14, no. 1 (2016): 178-78

¹⁰ Annemarie van Zeijl-Rozema et al., "Governance for Sustainable Development: A Framework," *Sustainable Development* 16, no. 6 (2008): 410-21

¹¹ United Nations, "Johannesburg Declaration on Sustainable Development," (UN, 2002).

reinforced the need to “encourage and promote effective public, public-private and civil society partnerships”¹² – goal 17.17. In following, this term has been developed and agreed at the international and supranational levels with the expressed objective of ‘domestication’. In this way, Sustainable Development is conceptualised as an “outside-in” normative long-term pressure on national (and sub-national) systems¹³. With reference to the issues in this paper, the policy challenge involves nation states incorporating the key principle of the ‘inclusion of civil society’.

There has been a distinct lack of research into the consequences of pursuing a low carbon energy agenda for sustainable governance practices.¹⁴ The move towards a low carbon future involves significant challenges for governance at every level.¹⁵ Social researchers on climate change mitigation have shifted their focus from a relatively exclusive group of atmospheric scientists towards multi-level and multi-actor governance processes.¹⁶ The much acclaimed Stern report in the UK reinforced this conclusion through declaring that “(c)limate change is the greatest market failure the world has ever seen”¹⁷. Policy-makers are, therefore, urged to rapidly design energy solutions. I explore below how sustainable governance is approached by policy actors in France in producing energy from waste.

3 The Delevopment of Waste-To-Energy Policy in France

I focus in this paper on household and municipal waste *incineration* – i.e. the use of hot gases from the burning of waste to boil water in order to create steam, which is then fed into a turbine for electricity and/or heating generation. I do not refer in the paper to non-incineration treatments for energy recovery. As a social scientist, incineration as a term is employed beyond its literal natural science conversion treatment definition. Incineration is a controversial nomenclature¹⁸, often alluding to technological inaccuracies. Its use is important in this paper. It was explicitly raised throughout my research interviews. This pointed to the original position of energy recovery from waste as an exclusively waste management solution, rather than its more contemporary reincarnation as a renewable source. This point of contention is explored later in the paper.

France is placed as a European specialist in developing waste-to-energy technology. A strategic decision to elaborate a nation-wide localised programme of plant construction provides French policy-makers with a highly developed and unique experience with this technology.¹⁹ There are more waste incineration plants in France than any other EU member state (140 in 2001 and 131 in 2016). Her closest rival Germany has just over half the amount

¹² “Transforming Our World: The 2030 Agenda for Sustainable Development,” (UN General Assembly 2015).

¹³ William Lafferty and Eivind Hovden, “Environmental Policy Integration: Towards an Analytical Framework,” *Environmental Politics* 12, no. 3 (2003): 1-22

¹⁴ I. Scrase and A. Smith, “The (Non-)Politics of Managing Low Carbon Socio-Technical Transitions,” *ibid.* 18, no. 5 (2009): 707-26

¹⁵ J. C. Hourcade and R. Crassous, “Low-Carbon Societies: A Challenging Transition for an Attractive Future,” *Climate Policy* 8, no. 6 (2008): 607-12

¹⁶ Niemeyer, Petts, and Hobson, “Rapid Climate Change and Society: Assessing Responses and Thresholds,” 1443-56

¹⁷ Frank Neher, “Stern, Nicholas: Why Are We Waiting?: The Logic, Urgency and Promise of Tackling Climate Change,” *Journal of Economics* 118, no. 2 (2016): 189-91

¹⁸ Richard Bull, Judith Petts, and James Evans, “The Importance of Context for Effective Public Engagement: Learning from the Governance of Waste,” *Journal of Environmental Planning and Management* 53, no. 8 (2010): 991-1009

¹⁹ A Beylot et al., “A Consumption Approach to Wastes from Economic Activities,” *Waste Management* 49 (2016): 505-15

of plants (66 in 2015). The combined total of plants in France and Germany is larger than that of the remaining 13 countries in focus. Since 2001, there has been relatively little change in the number of plants throughout Europe. There have been modest reductions in Belgium, Denmark and France, while incineration plants have maintained or increased their presence in the remaining countries.

The comparatively high number of waste incinerators in France provides an intriguing context for exploring policy systems and their inevitable reform. ISWA and Eurostat reports highlight that France treated significantly less waste in 2015 via incineration than Germany - 11.4 million tonnes in comparison to 16.5 million tonnes - in spite of its superior count in incineration plants. France has a peculiar mix of many small and large scale incinerators (in contrast to the uniquely large scale incinerators in Germany). Indeed, the geographical spread of the current 131 plants in France reveals concentration in both urban and rural centres. Waste incineration plants are currently present in the nation's 22 regions. The scale of this policy challenges structures and processes at both national and sub-national level.

