

# TYING POLICY TO THE SUSTAINABILITY MAST: THE INFLUENCE OF GREEN PARTIES ON NATIONAL ENVIRONMENTAL POLICY INTEGRATION IN 28 EUROPEAN STATES, 1990-2014.

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## 1. INTRODUCTION

Sustainability governance requires suitable governing institutions (c.f., Adger and Jordan 2009). The concept of environmental policy integration (EPI) gained momentum during the 1990s and early 2000s as a way to create more cross-cutting policy structures instead of existing sectoral, end-of-pipe environmental policies and plans. It was hoped that a sort of *ex ante* consideration of sustainability could be built into the policy process (Nilsson and Eckerberg 2007) that would facilitate the handling of trade-offs and goal conflicts. EPI thereby held the promise of strengthening the *self-binding* and *future-directing* aspects of policy (c.f., Lundqvist 2004). Despite high-level political backing, however, most empirical reviews of EPI have concluded that efforts have largely failed to live up to expectations (e.g., Jacob and Volkery 2004; Jordan and Lenschow 2010). “Silo mentality” and “turf wars” between sectors, ministries and agencies prevail and countries are still struggling to make environmental issues a part of major legislative and regulatory processes (Casado-Asensio and Steurer 2014). Jordan and Lenschow (2010, 156) complained in a literature review that there were “no best practices” to learn from (c.f., Runhaar et al. 2014).

Existing EPI research suffers from two main shortcomings. First, most studies adopt a rather narrow focus, examining one or a few countries (Gore 2014; Wejs 2014; Persson et al. 2015; Lenschow 2002), instruments or sectors at a single point in time (e.g., Jacob and Volkery 2004; OECD 2006; Radaelli and Francesco 2007; Steurer and Hametner 2013; Pisano et al. 2013). This is a problem, as countries’ *environmental integrative capacity* is arguably more related to the overall governance framework than to the existence of some particular policy instrument (c.f., Runhaar et al. 2014, 243). An exception is Jacob et al. (2008) who analysed the adoption of several EPI instruments over time across 30 OECD states. However, the data stemmed mainly from the 1990s and the early 2000s (ibid. 42), and they did not take into account the ‘fads and fashions’ of EPI adoption, implementation and dismantling, but rather calculated the number of institutions cumulatively. This means that we still lack a comprehensive overview and comparison of the use of EPI instruments across countries and over time.

Second, whereas the impact of national administrative-institutional structures (such as the degree of ministerial independence, federalism or corporatism) has been well researched (e.g., Wurzel et al. 2013; Jacob and Volkery 2004, 306; Nilsson and Eckerberg 2007; Nilsson et al. 2007; Russel and Jordan 2008; Wurzel 2008), less attention has been directed towards the political drivers of EPI. In particular, research remains inconclusive concerning the influence of political parties or actors' party affiliation. Additionally, although scholars have noted the potentially positive influence that green parties may play for EPI development, there have been no in-depth studies on green-party influence.

The present study addresses these two gaps in the literature. It first examines the development of "national EPI architectures" across 28 European states between 1990 and 2014. An "EPI index" assessing the adoption and activity of ten institutions is created, allowing for a more nuanced comparison of how states' environmental integrative capacity has evolved over time. Second, conceptualising EPI as part of a "battle over institutions" among competing stakeholder groups (c.f., Jacobsson and Lauber 2006) and acknowledging that green sub-government actors may have strong incentives to push for more coherent EPI, the study explores the effect of green parties on national EPI.

The article proceeds as follows. In the next section, a conceptual framework for comparatively analysing national EPI architectures is developed. A typology of ten EPI institutions is derived from EPI literature and the rationale for focusing on the role of green parties is outlined. In the subsequent section, the methodology and data are presented. Thereafter, the empirical findings, including country scores, rank distribution and regression analyses are summarised and discussed. The article concludes with a discussion of the results and suggests directions for future EPI research.

2. NATIONAL EPI ARCHITECTURES: A CONCEPTUAL FRAMEWORK

**Measuring EPI**

Environmental Policy Integration (EPI) refers to the integration of environmental aspects and policy objectives into sector policies where trade-offs between the three dimensions of sustainable development – economic, social and environmental – are normally seldom considered. A basic assumption is that institutional-administrative change is necessary to enforce sustainability policy change. The overall goal of EPI is that environmental objectives should become the responsibility of all sectors and departments, and that the solution to one problem should not create new problems elsewhere in the policy system.

Conceptually, most EPI studies depart from some sort of principal-agent relationship model (c.f., Staronova 2010; Radaelli and Francesco 2007) whereby institutions are installed to "tie" policy actors to agreed-upon sustainability goals (for popular checklists, see Jacob and Volkery 2003; Nilsson and Persson 2003; Dalal-Clayton and Bass 2002; Jacob et al. 2008; see also Hertin and Berghout 2010). One of the most commonly used operational frameworks is the HEPI-VEPI framework (Lafferty and Hovden 2003; Nilsson and Persson 2003). While HEPI (horizontal EPI) concerns the degree to which the central authority – the government or an inter-ministerial body – has developed a cross-sectoral strategy for EPI and oversees its implementation, VEPI (vertical EPI) concerns the degree to which environmental issues are made part of the strategic steering domain of non-environmental departments and sectors. Runhaar et al. (2014, 241) summarised five types of instruments commonly referred to in EPI literature: legal or regulatory, economic, informational, organisational and interactive.

