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## **Exploring the support of the European Commission for nuclear energy from a discursive institutionalism perspective**

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Pamela M. Barnes  
Jean Monnet Chair ‘ad personam’  
Research Associate,  
Centre for European Integration,  
ESSCA School of Management,  
LUNAM University,  
Angers,  
France.

Visiting Fellow,  
College of Social Science,  
University of Lincoln,  
Lincoln,  
UK

Email [pambarnes11@hotmail.co.uk](mailto:pambarnes11@hotmail.co.uk)  
Tel +44 (0)1522 543816



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## **Exploring the support of the European Commission for nuclear energy from a discursive institutionalism perspective**

### **Abstract.**

This paper explores the utility of a discursive institutionalism (DI) perspective to analyse an apparent shift in the nuclear energy discourse within the European Commission (Commission) during the Presidencies of Jose Manuel Barroso, (2004-2009), (2009-2014). Discursive institutionalism was chosen as the methodological approach because of the focus it places on the substantive content of the ideas and the interactive processes of discourse at play in institutions, explaining and accommodating continuity and change in the discursive process. Evidence is presented in this paper of the emergence from the Commission of a communicative discourse, which is arguably a 'discourse of reassurance', appearing to satisfy the interests of all the participants in the nuclear discourse. It is a discourse which focuses on nuclear energy as a safe energy resource capable of responding to the challenges of climate change and meeting the demand for electricity needed as the basis of a European low carbon economy. This discourse suggests that the Commission has moved from a supportive, but neutral stance, for those national governments using the technology, to become a pro-active campaigner and in effect advocate for its use. As such this is not a discourse which will lead to a free, open and transparent debate about the continued use of nuclear energy technology in the European Union.

## **Exploring the support of the European Commission for nuclear energy from a discursive institutionalism perspective**

### **1. Introduction**

‘The European Commission remains the guardian of the Treaty and in that role the responsibility of the Commission is to raise the prominence of nuclear energy on the policy debate’.

(Commission President Jose Manuel Barroso, 2010)

An explanation is sought in this paper for an apparent shift in the nuclear energy discourse in the European Commission (Commission) during the Presidencies of Jose Manuel Barroso (2004-2009 and 2009-2014). It is argued that the emerging discourse within the Commission suggests that the institution has moved from a supportive, but neutral stance on the use of the technology, to become a pro-active campaigner and in effect advocate for its use. A communicative discourse which is arguably a ‘discourse of reassurance’ as it satisfies the interests of all the participants in the nuclear discourse has evolved. It is a discourse which focuses on nuclear energy as a safe energy resource capable of meeting the challenges of climate change and responding to the demand for electricity to support a European low carbon economy. This is not a discourse which will lead to a free, open and transparent debate about nuclear energy use in the EU and has implications for the development of EU nuclear energy policy.

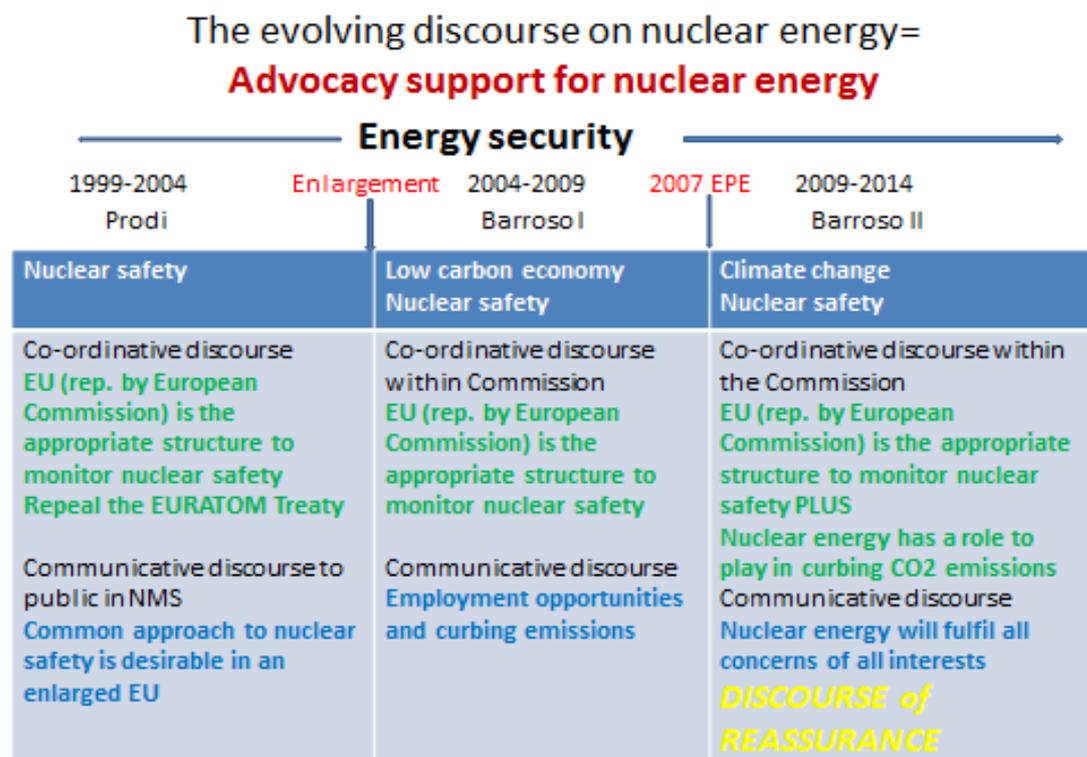
Discursive institutionalism (DI) was chosen as the methodological approach for this paper as it focuses on the substantive content of ideas and the interactive processes of discourse at play in institutions, accommodating both continuity and change in the discursive process. Unlike other neo-institutionalism approaches DI characterises the ideas of the discourse as largely the ideas which are generated discursively by individuals in the institution and subsequently communicated and debated among the members of the institution. The result of these deliberations within an institution is that a co-coordinative discourse will develop as the members create, elaborate and justify the ideas which become central to the construction of policy ideas. The co-coordinative discourse in turn forms the basis for the communicative discourse of ideas communicated to society and the other actors involved in policy formulation.

The concept of discourse linked to discursive institutionalism used in this paper derives from two sources including the work of Torfing, 1999 and Howarth et al., 2000 in which the focus is on the importance of ideas as a means of understanding political action (cited in Guy Peters, 2012:117) and the work of Laclau and Mouffe who identify a process of political contest which results in the hegemonization of particular ideas (Laclau and Mouffe, 1985, Laclau, 1994, cited in Barnes and Hoerber 2013:6). Béland (2009) concluded that ideas only become a decisive factor which will lead to policy change under specific institutional and political conditions. Hegemonization of climate change in the European energy and environmental discourses has provided those conditions for the Commission to advocate support for those member states where nuclear energy is included in the national energy policy mix.