The drive for greater efficiency, up-to-date technological processes and the reduction of emissions has dominated incineration policy in France²⁰. Three separate phases are apparent in the recent development of French policy on waste-to-energy: large scale investment coupled with a program of decentralization (1992-1998); scaling back of the incineration program (1998-2003); the application of new technology to reduce harmful emissions and exploit energy generation (2003+). As a result, there have been several key national and sub-national actors in the governance of municipal and household waste. At a national level, the Environment Ministry has developed national plans for coordinating waste collection, and more recently prevention.²¹ Despite several changes in nomenclature, the department for 'Town and Country Planning' has taken the lead on setting the agenda for waste management.

However, waste policy in France is dominated by sub-national government. In terms of implementation, ADEME (Agence de l'Environnement et de la Maitrise de l'Energie) directs waste management through three national administrations, 26 regional authorities and one permanent representative in Brussels. Created in 1990, ADEME coordinates management strategies with major local representatives including the préfet and the Conseil Général. Outside state authorities, private companies Sita France and Suez Environnement have been heavily involved in providing financial and infrastructural support (particularly with waste-to-energy). Moreover, it is argued below that new governance actors (especially the department for Energy and Climate and the Ministry for Finance) have more recently become involved in waste management due to the potential for energy output from waste incineration plants.²²

Until 1992, waste incineration contributed primarily to heating in France (since 1973). In this sector, it has become the second most productive renewable. The mass expansion of incineration in 1992 witnessed a doubling (since 1973) of energy output from 12212 to 21915 TJ. Despite a drastic reduction in plant numbers, new technological advances doubled again

²⁰ Joseph Szarka, "From Inadvertent to Reluctant Pioneer? Climate Strategies and Policy Style in France," *Climate Policy* (2006): 627

²¹ A. Sergent, "Sector-Based Political Analysis of Energy Transition: Green Shift in the Forest Policy Regime in France," *Energy Policy* 73 (2014): 491-500

²² S. Viallet-Thevenin, "The State and the Energy Sector in France: Who Are the Managers and What Are Their Relationships?," *Revue Francaise de Sociologie* 56, no. 3 (2015): 469-99

the energy output of waste incineration between 1998 (29734 TJ) and 2014 (39923 TJ). Out of 13 million tons (85% of which comes from households), over 95% are converted to both heating and electricity. Technological renovation has indeed placed waste-to-energy as a major renewable source of energy.²³

The production of renewable electricity is dominated by hydropower (75640 GWh). A trebling of wind power output between 2006 and 2016 still only represents a tenth of that produced by hydropower. Waste-to-energy is the third largest producer at 7418 GWh of renewable electricity in France (in 2015). The position of waste-to-energy as a major component in the renewable energy mix is further reinforced by its additional heating output. Municipal waste holds third position just in front of heat pumps. Statistics on waste incineration renewable energy production does not include electricity or heating output from non-renewable materials. When this is taken in to consideration, total energy output in 2015 from waste-to-energy almost equals wind energy as the second most important renewable in France.

3.1 Social Opposition to Waste-to-Energy in France

However, the development of waste-to-energy infrastructure as outlined above has occurred within the context of wide-spread local based anti-incineration campaigns.²⁴ Protesters succeeded in the South of France to prevent the establishment of a plant in the small Mediterranean town of Vias near Montpellier in 2005 and again in 2014. In the North East, a local association 'Vigilance Projet Incinérateur Gueugnon' (through their charismatic leader Alain Rault) was at the heart of local efforts to reject an incinerator at Gueugnon in 2003 and in 2015 in the same region. In the West, four proposed incinerators (St. Capraise, Izon, Grosbreuil and Angers) were officially abandoned since 1998 as a result of local campaigns from a range of both institutional and non-institutional actors.

Societal opposition has, indeed, been structured according to the traditions of individual nation-states²⁵. With regards to specifically civil society relations, France is essentially classified as a strong and exclusive state. A strong state makes important political decisions without much recourse to various interests. As exclusive, movements are excluded from traditionally corporatist forms of national policy making. The French State should not be referred to as one coherent uniform actor. Nevertheless, we must acknowledge the long-term exclusion of such actors from decision-making in contrast to other Western states²⁶. Therefore, the 'state' does not exclude, but rather the 'cultural modes of action' that guide its various representatives. In this way, the case study addresses how deep-rooted cultural modes of exclusion are adapting to the challenges of sustainable governance.