The present study combines the HEPI-VEPI framework with Runhaar et al.'s (2014) classification of policy instruments to construct a typology consisting of ten institutions expected to form central parts of national EPI architectures. The typology is presented in table 1.

Table 1 Typology for assessing national EPI architectures

Instruments	HEPI	VEPI
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<i>Informational</i>	- National Sustainable Development Strategy (NSDS) + indicator set	- Sectoral strategy or unit
<i>Organisational</i>	- Based in PM Office - Cross-ministerial committee	- Strategic Environmental Assessment (SEA) - Impact Assessment
<i>Legal/regulatory</i>	- Legal backing	
<i>Economic</i>	- Green budgeting	
<i>Interactive</i>	- Advisory Council - Broad stakeholder involvement	

Concerning first the basic political mandate of the overall government in relation to environmental sustainability issues (HEPI: upper left box), there is considerable consensus that some sort of agreed-upon definitions of sustainable development (SD) goals are necessary to answer the question ‘*what should be integrated into what?*’ (Jänicke and Jörgens 1998; Steurer and Martinuzzi 2005; Ruotsalainen 2005; Pisano et al. 2013). A national sustainable development strategy (NSDS) and a quantifiable indicator set which clarifies and operationalises the overall goals, are expected to help define SD objectives and priorities, point towards relevant target groups, and specify mechanisms for evaluation (Jacob et al. 2008).

The location of SD responsibilities in the cabinet or prime minister’s office or in the finance ministry, rather than a sector department, is often expected to lead to better integration between environmental sustainability concerns and overall government policy, as well as raise the status of SD issues. Interdepartmental committees or steering groups (such as a “green cabinet”) with particular SD responsibilities are similarly expected to raise the status of environmental issues in government (Steurer and Martinuzzi 2005; Jacob and Volkery 2003; Pisano et al. 2013).

Concerning the degree to which sector objectives are merged with environmental objectives (VEPI: upper right box), sectoral/departmental SD strategies and/or units are assumed to help translate SD goals into sectoral commitments<sup>1</sup> (Jacob and Volkery 2004; Hey 2002; Lafferty 2004). EPI literature also emphasises that some sort of tool from the large family of environmental assessment instruments (see Bina 2008), is necessary to enforce EPI. Strategic Environmental Assessment (SEA: here used as an overarching term) helps policy makers evaluate the probable impacts of projects or plans that are likely to have significant environmental effects.

A more ambitious tool for vertical integration is an *ex ante* impact assessment (or policy appraisal) procedure, which covers broader sustainability fields and is ideally performed by a lead department or an external scrutiny body rather than the sector department itself (Jacob et al. 2008; Mickwitz et al. 2009; Jacob and Volkery 2004).

The proposed typology also encompasses institutions that cover horizontal and vertical policy integration alike. First, raising the formal status of EPI through legal or constitutional provision is expected to increase overall political commitment (Jacob and Volkery 2003; Jacob et al. 2008). Some form of connection of SD issues with the government or departmental budget process is also expected to support EPI (Mickwitz et al. 2009).

Last, a high-level independent advisory commission or expert council should help enforce monitoring, communication and learning across government, academia and civil society (de Vries 2015). Some sort of process for broad public (rather than expert) stakeholder involvement also provides a forum for dealing with goal conflicts and ensures a dialogue among many stakeholders.

The ten institutions included in the typology may naturally come in a wide variety of forms and are often combined with each other. Moreover, institutions are often named

<sup>1</sup> In line with Runhaar et al. (2014) we define a “sectoral strategy” here as an environmental policy plan within the realms of traditionally “non-environmental” (but environmentally relevant) sectors (incl. ministries or agencies) such as energy, agriculture, transport, industry, foreign affairs.

inconsistently and are reported inconsistently or irregularly (c.f., Jacob et al. 2008). Despite these challenges to analyse national EPI architectures in a comparative way, the above typology encompasses the most commonly referred institutions in EPI literature and therefore provides a reasonable basis for drawing tentative conclusions as to how countries have established more or less ambitious integrative institutional frameworks. Details may vary, but as all the institutions in one way or another contribute to pushing EPI forwards – or at least help raise the floor concerning the procedural status given to environmental sustainability concerns – the typology is used in the analysis to assess the degree to which policy makers’ are formally required to incorporate sustainability concerns into the policy process.

### ***Explaining EPI: the role of green parties***

It was stated in the introduction that there are few studies on the role of green parties in EPI. However, in the more general environmental policy literature, there is abundant evidence that green parties and stakeholder groups exert an important influence on environmental policy adoption and change. This influence is exerted in both direct (Bernauer and Koubi 2009; Folke 2014) and indirect ways (Cheon and Urpelainen 2013; see also Chaney 2014; Knill et al. 2009). For instance, it has been argued that the fact that the Netherlands long occupied a leading position in environmental policy comparisons was due to its high proportion of citizens engaged in environmental organisations (Jänicke and Weidner 1997). Focusing on the regulatory system more specifically, Jacobsson and Lauber (2006) in their analysis of the transformation of German energy systems proposed that the national environmental-regulatory framework is formed in a “battle over institutions” among (green) actor constellations below government level. These studies confirm the insights provided both by the vast literature on the political economy of regulation (see Radaelli 2005) as well as the “advocacy coalitions framework” (ACF: Sabatier 1987) – in particular, the ACF emphasises that policy is the result of conflicts between actor constellations and values in the subsystem rather than government action alone (Jenkins-Smith et al. 2014).