An important aspect of acceptance of the technology by the electorates of all states – those where nuclear energy is used and those where it is not - relies on the ability of the Commission to use the competences conferred on the institution through the Treaty which established the European Atomic Energy Community (EURATOM) in 1957. Of particular importance to the public are the competences to ensure uniform safety standards to protect the workers and general public (Appendix 1 EURATOM Treaty Article 2 Competences). The Commission has played an active role in implementing measures to ensure safety of the nuclear sector from 1960 when the EURATOM Commission was established.

However it was the enlargement of the EU in 2004/7 which became a ‘break point’ in enabling the preferences of the policy actors in the Commission for strengthened supranational action on nuclear safety to be promoted. (See Figure 1 The evolving discourse on nuclear energy) Within the Commission the discourse emphasised the role for the Commission as the appropriate body to monitor and ensure nuclear safety based on a common rather than national approach. This continues to be a defining characteristic of the discourse within the Commission, ‘We assume that for many years and decades, 12, 13, 14 Member States will have nuclear power and 12, 13, 14 Member States will do without nuclear power... (But)...we will do everything to ensure that the only common denominator, namely safety, will increase European acceptance’ (Oettinger 2013)

See Figure 1 The evolving discourse on nuclear energy



The current communicative discourse of the institution (i.e. the discourse brought forward by the President and the Commissioners for deliberation and legitimation) is based on bringing together both aspects of the discourse (nuclear safety and climate change). It is a discourse which focuses on nuclear energy as a safe energy resource capable of meeting the challenges of climate change and responding to the demand

for competitive electricity resources for a low carbon European economy. As a result it is arguably a discourse of reassurance satisfying the interests of all the parties to the discourse.

The seeming support of the Commission for nuclear energy as the vehicle to satisfy the demands of different parties to the discourse does not contribute to an open and transparent debate about the continued use of nuclear energy technology in the EU. Rather the result is that the Commission as a policy actor has moved from its role as a neutral technocracy working using competences conferred in the EURATOM Treaty to become an advocate for the use of nuclear technology. This has a number of policy implications. Support from the Commission for continuing the special status of nuclear energy has the potential to undermine the development of a coherent common energy policy for the European Union. The Commission reinforces the uncompetitive nature of the nuclear industry vis-à-vis other low carbon resources by continuing to support the EURATOM regime of funding for nuclear research. Amongst proposals in a consultation paper from Directorate-General (DG) Competition in 2013 was the suggestion that the national governments should be enabled to proceed with aid to their national nuclear industry. (COM 2013a) This proposal was criticised as it preserved the existing special status of the nuclear sector and had the potential to undermine competition in the energy sector.

## **2. The choice of discursive institutionalism**

In her work Schmidt (2008, 2010a, 2010b) has identified three traditionally recognized 'neo-institutionalism' approaches – rational choice (RI), historical (HI), and sociological (SI) which focus on the substantive content of ideas in institutional change. In Schmidt's analysis discursive institutionalism was identified as a fourth 'new institutionalism' emerging and complementary to the work of scholars of the three recognized approaches. For Schmidt the importance of discursive institutionalism was that it had the greatest potential of the new institutionalisms to provide insights into the dynamics of institutional change and explain the actual preferences, strategies and normative orientations of actors involved.

It is acknowledged that for much of the period since 1957 the methodological framework of HI does provide a satisfactory methodology for analysis of the role of the Commission in the field of EU nuclear energy policy. This is because at its simplest HI is the idea that "...the policy choices made when an institution is being formed, or when a policy is initiated, will have a continuing and largely determinant influence over the policy in the future..." (Guy Peters 2012:70). Schmidt further characterises the HI approach as one which "...details the development of political institutions, described as regularized patterns and routinized practices subject to a logic of path-dependence..." which explains why these structures continue. (Schmidt 2010a:2, 5). This is undoubtedly applicable in the case of the nuclear sector because of the constraints imposed on the Commission as a result of the specific competences which were conferred through the EURATOM Treaty.

But the HI approach does not provide insight into the dynamics of institutional change as it does not explain the impact of the actual preferences, strategies and normative orientations of the actors involved in the policy process which the DI approach seeks to accommodate. In the HI methodology institutional change results from exogenous

shocks to the institution with little opportunity for the endogenous processes through which the characteristics of background ideational change and foreground discursive change may take place to occur. (Schmidt 2010:1) It is to the notion of institutional change, based on endogenous discursive processes reflecting the preferences and strategies of the actors in the policy process, that this paper turns.

A change in the discourse within the Commission on nuclear energy began to emerge during the Commission Presidency of Romano Prodi (1999-2004). Differences continued to be apparent in the Commission with regard to support for the use of nuclear technology so there was little opportunity for the actual preferences of the individuals who were party to the discourse to reframe it in terms of support for the energy resource. The discourse which was acceptable within the institution and was then communicated to other policy actors remained focused on nuclear safety but more emphasis was given to the arguments that a supranational rather than national approach to policy was needed. At the same time the profile and prominence of the Commission as a policy actor in the field of nuclear energy policy was raised when accession negotiations with a number of states of the former Soviet Union were opened in the early 2000s.

Under the terms of the EURATOM Treaty the Commission was mandated by the heads of government of the Member States as the competent authority to report on the status of the reactors based in the states which had applied for EU membership. The role of the Commission as the appropriate authority to act on behalf of the European Union in producing measures and programmes of action was recognised by the electorates of the new Member States. This included the role of the Commission as the competent authority to recommend that reactors in the acceding states be closed (a highly controversial issue in the states of the former Soviet Union which had a high dependency on the nuclear sector) and as the authority which dispensed the funds needed by states for upgrade of reactors which were of Soviet design. Although the opportunity for support for the nuclear sector within the Commission, and as a consequence the opportunity to bring forward more diverse policy proposals, remained limited the Commission had the support of the Court of Justice of the European Union (CJEU) for increasing safety measures at nuclear installations.

During the subsequent Barroso Commissions (2004-2009) and (2009-2014) the nuclear energy discourse did become more diverse as the potential of the technology to respond to a number of different interests was identified. In the field of energy policy the linkage of energy use and demand with the realisation that man-made emissions were the cause of climate change had significant impact on the discourse within the Commission. Climate change emerged as the hegemonic political discourse in the arenas of energy and environmental policies. (Barnes and Hoerber, 2013) For the participants in the endogenous discourse of the Commission linking the two and taking measures to de-couple energy use and climate change was seen as contributing to the development of the low carbon economy, promoting employment within the EU and enhancing international co-operation. The communicative discourse evidenced in the policy documents and energy proposals of the Commission demonstrated the consequent change in the level of support for the use of nuclear energy within the institution.