The 'policy challenge' of implementing sustainable energy solutions moves therefore beyond the establishment of UN-sponsored multi-stakeholder partnership initiatives. Moreover, it is more than simply the creation of broad national sustainable development strategies. It involves serious questions about structures and processes within the implementation of policy specific issues. Countries faced with comparable pressures often adopt dissimilar responses

²³ IEA, "France: In-Depth Country Review," (Paris2015).

²⁴ Darren McCauley, "Wasting Energy? Campaigns against Waste-to-Energy Sites in France," *Environmental Politics* 18, no. 6 (2009): 917-38

²⁵ JS Dryzek, "Democratic Agents of Justice," *Journal of Political Philosophy* 23, no. 4 (2015): 361-84

²⁶ H Kriesi, "The Strain of Representation: How Parties Represent Diverse Voters in Western and Eastern Europe," *West European Politics* 36, no. 4 (2013): 883-85

consistent with their own political and institutional traditions²⁷. Within this context, a normative drive to include civil society preferences represents a growing pressure on French energy policy and policy-making.

4 From Waste Management to an Energy Imperative

An opportunity for government and opposing non-government interests to discuss policy on waste-to-energy appeared during a series of high profile national roundtable meetings (known as the ‘Grenelle²⁸ Process for a Sustainable Future’) in 2007 (with similar informal meetings taking place in 2008 and 2009 on unresolved or new complementary issues) provided. The Grenelle process originated from the aftermath of the 2007 Presidential Elections. The newly created position of High Representative for Sustainability (Jean Louis Borloo) presided over the meetings in late 2007. They brought together for the first time state and civil society representatives in an attempt to mobilise French society into constructing a sustainable future. The meetings offered significant (and largely unfulfilled) potential for civil society or public involvement on the incineration²⁹ issue.

The Grenelle was itself an *ad hoc* sophisticated governance structure that initially spanned four months (known as Grenelle 1) before evolving on a more informal basis into ‘Grenelle II’ lasting until 2010. Six working groups were established on ‘energy’, ‘biodiversity’, ‘environment and public health’, ‘sustainable production and consumption’, ‘ecological democracy’ and ‘sustainable jobs’. The composition of each working group included representatives from the state, sub-national government, civil society, employers’ confederations and trade unions. Their initial conclusions were then released for discussion in Internet forums, the media, political parties and six formal inter-regional meetings across France. Informally, the working groups have continued to work on implementing more detailed agreements in the form of further working groups (Grenelle 2). The conclusions were then drafted into national legislation in the form of ‘Grenelle I’ (57 articles deposited in the Lower House, the National Assembly) and ‘Grenelle II’ (248 articles deposited in the Upper House, the Senate).

The national crisis ‘grenelle’ meetings examined the incineration issue in comprehensive detail. Discussions in ‘Grenelle I’ on incineration were significantly divided between waste management and energy actors. The incineration issue was initially discussed in two (out of six in total) working groups. The ‘environment and public health’ group, firstly, concentrated uniquely on waste management concerns. It included a vocal NGO lobby (15/49 members) that called for a “moratorium on new incinerator plants”³⁰. Government and business representatives similarly agreed on the maintenance (but not expansion) in the national waste incineration infrastructure. The second ‘energy’ group focused on the production of electricity and heating via waste incineration. The energy group concluded, rather, that “waste presents significant potential for energy production...a key contributor to biomass and

²⁷ Paul C. Stern, Benjamin K. Sovacool, and Thomas Dietz, "Towards a Science of Climate and Energy Choices," *Nature Climate Change* 6, no. 6 (2016): 547-55

²⁸ It is known in France as the ‘Grenelle de l’Environnement’. The term ‘grenelle’ is best known for its usage in 1968 for meetings between trade unions and employer confederations. Two days later, General de Gaulle absolved parliament leading to the election of the Right-Wing UDR. As a result, ‘grenelle’ is associated with ‘crisis talks’.

²⁹ This paper is only concerned with the waste-to-energy / incineration issue. There is not enough space to undertake a broader analysis of the Grenelle.

³⁰ David Maraninchi, "Synthese Rapport: Instaurer un Environnement Respectueux De La Sante," (Paris2008).

renewable energy targets”³¹. It recommended a modest increase in ‘waste-to-energy’ plants alongside a commitment to a technological upgrade of existing infrastructure.