Given that green parties and stakeholder groups have been found to influence environmental policy despite not being directly included in government (or even always in parliament), it seems reasonable to hypothesise that they may exert an influence also on national EPI – meaning the policy process rather than outputs. Indeed, although the final decision to install EPI lies with incumbent government parties and the prime minister, pressure to regulate policy routines may come *in particular* from extra-government (green) stakeholder groups. It seems plausible that political incumbents and non-incumbents (outsiders) have potentially very different interests related to the strength of EPI. Whereas incumbents or parties that expect to soon be incumbents (i.e., mainstream parties) have fewer incentives to enhance the self-binding nature of government – thereby leaving more room for manoeuvre to the incumbents – EPI provides important leverage points for (green) challengers and non-incumbents to push for environmental legislation in a more indirect way. Therefore, analyses of the role of central government actors and mainstream parties seem only to tell half the story about the political underpinnings of EPI. An analysis also of sub-government (green) stakeholder groups is warranted.

The present tests the influence of green parties on national EPI. It is assumed that the influence of green parties can be exerted in both direct and indirect ways. On the one hand, green parties may affect EPI in a direct way when they are part of national governments. Here, actors may foresee the difficulty in sticking to a stringent sustainability strategy in the long term and tie their own hands for the future. On the other hand, acknowledging that electoral systems (e.g., majority systems, high electoral thresholds) are often unfavourable to green parties, as well as that green parties are seldom included in national governments, green parties may exert an influence on EPI in more indirect ways too. This might happen e.g., by green parties pushing for EPI in informal negotiations or simply by affecting the dominant “belief system” of the policy system in an EPI-friendly way. As already stated, green parties may have a strong national presence albeit not included in government or even in parliament (Carter 2013). In the analysis, therefore, the hypothesis is that a stronger level of environmental awareness in the population as a whole (c.f., Nilsson et al.

2007, 145) – translated into stronger popular support for green parties in parliamentary elections – affects national EPI architecture in a positive way.

In the next section, the methodology and data for analysing national EPI architecture is outlined, and the explanatory variables are specified.

### 3. METHOD AND DATA

The country set encompasses 28 European states (EU-28 excluding Cyprus and Malta but including Norway and Switzerland). The ten institutions in the typology were assessed during five-yearly intervals between 1990 and 2014 (1990-1994; 1995-1999; 2000-2004; 2005-2009; 2010-2014). Interval rather than yearly assessments were made because the exact year of adoption and implementation was often difficult to discern (c.f., Jacob et al. 2008). A score of 0, 0.5 or 1 was assigned to each country and institution depending on the existence and reported activity of the institution during any given time period. Where data was inconclusive or where the existence and activity of an institution changed during the time period, the scoring was based on the principle of *the benefit of the doubt*, meaning that the country was assigned a higher rather than a lower value. A detailed description and coding scheme can be found in the Appendix.

The data for assessing national EPI architectures was gathered from two main types of sources. First, all EU countries are obliged to have a national sustainable development strategy (NSDS) adopted as of June 2007. All countries but one (Bulgaria) in the sample have done so. The NSDS documents typically include initial strategy reports, indicator reports, and more or less regular progress reports (mostly in English). These can be found either on national government websites and/or through the website of the European Sustainable Development Network (SD-network). As these reports are rather similar in structure and content, and include sections elaborating on the institutional provision for integration and implementation of SD goals, they serve as a fairly comparable source of data. A main concern, however, is that they are based on self-reporting. The data was therefore triangulated using external policy reports that assess the use of particular EPI instruments at various points in time, such as evaluation reports by the EU Commission, the EU SD-network, and the OECD. Scholarly literature has also been consulted..

Concerning the explanatory factors, three variables measuring the relative strength of green/agrarian, centre-left and centre-right parties in national parliamentary elections were used to test the *indirect* influence of sub-government stakeholder groups (parties) on national EPI. Popular support (share of total votes cast) rather than parliamentary seats, was considered because electoral rules often discriminate against smaller (green) parties. In the cases where there was more than one parliamentary election during any of the five-year time periods, the results in the earliest election were considered.

A variable measuring the relative strength of green, centre-left and centre-right parties in government was also included (for the time period 2010-2014 only). The variable measures the share of government positions held by any of the party groups after the first election in the period.

Two control variables were also included. First, higher levels of economic development are assumed to affect EPI positively, primarily because of the greater attention given to environmental issues in more affluent societies (c.f., Jänicke 2005). A GDP per capita variable was therefore included. The variable measures the GDP of the middle year of each five-yearly period: 1992, 1997, 2002, 2007, and 2012). EU membership has also been found to contribute positively to EPI: it is assumed that the EU serves as a source of empowerment for national green stakeholder groups (c.f., Jordan 2012; Tosun 2013) as well as exerting strong “socialisation pressures”: on members of the EU club (Busch and Jörgens 2005). A variable measuring the year of countries’ EU accession was included.