Two trends in the discourse were evident. Firstly a more unified discourse was apparent. Despite repeated statements in the Commission communications on energy policy from 2004 that the choice of energy resource remains within the competences of the nation states there was evidence of increasing ‘capture’ of the discourse by those in the Commission who supported the continued use of nuclear energy. This was in contrast to the disagreements in the Prodi Commission 1999-2004 which were evident between the Energy Commissioner Loyola de Palacio (who supported the use of nuclear technology) and the Environment Commissioner Margot Wallstrom (who opposed its use), although DG Environment at the time had responsibility for the units dealing with nuclear security.

The second change in the discourse was the result of the hegemonization of climate change in the energy discourse amongst the policy actors of the Commission. The growing realization of the linkage between energy resource abuse and climate change in the early/mid 2000s provided the catalyst for increased high level support from within the Commission for nuclear technology. Nuclear energy was portrayed as a low carbon energy resource which would enable the EU to curb its greenhouse gas emissions. It was portrayed as a secure and readily accessible energy resource able to provide low cost volume base load electricity throughout the EU. In effect ‘Nuclear energy is a decarbonisation option providing today (2011) most of the low carbon electricity consumed in the EU... (and whilst) ...Renewables will move to the centre of the energy mix in Europe...as a large scale low carbon option nuclear energy will remain in the EU power generation mix. ...’ (COM 2011b:10 and 13)

### **3. History informs the present.**

**(not least because the terms of the EURATOM Treaty have never been substantively changed).**

Although the DI approach has been chosen as the framework for analysis of the change in the discourse of the institution and of the implications of this change the link between historical institutionalism and DI approaches is acknowledged. Schmidt highlighted the way in which HI can add insight into DI as it describes the formal institutional contexts that shape the interactive patterns which emerge in the discourse. (Schmidt 2010a: 16) HI suggests that the policy debates initiated when the organization began will have a continuing and largely determinant influence on all future developments. Arguably this is a model which explains the substantive ideas at the basis of the discourse within the institution throughout the period prior to the late 1990s/ early 2000s. The enlargement agenda brought about a change in the discourse and with it enhanced the role of the Commission as a policy actor in the field of nuclear policy.

In the early 1950s the European states urgently needed access to reliable energy resources for the massive reconstruction required in their war torn economies. The ‘institution’ or the organized setting in which the EU’s policy makers act in the field of nuclear energy was determined by the 1957 EURATOM Treaty. The EURATOM Treaty began by ‘...Recognizing that nuclear energy represents an essential resource for the development and invigoration of industry and will permit the advancement of the cause of peace’. It would be a costly approach, as it was new technology and would need a great deal of investment. It was not investment which the individual Member States of the EAEC could afford to make on their own. But if all the States

worked together to integrate their nuclear energy policies and shared the costs, all would benefit from the ‘...prospect of achievements commensurate with the creative capacities of their countries.’ (EURATOM Preamble)

Overall the Treaty conformed to a traditional statist model of intergovernmental agreement for action in a limited sectoral policy area. It was much narrower in focus than the European Economic Community (EEC) Treaty also signed at the same time. The same organizational structure was chosen for collaborative action by the 6 signatory states (France, Germany, Italy, Belgium, the Netherlands and Luxemburg) as for the European Coal and Steel Community (1951) and the European Economic Community (1957) established by the same states with one notable exception. The EURATOM Treaty created a EURATOM Commission, a Council of Ministers and a Court of Justice but there was no equivalent to the European Parliament. The decision making process was the result of deliberations between the Commission and the Council of Ministers.

The HI methodological approach is of utility in questioning ‘...whether the elaborate institutional structure of a Community with its delicate balance for instance between the Commission with its right of initiative and the Council with its practically exclusive regulatory powers, is the ideal solution for an agency whose main task is of a scientific and semi-industrial nature’. (Mathijssen, 1965: 343 cited in Lake et al 2001:24) There was little opportunity for the preferences of the nuclear scientists of the Commission to influence the structure of the institution or the policy outcomes. ‘Indeed ‘Euratom’s role was(to be) that of a middleman, a broker... From the outset the Euratom Commission felt that it had to avoid systematic intervention or any semblance of authoritarianism’. (Donnelly, 1972: 81 cited in Lake et al. 2001:24).

Post the Merger Treaty of 1967 the EURATOM Commission was included in the structure of the Commission established for the European Communities. Units dealing with EURATOM competences have been included in different Directorates-General (DGs) but the exercise of competences and determination of policy has remained subject to EURATOM Terms. The Commission as an institution established as the supranational authority to deal with EURATOM issues had competence in a limited field. The expectation was that the officials of the Commission and the EURATOM Supply Agency (ESA) and the EURATOM Safeguards Office (ESO) would perform their role as a neutral technocracy working on behalf of the whole of the EURATOM Community as their work would be too scientific in nature for the general public to understand. Initially the scientists and physicists of the ESA and the ESO were not identified as Commission officials but this altered following the Merger Treaty. In recent Commissions the officials have been variously based in DG Environment, DG Transport and Energy, currently being in DG Energy (Directorates D and E). Directorate A is responsible for Energy Policy including nuclear energy policy proposals. (see Figure 2 Organizational chart for DG Energy, Barroso II Commission 2009-2014).<sup>1</sup>

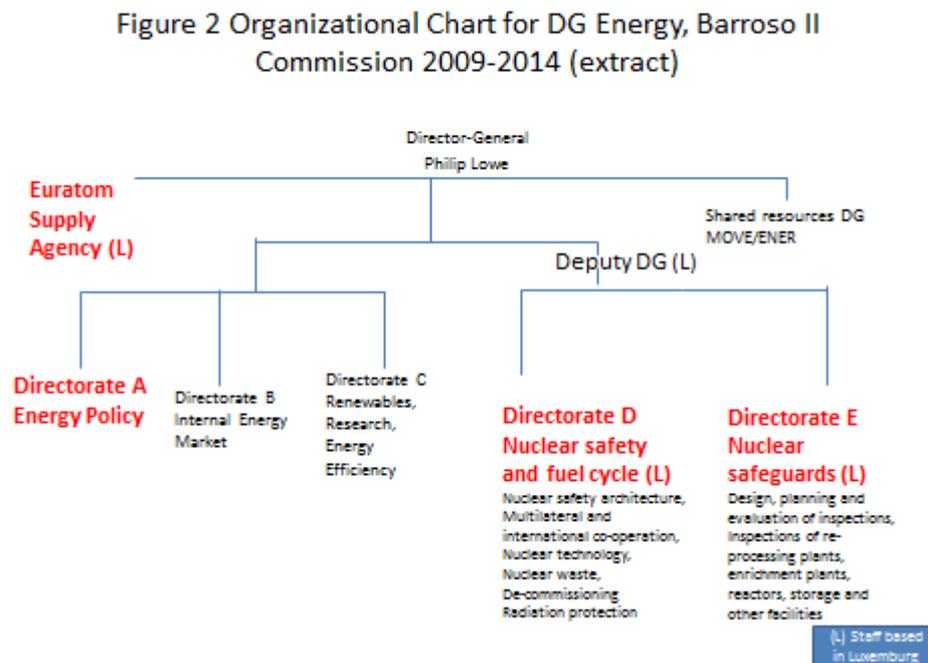
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<sup>1</sup> Barroso II Commission DG Energy