Regional consultation underlined an overall objective for “more inclusive decentralised governance structures” to combat social opposition³². Public consultation on waste management revealed impassioned but equally divided opinions on the role of incineration. They ranged from “better exploiting electricity production” to “imposing a moratorium on incineration”³³. This dispute continued into ‘Grenelle II’. The national approach to ‘governing’ incineration was actually concluded in a third working group on ‘governance’ in 2009. A workshop dedicated to waste management, within the broad ‘governance’ working group, met six times in 2008 and twice in 2009. It mainly involved members from the initial ‘environment and public health’ and ‘energy’ groups³⁴. A strong NGO lobby (17/51) that opposed incineration expansion remained present in the new workshop.

The group concluded that “public - private partnerships should continue to be the primary vehicle for the implementation of waste management objectives at a local level...with increased consultation with local communities”³⁵. Negotiation between the NGO lobby and public-private interests resulted in three binding commitments. A proposal (initially raised in the ‘environment and public health’ working group) to increase taxes on incineration practices was rejected in this workshop. In contrast, a 12% reduction by 2015 in ‘needless’ (i.e. waste that could be recycled or prevented) incineration practices was agreed upon. A third conclusion amounted to a quota (43%) in the total amount of waste that may be incinerated regionally. Civil society involvement at a formal (grenelle I) and informal level (grenelle II) ensured a level of cautious input into the expansion of incineration as an energy solution.

All three conclusions are reflected with further amendment in the legislative outcomes of Grenelle 1 and Grenelle 2. Article 46 of Grenelle 1 stipulates that the “quantity of waste to be incinerated will be reduced by 15% (rather than 12%) by 2012”. A tax on incineration was indeed omitted from final legislation. Article 46 suggests, however, that a proposed general carbon tax may have a potentially “reductive effect” upon incineration practices, or at least “lead to a more carbon efficient application of the technology”. Article 78 states that a maximum of 60% of all local (at commune level) waste may be incinerated in order to “avoid discouraging the reduction of waste at source”. Nevertheless, the NGO lobby was unable to hinder an overall government commitment to waste-to-energy. Article 46 was amended by Grenelle 2 to include that “priority should be given to the modernization and energy exploitation of incineration plants”.

A key result of the ‘grenelle II’ discussions and legislation was the allocation of a one billion Euro ‘heat’ budget to ADEME for the period 2008-2011. Indeed, Article 30 under the ‘Renewable Energy Chapter’ underlines that priority should be accorded to maximizing heating from “all forms of biomass including geothermal and waste incineration”. This decision contrasted with a more modest amount (356 million Euros) dedicated to waste

³¹ Jouzel, Jacques, and Nicholas Stern, "Synthese Rapport: Lutter contre Les Changements Climatiques Et Maitriser L'energie," (Paris2008).

³² MEDD, "Dechets: Carte Des Incineratoeurs En Fonctionnement," (Paris2008).

³³ MEDD, "Synthese Du Forum Internet: Intergroupe Dechets," (Paris2009).

³⁴ Jouzel, Jacques, and Stern, "Synthese Rapport: Lutter contre Les Changements Climatiques Et Maitriser L'energie."

³⁵ Nichola Notat, "Synthese Rapport: Construire Un Democratie Ecologique: Group 5," (Paris2008).

management and prevention. The 'heat' budget is specifically designed to allow businesses to develop 'renewable heat' through the exploitation of biomass and more general waste incineration. This funding was allocated by the new High Ministry as part of a 50 point Renewables action plan in 2010. The national crisis meetings offered a new role for civil society in decision-making on incineration. However, policy implementation appears to remain the purview of local government and business.

5 Policy Implications

The inclusion of non-state actors in policy-making processes and structures is a key objective for the sustainable development agenda.³⁶ However, the structural inclusion of civil society in policy-making is ultimately futile in the absence of real engagement.³⁷ The focus here is upon national level experience, namely that of France, in confronting this 'policy challenge' within the context of waste incineration. This challenge focused on structurally including civil society in an effective sustainable way in and between policy sectors (waste management and energy in this case).³⁸ Indeed, France presented an invigorating national context for exploring to what extent governments, business and civil society are embracing the sustainable governance agenda. Longstanding traditions of civil society exclusion in policy-making are clearly at odds with the pluralistic inclusive logic of sustainable development. Does this logic, however, extend to national energy policies?