The data for the explanatory variables was assembled from three databases: electoral and government composition data came from the Interactive Political Data Yearbook and the European Election Database. GDP data were taken from the World Bank. The results are presented in the next section.

#### 4. EMPIRICAL RESULTS

Table 2 summarises the scores and scale ranking of all countries with regard to the ten institutions for the five time periods. In addition to calculating the absolute scores and rank, the countries were grouped into three categories: top performers, mid-fielders and laggards (c.f. Knill et al. 2012). Top-performer countries were those that had more than two thirds of the institutions adopted by the most advanced state during any given time period; mid-fielders were those countries that had put in place up to two thirds of the number of institutions found in the most advanced country at the time; and laggard countries were those that had fewer than a third of the institutions adopted in the most advanced country at the time.

*Table 2 National EPI architectures, total and rank scores*

Rank 2010-2014	1990-1994		1995-1999		2000-2004		2005-2009		2010-2014		Classification
1	FIN	3	FIN	5.5	DEU	7.5	GBR	9.5	GBR	9.5	Top-performers
2	GBR	2.5	GBR	5.5	GBR	7.5	DEU	8	DEU	8.5	
3	NOR	2.5	IRL	4	NOR	6.5	FIN	7	FIN	7	
4	SWE	2	NOR	4	SWE	6.5	AUT	6.5	AUT	6.5	
5	NLD	1.5	SWE	4	BEL	6	NOR	6.5	CHE	6.5	
6	CHE	1	BEL	2.5	AUT	6	BEL	6	NLD	6.5	
7	DEU	1	CHE	2.5	FIN	6	CHE	6	NOR	6.5	
8	FRA	1	NLD	2.5	DNK	5	FRA	6	BEL	6	Mid-fielders
9	HUN	0.5	EST	1.5	NLD	5	NLD	5.5	FRA	6	
10	AUT	0	AUT	1	CHE	4.5	SWE	5.5	IRL	5.5	
11	BEL	0	DEU	1	FRA	4	GRC	5	LUX	4.5	
12	BGR	0	DNK	1	IRL	4	IRL	4.5	CZE	4	
13	CZE	0	FRA	1	POL	4	LVA	4.5	DNK	4	
14	DNK	0	HUN	1	CZE	3.5	LUX	4.5	EST	4	
15	ESP	0	LUX	1	EST	3.5	CZE	4	GRC	4	
16	EST	0	PRT	1	GRC	3.5	DNK	4	LVA	4	
17	GRC	0	ROU	1	ITA	3.5	ESP	4	PRT	4	
18	HRV	0	BGR	0.5	PRT	3	EST	4	SWE	4	
19	IRL	0	CZE	0	SVK	3	PRT	4	SVN	3.5	
20	ITA	0	ESP	0	LTU	2.5	SVN	4	ESP	3	Laggards
21	LTU	0	GRC	0	LVA	2.5	POL	3.5	HUN	3	
22	LUX	0	HRV	0	LUX	2.5	HRV	3	ITA	3	
23	LVA	0	ITA	0	ESP	2	HUN	3	HRV	2.5	
24	POL	0	LTU	0	ROU	2	ROU	3	POL	2.5	
25	PRT	0	LVA	0	SVN	2	ITA	2.5	LTU	2	
26	ROU	0	POL	0	HUN	1.5	BGR	2	ROU	2	
27	SVK	0	SVK	0	BGR	1	LTU	2	SVK	1.5	
28	SVN	0	SVN	0	HRV	0	SVK	2	BGR	1	

As displayed, the overall scoring range (variance) increased between the first measurement period (0-3) and the last (0-9.5), implying that the top performer countries had adopted a larger number of institutions in 2010-2014 than in 1990-1994. However, the scores increased across all states, meaning that there has been a gradual strengthening of EPI architectures overall. Comparing the size of the three groups, we see that the laggard group has shrunk relative to the first two time periods, suggesting that there has been a general pressure upwards. However, whereas the early 2000s saw a rapid expansion of EPI institutions (with the highest share for the top-performer and mid-fielder groups combined) there has been a growing divergence among leader and laggard countries thereafter.

Looking into the three groups in more detail, we see first that Finland and the UK stand out among the leading countries as they have been part of the top performing group throughout the period examined. Both can be described as innovators in terms of EPI. For instance, Finland was among the first to establish a high-level SD advisory council, although it was not an independent body but a so-called “mixed council” (Steurer 2008) including representatives from departments, academia, civil society and the prime minister as members. The UK was a pioneer in terms of formulating a national sustainability strategy as

early as 1994, and was early to experiment with both SEAs and impact assessments in the late 1980s. It was also early to establish an advisory council, an environmental cabinet committee (1990) and connecting departmental spending with the budget process (c.f., Wilkinson et al. 2008; IISD 2004; Hertin et al. 2008; Russel and Jordan 2008). Whereas Finland has shown a more gradual increase over time however, the UK has kept leading and innovating.