Directorate E consisted of nuclear safeguards inspectors, technical staff, administrative and management staff. (181 staff, 136 active nuclear inspectors),

Directorate D Unit D.3 employed 37 officials for nuclear material accountancy verifications, international agreements management

**Figure 2 Organizational chart for DG Energy, Barroso II Commission 2009-2014**



Source: European Commission

#### 4.1 Nuclear energy is ‘...a less than perfect energy option...’ (CEC, 2000:31-32)

A process of change became apparent in the discourse of the Commission in the late 1990s and early 2000s. Public support for nuclear technology had fallen in the previous decade following the catastrophic INES Scale 7 incident at Chernobyl in April 1986. However nuclear electricity continued to play a significant role in the energy mix of countries worldwide as shown in Figure 3 World Nuclear Electricity Production, and new nuclear plant construction had continued.<sup>2</sup> Post 1998 however there had been some ‘plateauing’ in the numbers of reactors under construction.

In 2000 the discourse within the Commission was one in which nuclear energy was considered to be a ‘...a less than perfect energy option...(one of the) undesirables... a source of energy in doubt...tainted by the original sin of dual usage – civil and military’... (COM 2000:31-32). During the late 1990s and early 2000s the focus of attention in the discourse was given to safety. In the areas where the public had concerns about the use of the nuclear technology such as safety, waste management, and nuclear non-proliferation the Commission had been proactive in initiating measures, particularly with regard to safety of the industry and health of the workers.

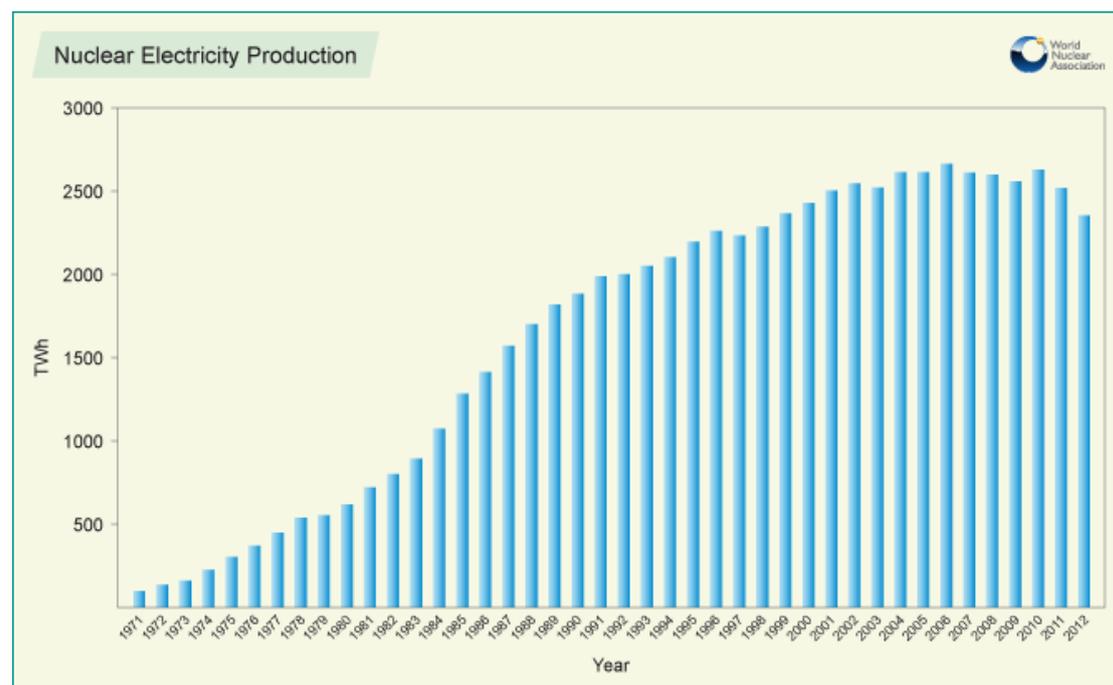
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The Euratom Supply Agency is assisted by an Advisory Committee of 56 members which is the link between producers, users and the Agency. It is a discussion forum which provides advice, opinions and information on the supply of nuclear energy and on trade relating to nuclear energy.

<sup>2</sup> This continued until the fall in production which followed the INES Scale 7 incident at the Dai-ichi nuclear power plant, Fukushima, Japan in March 2011. To April 2012 there were 435 reactors operating globally in 31 countries with a further 60 under construction, mainly in Taiwan, China, South Korea and Russia. (WNA 2013).

It was acknowledged that the EU had a comprehensive nuclear safety regime based on international standards and voluntary harmonization of national procedures and practices. EURATOM competences given to the Commission to conclude agreements with international organizations had also led to co-operation and collaboration on safety standards between the EU states and the International Atomic Energy Agency (IAEA). The Commission considered that as part of its responsibilities it had ‘...played a leading role by proposing an evolving application of the Treaty taking into account the wider needs of the EU, of its countries, of its industry and of its civil society’. (Piebalgs 2007b)

**Figure 3 World Nuclear Electricity Production (updated to April 2012)**



Source: World Nuclear Association (2013a)

#### **4.2 But it was ‘...no longer desirable to consider nuclear safety in a purely national perspective’.**

The ability of the Commission to use the competences of the Treaty to deal with nuclear safety issues became prominent as the prospect of enlargement to states of the former Soviet Union in Central and Eastern Europe became a reality. Many of the reactors in the candidate states were graphite moderated light water reactors (RBMK), similar to those which had been involved in the catastrophic accident at the Chernobyl nuclear power plant. Once the formal application and accession process began, candidate states were subject to a thorough review of their economic and political development in order to determine if they fulfilled the requirements of membership. Appropriate nuclear safety standards were among these requirements. The Council of Ministers mandated an investigation led by Commission officials (at the time based in DG Transport & Energy, TREN), to review safety standards and procedures in the reactors in candidate states, including onsite visits by Commission officials to reactors such as the Ignalina power plant in Lithuania. Some states subsequently received EU funding to initiate programmes of reactor closure. The Commission was responsible for monitoring the funding facilities made available for the reactor closures. The

reactor closures were the source of much controversy between the Commission and the candidate states. These controversies were the result of the high dependency on nuclear electricity of the EU's Central and Eastern European states with little prospect of quickly and easily finding alternatives. As these measures were carried out by the Commission officials the profile of the Commission was raised amongst the electorates of the acceding states.