There has been little research into the applicability of sustainable governance imperatives to the climate change agenda and energy policies.³⁹ The intimate link between sustainable development and climate change is often assumed, especially in relation to encouraging renewable clean energy solutions.⁴⁰ However, it is argued in this paper on the French approach towards generating energy from waste incineration that the development of effective long-term durable pluralistic structures and processes is at best periodically ignored, and at worst, avoided. More specifically, the Grenelle process underlined a stark contrast between waste management and energy governance. It effectively questions whether energy policy is less (or not at all) exposed to a key rule of sustainable governance: meaningful structured engagement with civil society.

³⁶ Lafferty and Hovden, "Environmental Policy Integration: Towards an Analytical Framework," 1-22

³⁷ Michael X. Delli Carpini, Fay Lomax Cook, and Lawrence R. Jacobs, "Public Deliberation, Discursive Participation and Citizen Engagement: A Review of the Empirical Literature," *Annual Review of Political Science* 7, no. 1 (2004): 315-44

³⁸ P Garrido-Miralles, A Zorio-Grima, and MA Garcia-Benau, "Sustainable Development, Stakeholder Engagement and Analyst Forecasts' Accuracy: Positive Evidence from the Spanish Setting," *Sustainable Development* 24, no. 2 (2016): 77-88

³⁹ Scrase and Smith, "The (Non-)Politics of Managing Low Carbon Socio-Technical Transitions," 707-26

⁴⁰ Hourcade and Crassous, "Low-Carbon Societies: A Challenging Transition for an Attractive Future," 607-12; *ibid.*

5.1 Changing the Rules of the Game

Policy on waste-to-energy in France is the result of decisions made by policy actors in the waste management *and* energy sectors (as explored in detail above).⁴¹ The former (and environmental policy more generally) involves a culture that has traditionally encouraged a pluralistic stance to both policy processes and structures⁴². The decentralization of waste management practices throughout Europe has provided opportunities for local stakeholders to demand various forms of community engagement. In this way, the ‘policy challenge’ posed by sustainable development is potentially less arduous. In contrast, the latter has relied upon government and selected powerful interest groups in a largely meso-corporatist format. Indeed, policy-making on energy matters has remained the purview of national government, often wrapped up in foreign and security affairs⁴³.

It is argued, however, that government and business have not succeeded in engaging on the issue of waste incineration in *both* environmental (waste management) and energy governance structures *until* the Grenelle process. In stark contrast to the UK context⁴⁴, business proved unable to develop an effective formal process used to incorporate public opinion in decision-making. The energy company sponsored voluntary incentive schemes failed to attract the participation of civil society organizations. In terms of waste management, local waste contracts set up local steering committees with a set of agreed objectives to be attained in coordination with local stakeholders and governmental representatives. The government’s approach to environmental policy (in this case waste management) resulted in the development of an inclusive nation-wide scheme of local steering committees. In contrast, the waste-to-energy issue was not considered to be within the remit of the local waste contracts. Policy on waste-to-energy largely remained the purview of government and private companies.

A series of national working groups underlined that government recognized, at least in principle, that sustainable governance as inclusive structures and engagement processes should be applied to the waste incineration issue. The meetings succeeded in offering the first (*albeit* ad hoc) structure for sustained debate (throughout both ‘Grenelles 1 and 2’) between civil society, business and government on the incineration issue. The structural innovation of the Grenelles provided a range of venues for civil society to systematically input its preferences on the future of waste-to-energy. Engagement processes throughout Grenelle 1 revealed, however, a differential treatment of the waste incineration issue in the environment and energy working groups. The heavily civil society attended environment group restated a strong opposition to incineration. A different set of actors in the energy group concluded in favour of incineration.

The fields of environment and energy policy remained at this point divided on how to approach the incineration issue, in terms of structure, process and outcome. The substantial innovation of the Grenelle process took place in the more opaque venue of the Grenelle 2

⁴¹ Viallet-Thevenin, "The State and the Energy Sector in France: Who Are the Managers and What Are Their Relationships?," 469-99

⁴² Albert Weale, *Environmental Governance in Europe. [Electronic Book] : An Ever Closer Ecological Union?* (Oxford : Oxford University Press, 2000., 2000), Non-fiction
Electronic document

⁴³ Andrew J. Jordan et al., "Emergence of Polycentric Climate Governance and Its Future Prospects," *Nature Climate Change* 5, no. 11 (2015): 977

⁴⁴ Judith Petts, "Barriers to Participation and Deliberation in Risk Decisions: Evidence from Waste Management," *Journal of Risk Research* 7, no. 2 (2004): 115-33

working group on governance. It managed to structure a meaningful (in terms of agreeing joint outcomes) engagement with the two opposing environment and energy interests. The commitment to reducing the use of incineration marked a notable success for the original 'environment and public health' group. The 'energy' group maintained the absence of an incineration tax and ensured further budgetary investment. Grenelle 2 managed, therefore, to structure and engage with civil society in both environment and energy groups. It remains to be seen if the temporary *ad hoc* nature of the Grenelle process can inspire a more long-term inclusive (environment and energy) approach to the waste incineration issue.