A few countries e.g., Germany, Austria and Norway, have also been part of the top-performer group over the past 15 years. Germany started reluctantly, but has been one of the strongest performers (and innovators) since the publication of its NSDS report in 2002 (c.f., Wurzel 2008). Whereas Austria has also developed stronger EPI institutions lately, including adopting a combined national-regional NSDS in 2010, Norway has instead shown the opposite pattern, being an early adopter but with sporadic developments over the past 15 years (c.f., Lafferty et al. 2008, 206-207).

Other countries have sometimes been part of the top performer group and sometimes of the mid-fielder group. Neither Belgium nor Switzerland was among the earliest adopters of EPI, but both have performed rather strongly since the early 2000s (c.f., Wurzel et al. 2013, 101). Other countries have instead developed in the opposite direction. Ireland, Denmark and Sweden were all part of the top performer group at some point during the late 1990s or early 2000s but have lost their position since then.

Concerning the group of countries who have mostly belonged in the mid-fielder group, EPI was generally strengthened during the early 2000s but has since developed rather slowly, if at all. The Netherlands was an early adopter, establishing both SEA and impact assessment procedures in the early 1990s (Hertin et al. 2008, 122) as well as starting to experiment with green budgeting in 2003 (Wilkinson et al. 2008). The Netherlands was, however, a late adopter concerning its NSDS, as well as taking a long time to establish a civil society dialogue forum and coordinating mechanisms across government (Dalal-Clayton and Krikhaar 2007).

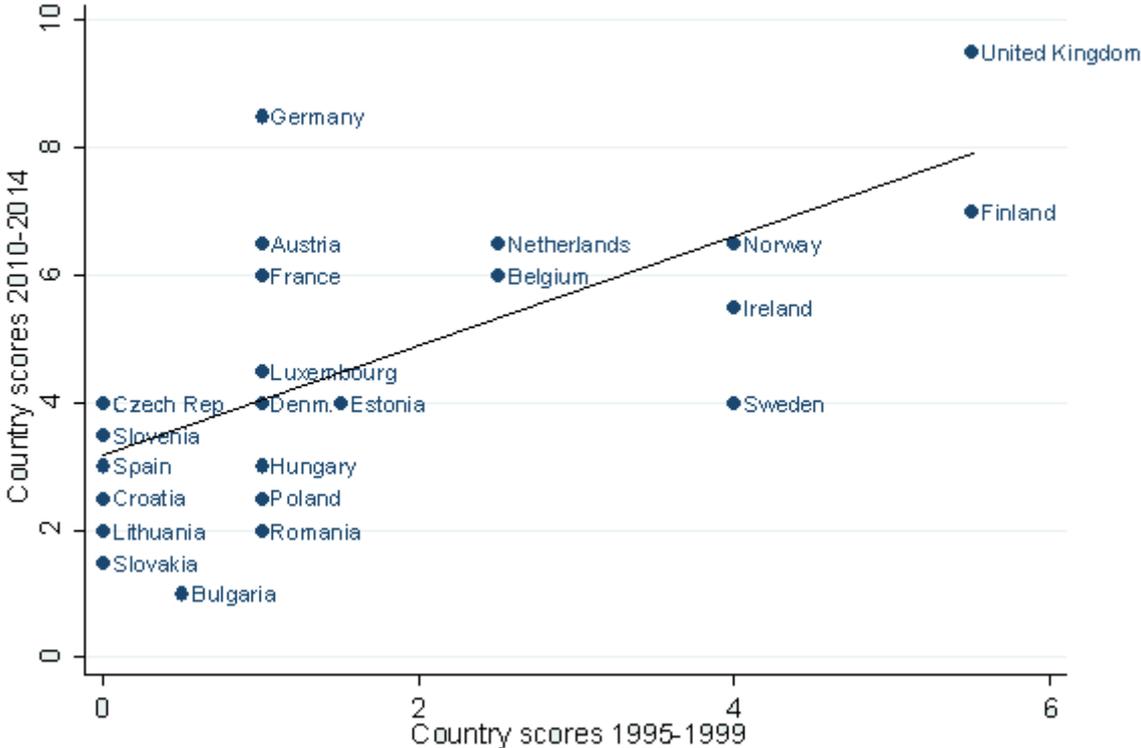
Eastern and southern European states are mostly to be found in the lower end of the mid-fielder group or in the laggard group. Overall, there is a clear pattern of western and northern European states having stronger EPI whereas eastern and southern European states started to adopt EPI institutions later and have a weaker EPI architecture throughout. In particular concerning implementation (activity) eastern European states are weak. For instance, the Czech Republic – although formally scoring rather well and having many EPI institutions in place in the early 2000s – has *de facto* primarily been occupied with drafting subsequent NSDS outlines rather than enforcing environmental integration in its policy processes (DrHová 2011). Poland was similarly rather early to establish EPI institutions: a cross-ministerial committee was constituted in 1994 and a consultative body on SD issues was attached to the prime minister's office in 2002 (Zieschank 2004). However, activity seems to have weakened considerably since 2007 (ESDN). The Baltic states (Estonia, Latvia and Lithuania) all took some steps towards stronger EPI in the late 1990s and mid-2000s (Ruotsalainen 2005; ESDN). For instance, Estonia set up an advisory commission chaired by the prime minister in 1996. However, there seems to be only limited degrees of EPI implementation today.