There was significant concern amongst the existing Member States that following the accession of states such as Lithuania and the Czech Republic safety standards might become less stringent. For the Commission '...It (was) no longer desirable to consider nuclear safety in a purely national perspective. Only a common approach can guarantee the maintenance of a high level of nuclear safety in an enlarged EU...'. (COM 2002b:11) Commission concerns were that without a common approach based on legislation, rather than the existing voluntary harmonisation of safety standards at nuclear installations, a fragmented situation would result with standards in the new Member States being more stringent than in the old Member States. '...(W)e are in the paradoxical situation where Community action on nuclear safety in third countries (i.e. the accession States) is internationally acknowledged, while domestic action remains limited.' (COM 2002b:3).

The impact of this commitment to a common approach to nuclear safety was that a co-ordinative discourse developed amongst the policy actors of the Commission which led to the introduction by the Commission of a Nuclear Safety Strategy in 2002. The Strategy included a 'pacquet' of four proposals for legislation to make safety regulations legally binding, to provide funding for de-commissioning of reactors as they reached the end of their operational lives and to establish a framework to deal with radioactive waste. (COM 2003a and COM 2003b) Under the terms of this proposed legislative package the national regulatory authorities were to retain responsibility for safety, but the Commission would have enhanced competence to monitor the work of the national authorities.

An important aspect of the proposed legislation was the inclusion of safety at nuclear installations within the compass of EU action, an aspect not included in the original 1957 Treaty. The rationale for this omission had been concern that the national energy industries would be undermined if the supranational authorities had enhanced competences in respect of the operational conduct of the nuclear reactors. Article 2b of the Treaty did however provide competence for the Community to establish uniform safety standards to protect the health of workers and the general public and have the competence to ensure that they are applied and was used as the legal basis for the proposals. A ruling by the CJEU in December 2002 had confirmed that the technical competence of national authorities to deal with the safety of nuclear installations did not preclude the EU from legislating in addition on safety issues. In the opinion of the CJEU, the safety of the workers and the public must be seen in unison with the overall safety of the installations themselves. (Case C-29/99)

The co-ordinative discourse developed within the Commission, supported by the CJEU ruling, was not persuasive enough to become an effective communicative discourse when the proposals were presented to the Council of Ministers. The entrenched interests of the national governments, particularly concerns about the financial implications of the creation of de-commissioning funds, led to much

controversy amongst the Member States. The result was that the 2003 proposals were not adopted. In 2008 the package of proposals was disaggregated and safety at the nuclear installations was addressed first in a single directive adopted as Council Directive 2009/71/EURATOM to establish a Community framework for safety at nuclear installations (NSD). The NSD incorporated the IAEA principle of protection for all to the same level in all Member States irrespective of the inclusion of nuclear electricity in their national energy mix. As such it was an important underpinning to the common approach the Commission had sought to introduce prior to the accession of the new Member States.

### 4.3 The impact of Fukushima

The incident at the Dai-ichi, nuclear power plant in Fukushima, Japan, March 2011 undoubtedly has had an impact in the EU but not perhaps as much as might have been expected in some EU states. Support continues for nuclear energy in France, UK and the Central and Eastern European states where it is considered as in the Czech Republic to be . ‘...safety aside ...the most robust CO2 free technology... and (as the Czech Republic is able to produce only 15% of its electricity by RES and lacks the resource endowment to produce more) ...the Czech Republic cannot be CO2 free by 2020 without nuclear’. (Svoboda 2012) To June 2013 the EU had 14 states with operating reactors, although Germany had closed 8 reactors following the Fukushima incident and other states had made changes to their national nuclear energy policies. (See Table 1 Nuclear power plants and reactors in the EU (updated to 13<sup>th</sup> June 2013). Despite the concerns about nuclear safety others are planned in the EU

**Table 1 Nuclear power plants and reactors in the EU (to 13<sup>th</sup> June 2013)**

Member State	Nuclear power plants	Operating reactors	Reactors Under construction	Planned	
Belgium	2	7			
Bulgaria	1	2		1	
Czech Rep.	2	6		2	
Finland	2	4	1	2	
France	19	58	1	1	
Germany	12	9			8 reactors closed following Fukushima
Hungary	1	4			
Lithuania				1	
Netherlands	1	1		1	
Poland				2-3	
Romania	1	2		2	
Slovakia	2	4	2		
Slovenia	1	1			
Spain	6	8			
Sweden	3	10			
UK	10	16		4	

Source Commission DG Energy

In 2013 the Commission presented a revision of the NSD (COM 2013b) following the programme of stress tests at all the EU's nuclear reactors carried out in response to the catastrophic events at the Dai-ichi, nuclear power plant in Fukushima, Japan, March 2011. The subsequent reports on the Dai-ichi event had identified substantial and recurring issues at the plant coupled with institutional failures similar to the ones identified in post-accident evaluations of events several decades earlier at Three Mile Island, USA, (1979) and Chernobyl (1986). The potential impact and transnational consequences of a major event in the geographical region of the EU had reinforced the urgency for a strengthened common approach on nuclear safety. The stress tests and EU wide peer review process and reports from the European Nuclear Safety Regulators Group (ENSREG) informed the Commission's proposals. A major element of the revision to the NSD was to ensure that transparency and independence was evident in the process of peer review.

The proposed amendments included enhancing the regulatory framework for nuclear safety by:-

- Strengthening the role and effective independence of the national regulatory authorities;
- Enhancing transparency on nuclear safety matters;
- Strengthening existing principles, and introducing new general nuclear safety objectives and requirements, addressing specific technical issues across the entire lifecycle of nuclear installations, particularly NPPs;
- Reinforcing monitoring and exchange of experiences, by establishing a European system of peer reviews;
- Establishing a mechanism for developing EU-wide harmonised nuclear safety guidelines.

The proposals drew criticism from environmentalists and the nuclear industry alike. Greenpeace, concentrating on the process of peer review included in the draft legislation, criticised the timing of the reviews as they would potentially leave aspects of the nuclear plant operations untested for long periods of time. (Greenpeace 2013 b). Criticisms from FORATOM representing the nuclear industry expressed concerns that the legislation was too technically detailed and in addition risked undermining national safety regulators. In addition concerns were highlighted about changes being made to a directive which had come into force so recently. (FORATOM 2013).