The example of waste-to-energy underlines the real difficulties involved in changing both structures and processes on cross-sector issues. Governance and policy research should, indeed, refer to institutional arrangements as well as engagement processes / outcomes via in-depth policy specific empirical study. In this way, the case study on waste-to-energy in France has demonstrated that the 'rules of the game' in environmental policy can still differ from those applied in the energy arena (e.g. local waste contracts and voluntary incentive schemes). The latter appears, in this case, to be less subject to the rigours of inclusive forms of sustainable governance. Grenelle 2 offers some indication that this may be changing. Before drawing further conclusions, it must be firstly questioned whether this policy case is largely a result of the strong, exclusive and exceptional French state.

5.2 A case of French Exceptionalism?

French 'exceptionalism' is defined as the situation where policy-making in France is different from the equivalent style in any other country⁴⁵. Waste-to-energy in France has indeed developed at a uniquely rapid pace. Since the 1990s, large-scale public and private investment has been committed to incineration as a waste solution. This policy decision has positioned the French government and business as leaders in the recent nation-wide technological renovation of incineration practices. New plants that generate heat and power have allowed France to exploit waste-to-energy in order to achieve renewable electricity targets. In this way, waste incineration practices in France have led, firstly to the involvement of both waste and energy actors at a local and national level. Moreover, societal opposition has, secondly, emerged in response to the expansive nature of the policy.

This paper offers, therefore, new insight into the respective roles of the French state and civil society in implementing sustainable practices. The traditional role of the French state is classified as *Jacobin*, which stipulates that elected governments are mandated with the will of the people directly, without the mediation of other interests. In this paper, a strong and exclusive state is observable within a meso-corporatist framework, depending upon the intimate relations between government and business in the waste-to-energy sector. However, the establishment of local waste contracts suggests that the French state is receptive (on certain issues) to the input of various stakeholders in new consultative structures. Existing research has equally reinforced the emergence of more inclusive participatory structures and processes at a local level.⁴⁶

The Jacobin French state is equally showing signs of dissolution at a national level. The Grenelle process marked a sea change in how the French state regards outside interests. The

⁴⁵ Alistair Cole and Romain Pasquier, "The Breton Model between Convergence and Capacity," *Territory, Politics, Governance* 3, no. 1 (2015): 51; *ibid.*

⁴⁶ Jordan, "The Problem-Solving Capacity of the Modern State: Governance Challenges and Administrative Capacities," 908-09

relative complexity of the ‘Grenelle’ structure allowed, firstly, for the structural (albeit *ad hoc*) inclusion of various outside interests in a wide-ranging policy review on the environment and climate change mitigation. It revealed, above all, that the French state considers inclusive structures and processes as integral components of sustainable development and climate change adaptation. Secondly, the ‘Grenelle’ structure underlined the difficulty involved for governments to address cross-sector issues such as waste-to-energy. Debates in the ‘environment and public health’ and ‘energy’ working groups emphasized the over-sectoralization of policy-making and the ‘Grenelle’ governance structure.

Civil society exclusion is indeed a French cultural norm that is increasingly under threat from the policy challenge promoted by sustainable development.⁴⁷ It has provided the ideological basis for promoting the inclusion of and engagement with civil society. However, substantial opposition to waste-to-energy continues to be ignored by local and national French government representatives. At a local level, waste contracts and steering committees refuse to debate the issue of waste incineration. This refusal takes place within a context of high profile community based campaigns against waste-to-energy plants. At a national level, the incineration issue has been, in contrast, debated within the ‘Grenelle’ working groups. The budgetary commitment to waste-to-energy reveals, nevertheless, an avoidance of opposition arguments. The inclusive reformist account of waste management differs markedly with the largely exclusionary approach to waste-to-energy

⁴⁷ Joseph Szarka, "From Exception to Norm – and Back Again? France, the Nuclear Revival, and the Post-Fukushima Landscape," *Environmental Politics* 22, no. 4 (2013): 646-63