Overall, it seems like most eastern European states took some significant steps towards building institutions for EPI around the mid-2000s, possibly to comply with EU demands on the adoption of NSDS and in relation to EU accession. After a few years, institutions have been weakened and often dismantled altogether (e.g., in Bulgaria, Poland, Romania, Slovakia). In the case of southern European states, several (including Greece and Spain) shifted focus towards economic and social issues after the financial crisis in 2008 (cf. de Vries 2015).

The overall picture of national EPI development is therefore that, whereas many countries have only implemented EPI very weakly or have dismantled institutions during the past decade, some countries – notably the UK and Germany, and to some extent Austria, Switzerland, Norway and Finland – have relatively ambitious EPI architectures. The UK and Germany in particular continue to innovate and develop their national EPI. Moreover, although many countries have shifted positions and group belongings over time, there is a

considerable stability concerning who belongs to the top or the bottom end of the ranking. This could imply that EPI is at least partly a “sticky process”, helping to raise the floor for the status given to environmental issues in government policy processes. To illustrate the stability in rank positions, figure 1 plots the relation between country scores in the second and fifth periods.

Figure 1 Correlation rank scores of periods two and five

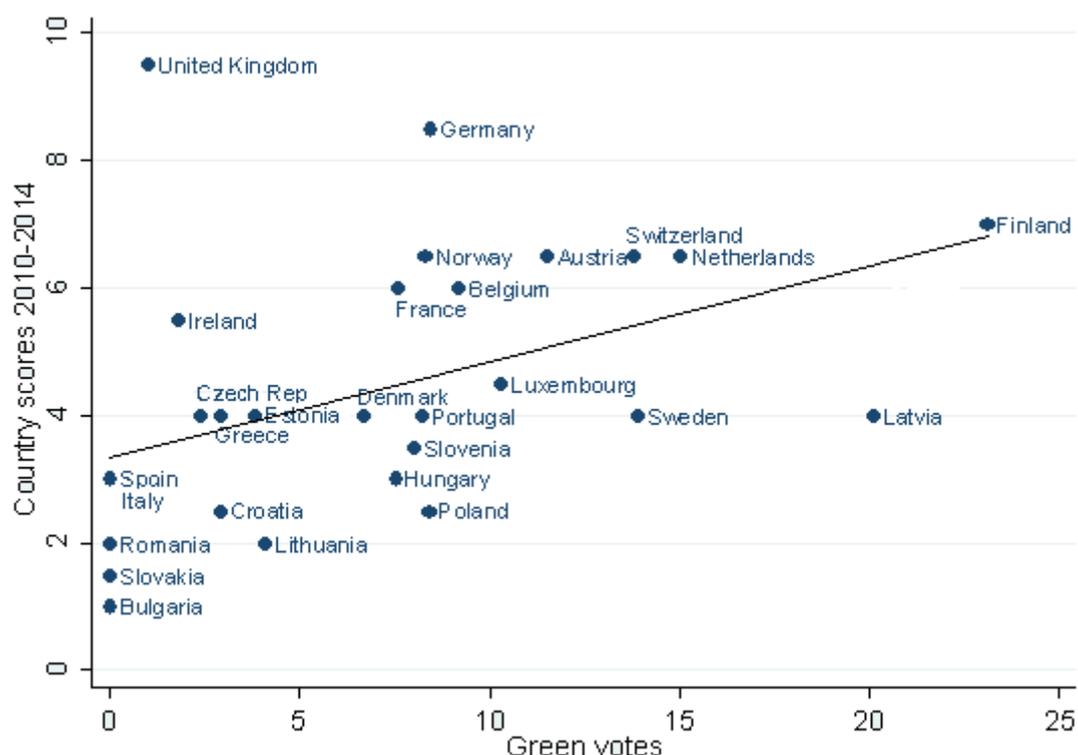


**The influence of green parties**

The previous section has shown that there are important variations in national EPI architectures, both across countries and over time. This section examines the influence of green parties on national EPI.

To first test the proposition that government composition is *not* of major importance for understanding the political underpinnings of EPI, the effect of the relative strength of green/agrarian, centre-left and centre-right parties in government on national EPI was tested. Both bi-variate and multivariate tests were conducted, including the two control variables as well as combinations of the political variables. The UK is an outlier in the sample (see figure 3). The UK has a well-developed national EPI throughout the period examined but lacks a strong green or agrarian party. The analyses were, therefore, performed both including and excluding the UK. No tests produced significant results for any of the political variables (data and results are available upon request).

Figure 3 Green votes and country scores



Testing the effects of the share of votes cast on green/agrarian, centre-left or centre-right parties in parliamentary elections produced significant results for the green party variable in all but one time period. Table 3 presents the results (excluding the UK).