#### **4.4. The EU has become the most advanced region for the safe management of radioactive waste and spent fuel**

Following the adoption of the NSD in 2009 the Commission returned to the issue of safe management of waste. Council Directive 2011/70/EURATOM was adopted in July 2011 to establish a Community framework for the responsible and safe management of spent fuel and radioactive waste (RWD). The RWD included provisions to address the concern of the public about lack of knowledge. An obligation was included for the national governments to inform the public and enable public participation in the debates about radioactive waste disposal. The directive provided a framework for EU action by imposing obligations on the national

governments to draw up national plans by 2015 (and subsequent reviews) which will include definite timetables for the construction of disposal facilities and how details their financing. Under the terms of the Directive two or more states may agree to use a deep disposal facility in located in one state. When the Directive was adopted in 2011 there were no deep geological repository sites anywhere in the EU. Commission estimates suggested they will take a minimum of 40 years to develop and build. But from the institutional perspective the importance of the legislation lay in the fact that ‘After years of inaction, the EU ...commits itself to the final disposal of nuclear waste...(and..)...becomes the most advanced region for the safe management of radioactive waste and spent fuel’. (Oettinger 2011)

### **5.‘A discourse of reassurance’**

In 2010 Commission President Barroso expressed the view that the ‘European Commission remains the guardian of the (EURATOM) Treaty and in that role the responsibility of the Commission is to raise the prominence of nuclear energy on the policy debate’. (Barroso 2010a) A review of statements from President Barroso and a number of Commissioners is included in the following section to outline the ideas which have come together and led to a discourse of support for nuclear. The choice of resources to include in the national energy mix remains with the national governments. It is a commitment in the energy chapter of the Lisbon Treaty and clearly recognised within the Commission. In 2007 President Barroso had highlighted the importance of an energy strategy which includes a role for all the electricity generating technologies. ‘The new Energy Policy for Europe should.....fully respect Member States choice of energy mix. and the divergent national views’. (Council of the EU 2006:2) Indeed for some states, such as Austria, the use of nuclear energy is ‘...not an option for the future’... (Bartenstein 2006).

But there was an important change during the Barroso I Commission 2004-2009 with regard to support for the use of the technology. Levels of support within the Commission for the use of nuclear technology grew as the rhetoric of various Commissioners’ statements demonstrated. It appeared that the Commission had moved from the former neutral position to one which favoured its use. In the discourse emanating from the Commission the nuclear sector was described as an important aspect of EU energy policy and one which could not be avoided if a low carbon economy was to develop. The discourse coalesced around a number of points – that nuclear energy could help to drive forward economic growth and provide jobs within the EU, that it could provide an opportunity to market nuclear technology globally and that nuclear energy had a role to play in enabling the EU to meet its greenhouse gas emissions targets.

*e.g. Commission President Barroso,*  
 ‘I believe that we are now standing on the brink of a Third Industrial Revolution – the Low Carbon Age...this will be driven by technology and new forms of energy....I believe that the Member States cannot avoid the question of nuclear power there has to be a full and frank debate about the issue’ (Barroso 2007).

*Commissioner for Energy Andris Piebalgs*  
 ‘Europe has so far always enjoyed leadership in the area of nuclear technology. We have mastered all aspects of the nuclear fuel cycle and we market equipment and

services throughout the world. This is a non-negligible part of the EU competitiveness and surely a valid input to our Lisbon strategy on growth and job creation' (Piebalgs 2007a)

And

"The European Commission is well aware of the renewed interest for nuclear energy we witness today....The Commission is therefore particularly attentive to the benefits ...Nuclear energy increases our energy independence and our security of supplies and contributes to the reduction of carbon dioxide emissions, but it is also still confronted by a number of outstanding issues that need to be tackled..." (Piebalgs 2007b).

Finally a controversial statement in favour of the use of nuclear technology by *Commissioner for Competition Neelie Kroes* demonstrated a wider support within the Commission for nuclear energy <sup>3</sup>.

When the Barroso II Commission (2009-2014) came into office the initiatives of the second half of the Barroso I Commission were continued. The incoming Commissioner for Energy, Gunther Oettinger in his hearing before the European Parliament indicated support for the nuclear sector but reiterated the view of the Commission that it was the choice of the national governments to include the nuclear sector in their EU's national energy mix. 'Electricity is the key energy source in a low carbon energy mix...Europe has a duty to support the safe use of nuclear energy e.g by laying down common rules on waste management... (But) The individual Member States remain free to choose their own energy mix'. (Oettinger 2009).

In June 2010 the Commission launched a consultation on the development of a new energy strategy for the EU from 2011-2020. The core objectives of ensuring safe, secure, sustainable and affordable energy for all, fully compatible with the longer term objective of decarbonisation, the basis of the EPE, remained. Furthermore to achieve these objectives a '...key area will be electricity supply ...(and) if strategic investment decisions are taken rapidly nearly two thirds of European electricity generation could be low carbon in the early 2020s...(but)... massive expansion of renewable energy will be needed (in particular to reach the 20% renewable energy target), alongside other low carbon energy sources including nuclear energy for Member States that choose to have this source in their energy mix'. (COM, 2010a:13)

The role of the Commission in ensuring the safe operation of the nuclear industry continued to provide the basis of the co-ordinative discourse amongst the policy actors of the Commission and the justification for an active role for the institution in EU nuclear energy policy. 'The EU will continue to work steadfastly in the citizens' best interests, making nuclear sites safe and preventing accidents' (Piebalgs 2011). It is now accompanied by a discourse which links climate change and the impact of the unsustainable use of energy sources and the role that nuclear energy may play in curbing greenhouse gas emissions as a low carbon energy resource. This is a product

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<sup>3</sup> 'On Monday, 1st October 2007 Commissioner Neelie Kroes stated at a high level energy conference in Madrid that she was completely in favour of nuclear power' Statement in letter from the Greens/European Free Alliance in the European Parliament to Commission President Barroso on 04.10.2007.

of a growing confidence in the Commission that the institution was able to exert influence on the national governments to introduce measures to strengthen the EU's role to take the leadership role in global climate change policy developments. (Barnes 2010 cited in Wurzel and Connolly).

In September 2009 Barroso expressed this conviction when he commented that the greatest success of his first Commission was climate change and that now the EU states '...are leading the world in setting standards for fighting climate change. It was a proposal of my Commission and it was not easy to convince some member states. (The result was that he had done something similar to Jean Monnet)... Monnet did not say 'let's create the United States of Europe' but instead created solidarity in the strategic coal and steel industries. With climate change and energy security the present Commission was doing something similar at the outset of the 21<sup>st</sup> century.' (Euractiv. com editorial 07.09.2009)

In his 2010 State of the Union address Barroso commented on the importance of the role which climate action and the development of a 'real' energy community had in creating a resource efficient Europe 'To build a resource-efficient Europe we need to look beyond energy... we have to deliver on our climate and energy package as a core driver for change. This means integrating the different strands of policy on climate change, energy, transport and environment into a coherent approach on resource and energy efficiency and low carbon future'. (Barroso 2010b:5). In 2011 Barroso further highlighted the centrality of energy and climate issues and the role of nuclear energy in the development of growth, job creation and energy security in the EU meeting the climate change 2020 targets during a speech in Kiev (Barroso 2011).