**Table 3 Explaining EPI variance in 28 European countries**

Independent variables	1990-1994		1995-1999		2000-2004		2005-2009		2010-2014	
	M1	M2	M1	M2	M1	M2	M1	M2	M1	M2
Green votes	0.75*** (0.01)	0.07*** (0.01)	0.14*** (0.04)	0.14*** (0.03)	0.07 (0.04)	0.07 (0.05)	0.10*** (0.03)	0.10*** (0.04)	0.10** (0.04)	1.11** (0.04)
GDP per capita	0.17* (0.09)	0.31*** (0.10)	0.43* (0.21)	0.68*** (0.23)	1.12*** (0.32)	1.10*** (0.39)	1.17*** (0.30)	1.10*** (0.37)	1.56*** (0.34)	1.33*** (0.39)
EU membership		-0.01** (0.00)		-0.02* (0.01)		0.00 (0.02)		0.00 (0.01)		0.02 (0.01)
Constant	-1.62* (0.80)	-2.56*** (0.80)	-3.45* (1.90)	-5.21** (2.00)	-7.33** (2.92)	-7.17** (3.36)	-8.17** (2.97)	-7.64** (4.49)	-12.53*** (3.40)	-10.64** (3.70)
Observations	27	27	27	27	27	27	27	27	27	27
Adjusted R-squared	0.65	0.72	0.51	0.57	0.44	0.42	0.58	0.56	0.62	0.63

Notes: Ordinary least squares estimation; standard errors in parentheses; GDP per capita variable is logged \*p<0.10; \*\*p<0.05; \*\*\*p<0.01.

Sources: Political Data Yearbook Interactive; European Election Database; World Bank.

We see that there is a positive and significant effect of green party support on EPI in most of the time periods. The middle period (2000-2004) produced no significant results for the political variable, perhaps because most countries adopted EPI institutions during this time (the “big bang” noted in the previous section) independent of the strength of national green parties. Overall, the models explain between 42 and 72 percent of variance in EPI, with a higher explanatory value at the beginning and end of the studied period.

Concerning the control variables, GDP produced significant results in all models, meaning that higher per capita income is associated with stronger EPI. This is in line with the existing literature. EU membership showed a more mixed pattern. It produced significant (reversed order) results for the two earliest time periods only, implying that those countries that were early members of the EU were also early adopters of EPI.

The same calculations were also performed using the centre-left and centre-right party variables. The regressions – both individually and combined with each other or with the green party variable – failed to produce any significant results (data and results are available upon request).

Last, to see whether patterns differed among eastern and western European states, the same calculations were performed for eastern and western European countries separately (available upon request). The green votes variable was significantly and positively related to national EPI in both groups of countries in all but the middle period, with a somewhat stronger impact in western than in eastern European states. The EU membership variable, on the other hand, produced a stronger positive influence for eastern than western European states. The results seem to imply that, whereas green parties have exerted a more robust influence on the development of national EPI in western European states, the EU played a somewhat more prominent role for eastern European states, in particular during the early and mid 2000s.

The overall interpretation of the analysis is that the political variable that most convincingly explains the degree of national EPI is popular support for green parties in national parliamentary elections. A possible exception is the period 2000-2004 when countries seem to have developed their EPI independently of national politics. For eastern European states, EU membership played a prominent role during the mid-2000s. Economic development positively influences EPI in both eastern and western European countries. On the contrary, government composition seems not to play a systematic role, and the popular support for left or right parties in parliamentary elections seems unrelated to national EPI.

## 5. CONCLUDING REMARKS

This study analysed the relationship between popular support for green parties and national EPI. The analysis revealed interesting cross-country variations in national EPI architectures. Contrary to the dominant view in literature (Jordan and Lenschow 2010), the present study found that there are indeed important best EPI practices to learn from. Although many countries have stopped or reversed their efforts, others have continued to develop their EPI with the UK and Germany as the most prominent top-performer states. Other strong performer states such as Austria, Belgium, Switzerland, Finland and Norway have recently emulated UK and German EPI institutions, implying that there might still be a pull “upwards” concerning national EPI. Therefore, although national EPI practices still leave plenty of room for improvement, in particular concerning issues of vertical integration and stronger enforcement mechanisms, developments in leader states over the past decade as well as the patterns of emulation suggest that EPI is not wholly out of fashion.

The study also found that whereas green parties do not seem to exert any systematic influence on EPI in a direct way through government positions, there is a significant and positive relationship between the popular support for green parties and strength of national EPI. The explanation offered – albeit tentative – is that green parties affect EPI indirectly, through informal negotiations or the overall belief system. Left- or right-wing party strength in government or parliamentary elections was not systematically related to national EPI. This points towards that the role of EPI – as a mechanism to tie the hands of policy makers – is less popular with parties that are often incumbent in national governments.

It is worth emphasising that the EPI index constructed in this study, like all large-n cross-country assessments of the success of institutions, should be treated with caution (c.f., Jacob and Volkery 2008). Comparative evaluation of national EPI is difficult, as both the form and function of institutions differ across countries and over time. Despite these challenges, however, the typology and index developed in this study provide for at least a rudimentary comparison of EPI developments across time and space, as well as allow for some general statements about countries’ environmental integrative capacity. Although the analysis has not attempted to examine the details of implementation or policy effects of EPI, it was recognised that there are often large discrepancies between the existence of an institution and its form and degree of implementation. Therefore, the study adheres to the view that the most ambitious promises of rapid institutional change for integrating environmental concerns

into normal day-to-day policy making through EPI might not have been fulfilled. However, the picture might also not be quite so bleak as reviewers have previously suggested.