There is some evidence of lack of coherence within the Commission surrounding the actual targets for renewable energy development to be achieved which has the potential to impact on policy proposals. Commissioner Oettinger has supported weaker targets for support for renewable energy development than Commissioner Hedegaard, responsible for Climate Action. Thies, Greenpeace director of energy policy, has concluded that as a result '... the Commission will be tempted to overplay the role of energy from coal or nuclear power to appease the likes of Poland and France...' (cited in Harvey 2011)

However this does not indicate a lessening of overall support for the renewables sector in the discourse within the Commission, rather that nuclear energy has a significant role to play in the development of a low carbon economy with RES and should receive support. 'RES should be the cornerstone of low carbon economy...(but) nuclear power can complement the range of possibilities as it produces two-thirds of carbon free electricity'. (Barroso 2010a) 'Renewables will move to the centre of the energy mix in Europe (But)...as a large scale low carbon option nuclear energy will remain in the EU power generation mix' (COM 2011:10b) and '... the fact is the Commission are going for realistic in their work. Have to assume nuclear power will be playing a role in the electricity mix to 2050...' (Oettinger 2012a).

The adoption of the Renewable Energy Directive (RED) in 2009 including legally binding renewable energy targets promoted strong growth in renewable energy in the EU. Much of the debate surrounding the development of RES focuses on the costs of

the various technologies and the speed with which they can be introduced and become integrated to the energy transmission systems of the EU. Indeed Oettinger has been critical of the German decision to abandon its nuclear power programme by 2022 taking the view that the renewable sector could not in the immediate short term match any 'short fall' in electricity which would result, commenting in a Spiegel interview that the closure programme is '...only possible because Germany is networked with its neighbouring states (able to) take excess energy from Germany whenever too much is generated and supply Germany with energy whenever things get tight' (Oettinger 2012b).

Much of the national growth in renewable energy sources is the result of national subsidies to support the development of the new and innovative technologies. According to European Environment Agency estimates 80% of the total energy subsidies in the EU are paid to coal and nuclear energy with only 19% going to renewables.(EEA 2004). More recent national subsidy support to renewables is shown in Table 2 Examples of direct support for renewable electricity supply in the EU. A wide range of measures have been introduced by the national governments including measures which keep prices for consumers below market levels or prices for producers above market levels, reduce costs for consumers or reduce costs for producers. 18 of the EU's states have introduced systems of feed in tariffs as part of their subsidies.

**Table 2 Examples of direct support for renewable electricity supply in the EU**

Country	Subsidy EUR million per yr		Subsidy EUR cents/kWh	
Austria*	122	702	2.49	4.11
Belgium	27	55	2.7	2.70
Denmark*	273	499	4.19	3.87
France*	112	814	3.13	3.13
Germany*	1047	3326	6.21	6.58
Italy	1067	2493	6.31	5.88
Netherlands	59	679	1.98	5.69
Spain*	323	1537	2.78	2.65
Sweden	100	220	1.89	1.28
UK	96	547	1.73	1.45

States marked by \* use a system of feed in tariffs (fits).

Source World Nuclear Association (2013b).

However there is evidence that the current economic conditions in the EU are disrupting various national support schemes. A number of states including Spain, the Czech Republic, Bulgaria, UK, Romania and Germany have either cut or plan to cut energy subsidies. In Germany the costs of feed in tariffs (fits) for consumers have proved to be higher than expected for solar energy. Estimates suggest they are estimated to rise to more than 46 billion by 2030 and cuts are planned to be introduced from 2018. The Commission have concluded that the targets set in the RED will not actually be met as '...the significant change in economic circumstances in Europe will result...in current policies being insufficient to trigger the required renewable energy development in a majority of member states...' (2013b:13) This reinforces the Commission view that 'Nuclear energy will be needed to provide a

significant contribution in the energy transformation process in those Member States where it is pursued. It remains a key source of low carbon electricity generation'. (COM 2011b:8)

High levels of state aid to the renewables sector are accepted in the EU as RES encompasses new and innovative industries which are considered to be necessary to achieve climate change targets. Nuclear electricity is generated by fission technology which is now a mature technology and arguably should not need any state aid or support for research and technology development. Issues surrounding state aid were not addressed in the EURATOM Treaty. In the 1950s the energy utilities were state owned and issues of national security and sovereignty prevented the transfer of competence to ensure competition in the nuclear sector to the Commission. Although levels of state ownership remain considerable in the energy utilities progressive changes have been made to the organization and ownership of companies in the energy sector.

Action has been taken by the Commission against national governments which appeared to provide high levels of state aid to the national nuclear industry through the competition provisions of the Treaty on the functioning of the European Union (TfEU). However in draft proposals outlining guidelines for state aid to the environmental and energy sectors in 2013 the Commission controversially identified state aid as appropriate if 'The wish of some Member States to widen support also to other low-carbon energy sources including nuclear merits an in-depth discussion in order to analyse whether market failures justify intervention...' (COM 2013a:para 51:13).

Support for research and technology development (RTD) of the nuclear industry as new and innovative but costly technology for individual national governments when it was introduced in the 1950s led to the creation of research and development funding programmes. These five yearly RTD programmes continue to be funded from the EU's budget on the basis of specific EURATOM budgetary lines. Some funding continues for projects associated with nuclear fission and radiation protection, other funding is increasingly directed to nuclear fusion research including for the International Thermonuclear Experimental reactor (ITER) which is based in Cadarache, France. (see Table 3 Funding for nuclear research and technology development – comparison FP7 and Horizon2020 showing increase in total funding for nuclear research from 759 million euros annually to 872 million euros annually to 2018)

Although ITER is an international collaborative venture which includes the EU, India, Japan, china, Russia, South Korea and the US, the EU is responsible for 45% of the costs of ITER. The official EU signatory to the international agreement on the building of ITER is EURATOM. The EU Joint Undertaking for ITER and the development of Fusion Energy was created by the Council of the EU under the terms of the EURATOM Treaty to provide the EU's contribution to ITER. It comprises the Member States of the EU and EURATOM represented by the Commission. EURATOM delegates the governance and financial management of ITER to the Commission. The existence of the EURATOM Treaty coupled with the competences of the Commission mean that nuclear technology remains a 'privileged' energy

resource in terms of research funding in comparison with other low carbon energy resources.

**Table 3 Funding for research and technology development: comparison FP7 and Horizon 2020**

	FP7 2007-2013 Total 50 billion euros of this EURATOM 2007-2011 2011-2013	ITER	HORIZON 2020 Total 80 billion euros of this EURATOM 2014-2018 2018-2020 to be determined	ITER
Nuclear fission and radiation protection	58 million euros annually		71 million euros annually	
Total Fusion including ITER	594 million euros annually		Total 657 million euros annually (142 million euros for EURATOM fusion research)	(515 million euros annually for ITER)
Joint Research Centre (nuclear activities)	107 million euros annually		145 million euros annually	

The Commission was given competence to negotiate international agreements on various aspects of EU nuclear energy policy. This has been used in the past to enable the Commission to establish close links and agreements with the IAEA and ensure that within the EU the member states have applied and implemented safety standards which are consistent with those agreed globally. The introduction of the NSD in 2009 has brought those international standards into effect as a legally binding framework for the EU. In addition the Commission has in recent years concluded nuclear co-operation agreements with major nuclear materials suppliers - US, Canada, Australia, Kazakhstan, co-operation agreements with Uzbekistan, Ukraine and Japan, an agreement on research and technology development with China and as agreement on peaceful use of nuclear energy with Russia. In July 2013 a new nuclear cooperation agreement between South Africa and the European Union (EU) was signed at the Sixth South Africa-European Union Summit in Pretoria, to support joint nuclear research and open access to South Africa's uranium resources to the EU.

The Commission President has competence to act on an international level with the President of the European Council eg in Nuclear Security Summit in South Korea, March 2012 where Barroso identified ‘...safety, security and non-proliferation (as) absolute priorities for the European Union. They are clearly interlinked; there is no safety without security and vice-versa....the EU is totally committed to boosting nuclear safety and I urge the strongest possible, common and truly global approach’.

(Barroso 2012b) An issue which had formed the basis of his remarks in 2011 ‘Through our specific instruments, such as the EURATOM agreements or the Instrument for Nuclear Safety Co-operation (currently having an overall volume of half a billion euros) we have been aiming at ensuring worldwide the highest standards of nuclear safety and security, respect of non-proliferation commitments and adherence to relevant international conventions.’ (Barroso 2011) External nuclear energy policy is thus established on the basis of the nuclear safety credential, prominent in the discourse of the institution, that the Commission is the appropriate authority to ensure and monitor common standards. As a result the profile of the Commission and its President as a political actor globally has been raised.

Photo 1 Presidents all sign agreements!



*South African president Jacob Zuma (centre) with president of the European Council Herman Achille Van Rompuy (left) and president of the European Commission José Manuel Durão Barroso (right) at the South Africa-European Union Summit in Pretoria*

### **Conclusions – the power of persuasion.**

Nuclear energy technology is a mature technology which has been used by European Union states since the 1950s. It is a highly controversial technology which has resulted in a polarised political debate about its continued use, not only because of concerns raised as a result of the incident at the Dai-ichi nuclear power plant near Fukushima, Japan in March 2011, but also because of concerns about a range of issues including waste management, costs and time delays in the construction of new reactors. Estimates from the International Atomic Energy Agency suggest that use of the technology will rise globally in the future, albeit not at the rates of reactor build evident in the early 1970s. This is in response to increasing demand for energy and the search for resources which will respond to the challenge of climate change. The picture of future growth is less certain in the EU but in the short to medium term it

will continue as a choice of some national governments for their national energy policies.

Although the discursive institutionalism (DI) approach has been chosen as the framework for analysis of the change in the discourse on nuclear energy in the Commission and the potential implications of that change the link between historical institutionalism (HI) and DI approaches is acknowledged. Schmidt highlighted the way in which HI can add insight into DI as it describes the formal institutional contexts that shape the interactive patterns which emerge in the discourse. (Schmidt 2010a: 16) The model which emerged in the 1950s for the supranational authority (the Commission) which would perform the roles conferred on it in the EURATOM Treaty was that of an organization which would function as a benevolent technocracy. The scientists and nuclear physicists who formed the largest number of officials of the organization were dealing with scientific matters which were too difficult for the public to understand. There were few opportunities for the Commission officials to engage in endogenous discursive interactions and thus shape the institution and EU nuclear energy policy except in some specific areas such as nuclear safety.

However the empirical evidence presented in this paper demonstrates ideational, political, and institutional changes which have led to more opportunities for the preferences of individuals, who are parties to the discourse within the Commission, to be expressed. As a result the institution has projected a more supportive view of the use of nuclear energy. Discursive institutionalism, as a flexible tool, has a greater ability than other new institutionalisms, including HI, to explain the dynamic process by which changing ideas become embedded in the discourse and also to address why there is continuity of some ideas. As such the DI approach:-

- accommodates the continuing focus in the discourse on the importance nuclear safety,
- presents an opportunity to analyse and explain why change has taken place in the discourse.
- explains the view that the Commission is the appropriate authority to monitor and ensure nuclear safety within the EU,
- supports the view that the Commission is the appropriate actor to represent the EU in international agreements on nuclear safety and trade in nuclear raw materials,

DI is based on the sharing of the ideas and norms of the discourse within the institution and then communicating those shared values to other policy actors. This brings to prominence the power of persuasion of the parties to the discourse as the ideas which become central to the collective discourse of the institution are communicated to other policy actors. The Commission is not the final decision maker with regard to nuclear energy policy. But the Commission has been able to present a view of the nuclear sector with the potential to affect policy outcomes as it is a persuasive discourse of reassurance apparently satisfying the interests of all the participants in the political energy discourse. In turn this establishes credibility and a credential for the Commission support for nuclear energy and has the potential to undermine an open and transparent debate about the future of the technology in the EU. The persuasive nature of the discourse has implications for future EU nuclear

energy policy developments which will have an impact in Member States which opt to use the technology and those which do not.

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Appendix 1 EURATOM Treaty article 2 Competences conferred on the Community and to be exercised by the Commission on behalf of the Community

Article 2 EURATOM

In order to perform its task, the Community shall, as provided in this Treaty:

- a. promote research and ensure the dissemination of technical information;
- b. establish uniform safety standards to protect the health of workers and of the general public and ensure that they are applied;
- c. facilitate investment and ensure, particularly by encouraging ventures on the part of undertakings, the establishment of the basic installations necessary for the development of nuclear energy in the Community;
- d. ensure that all users in the Community receive a regular and equitable supply of ores and nuclear fuels;
- e. make certain, by appropriate supervision, that nuclear materials are not diverted to purposes other than those for which they are intended;
- f. exercise the right of ownership conferred upon it with respect to special fissile materials;
- g. ensure wide commercial outlets and access to the best technical facilities by the creation of a common market in specialised materials and equipment, by the free movement of capital for investment in the field of nuclear energy and by freedom of employment for specialists within the Community;
- h. establish with other countries and international organizations such relations as will foster progress in the peaceful uses of nuclear energy'.