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## APPENDIX

### *Classification and coding rules of national EPI architectures*

<b>Variable name</b>	<b>Institution</b>	<b>Motivation</b>	<b>Scoring range</b>	<b>Coding rules</b>
<b>NSDS</b>	NSDS with quantifiable indicators, regularly updated.	NSDS with quantifiable indicators ensures that the government has defined and can be held accountable to progress on SD issues. Regular updates and progress reports facilitates monitoring and evaluation (cf. Steurer and Martinuzzi 2005; Steurer 2008; Pisano et al. 2013).	0; 0.5; 1	No NSDS covering all SD fields or without indicator set gets 0; an NSDS without indicator set or only partly covering the three SD fields gets 0.5; a regularly updated NSDS and comprehensive indicator set gets 1.
<b>Legal backing</b>	Legal or constitutional provision for SD issues.	Legal/constitutional support for an NSDS or EPI helps increase the status and enforce SD issues across government (Jacob and Volkery 2003).	0; 0.5; 1	No legal provision for SD gets 0; legal/constitutional provision without sanctions gets 0.5; legal/constitutional provision with sanctions gets 1.
<b>PM Office</b>	SD responsibility based in PM office (or financial ministry).	Coordinating SD issues from PM office or financial ministry help ensure that SD issues enjoy higher priority across government than if SD is based within environmental or sectoral departments (OECD 2006).	0; 0.5; 1	No connection of NSDS to PM office or finance ministry gets 0; SD issues partly or weakly connected, for instance SD councils co-chaired by PM, gets 0.5; NSDS implementation based in PM office or finance ministry gets 1.
<b>Cross-ministerial committee</b>	Cross-sectoral and cross-ministerial coordinating unit or committee, incl. 'green cabinet'.	A cross-ministerial committee (cabinet or council), either at political or administrative level, helps improve the SD integration across government (Pisano et al. 2013).	0; 0.5; 1	No cross-ministerial committee gets 0; an irregularly active cross-ministerial committee or committee with few ministries represented gets 0.5; a broad and regularly active cross-ministerial committee gets 1.
<b>Sectoral strategies/ units</b>	Sectoral/departmental green strategies or units (incl. 'sector responsibility').	Sectoral/departmental SD strategies or units help ensure that SD issues are translated into sectoral policy. This means SD strategies (also) in sectors which are not normally considered end-of-pipe environmental sectors, such as energy, transport and housing (Jacob and Volkery 2003; Pisano et al. 2013).	0; 0.5; 1	No sectoral SD strategies or units gets 0; few sectoral strategies and/or units in traditionally non-environmental sectors/departments get 0.5; sectoral SD strategies (including sector responsibility) in most major departments gets 1.
<b>SEA/EIA</b>	SEA, EIA or other assessment procedure for environmental projects, programmes and plans.	SEA, EIA or other procedure to assess the environmental outcomes of specific legislation, regulation, policies and plans helps raise awareness about environmental effects of specific policy proposals.	0; 0.5; 1	No SEA, EIA or similar gets 0; only partly or irregularly implemented SEA/EIA gets 0.5; regular use of SEA/EIA across departments/government gets 1.

<b>Impact assessment</b>	Impact assessment (incl. policy appraisal) for <i>ex ante</i> assessment of government proposals in relation to SD (not projects).	<i>Ex ante</i> assessment procedure of SD impacts of government policies is assumed to help enforce SD implementation (Glasson et al. 2012; Hertin et al. 2008; Radaelli and Fransesco 2007). Can be performed e.g. by Parliamentary Audit Committee or individual departments.		No impact assessment or similar gets 0; only partly or irregularly implemented impact assessment gets 0.5; regular use of impact assessment across departments/government proposals gets 1.
<b>Stakeholder involvement</b>	Procedure for stakeholder dialogue on SD issues, including involvement in NSDS formulation.	Stakeholder involvement in NSDS formulation and/or implementation helps increase legitimacy, facilitate implementation and the ability of stakeholders to hold government accountable (OECD 2006; Pisano et al. 2013).	0; 0.5; 1	No procedure for stakeholder involvement gets 0; weak or irregular involvement gets 0.5; regular and broad stakeholder involvement gets 1.
<b>Advisory council</b>	A high-level independent SD advisory or expert council or committee.	An independent advisory or expert council helps raise knowledge about SD issues, enforce monitoring and evaluation and strengthen SD implementation (OECD 2006).	0; 0.5; 1	No advisory council gets 0; weakly or irregularly active advisory council or only partly independent advisory council gets 0.5; high-level, active independent advisory council gets 1.
<b>Green budgeting</b>	Connection of SD issues with departmental or government budget processes.	The connection of SD issues to the budget process, e.g. through the incorporation of an SD chapter in the budget or the evaluation of how individual departmental budgets affect SD, helps raise awareness of SD issues as well as support implementation (Jacob and Volkery 2003, 2004; Wilkinson et al. 2008).	0; 0.5; 1	No connection of SD issues to budget process gets 0; weak connection of SD to budget process gets 0.5; regular connection of SD issues to budget process gets 1.