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Support for European Union Environmental Policy by Citizens of EU-Member and Accession States¹

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Abstract

In a first step we reconstruct the emergence and content of European Union ecological policies and their underlying normative ideas. These policies have become increasingly important since the 1970s such that today the EU expects member states actively to protect the natural environment even at the price of less economic freedom and higher financial costs. We then analyze the extent to which citizens support the idea of protecting the environment. Overall the approval rating for the EU ecological ideas is rather high, and environmental protection is an integral component of European citizens' values. Nevertheless, not all countries support this to the same degree. Citizens of EU-15 countries show higher levels of support for having the environment take precedence over economic claims than do citizens in Accession I and II country groups and in Turkey. As regression analysis shows, the level of support depends on several factors. The most important ones are a country's level of economic modernization and its citizens' post-material value orientation.

Keywords

environmental policies, environmental attitudes, European integration, European societies, modernization

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In its March 2007 meeting, the European Council made a far-reaching decision regarding environmental protection and combating climate change. The European Council emphasised the EU's commitment to transform Europe into a highly energy-efficient, low greenhouse-gas-emitting economy. The Council defined binding targets by 2020 to: (a) reduce EU emissions by twenty percent regardless of progress made in post-Kyoto Protocol international negotiations, (b) make twenty percent of the EU's overall energy consumption come from renewable energy sources, and (c) decrease EU energy consumption by twenty percent as compared to projections.

These Council decisions are a current example of how environmental policies are no longer made at the level of member states alone but instead also at the EU level. European nation states have ceded a substantial part of their sovereignty to the EU, and their citizens are directly subject to EU decisions. European law infringes upon national law, with the commission supervising the implementation of decisions and the European Court of Justice being able to place sanctions on member states in cases of non-compliance (Lepsius 1990; Peterson and Blomberg 1999).

A number of indicators illustrate how sovereignty has been conferred from member states to central EU institutions: The continuously rising number of decisions made by the European Council and the European Commission (Wessels 1997), the increasing number of Councils of Ministers (Knill 2003), and the ever-greater directing of attention by intermediary organizations and interest groups to the European level (Fligstein and Stone Sweet 2002; Stone Sweet et al. 2001).

That sovereignty rights have been conferred from the national to EU level gives central EU institutions the power to intervene directly in member state affairs. Citizens in member states, therefore, have increasingly become subject to EU decisions. The question remains open, however, as to whether EU citizens accept EU decisions and policies or whether EU decisions reflect the preferences and values of EU citizens. Citizen acceptance of and support for EU regulations is significant in determining the legitimacy of European policies in that EU political decisions are structurally dependent on citizen support. If this support is missing, legitimacy problems may arise for EU institutions, as was revealed in May 2005 when French and Dutch voters rejected the European constitutional referendum. The elite European project to give Europe a new constitution failed when citizens in two member states refused to support the idea.

In this article we tackle this general question of citizen support for EU regulations by focusing on environmental policy. EU environmental policies have become increasingly important since the 1970s (Bailey 2003; Barnes and Barnes 1999; McCormick 1999). The breadth of environmental regulations increased substantially, and environmental protection worked its way up the policy agenda and into the constitutional draft. Environmental protection is presently at equal rank with freedom of movement, the social market economy, and gender equality rights.

The first section of this article reconstructs the origins and underlying ideas of EU environmental policies by looking at the historical development of EU legislation from the 1950s to the 2004 eastward expansion. The second section analyzes the extent to which citizens from individual member states support the idea of protecting the environment, using a secondary analysis of the 1999 “Gallup International Millennium Survey.” Our descriptive findings show substantial variation among European citizen support for EU environmental ideas. The third section attempts to explain these differences. We formulate several hypotheses and test them using regression analysis. Because the Gallup Survey does not contain enough relevant variables, we use 2000 “International Social Science Programme” (ISSP) data to test our hypotheses. Finally, we discuss conclusions to be drawn from our findings for the future of EU environmental policy.

European Union Environmental Policy

EU environmental policy has experienced astonishing developments since the 1970s. Environmental protection was not on the political agenda when the EC was launched in 1957, and only isolated environmental guidelines appeared until the early 1970s. These, however, cannot be characterised as European environmental policy due to their minor significance (McCormick 1999). Since the 1970s, environmental topics have become more relevant in the European Union. We can distinguish three phases: the beginning phase, the legal establishment phase and the expansion phase.

Beginning Phase

As a result of the first United Nation environmental protection conference held in Stockholm in 1972, European Community state and government

leaders executed a declaration of environmental and consumer policy. This declaration assigned the European Commission to work out an “Action Programme” for environmental policy. Although this declaration was only a prescription and guideline, without clout, its significance should not be underestimated. Concrete political initiatives within the legislative process have been guided by this agenda (cf. Barnes and Barnes 1999; Krämer 1992).

The European Commission agreed upon the “First Environmental Action Programme” in 1973. Among other tenets this programme established the “polluter principle” which requires that costs of pollution be borne by those who cause it. The subsequent five Action Programmes (1977, 1982, 1987, 1992, 2002) gave environmental objectives increasingly more clout. As examples, the “Third Action Programme” (1982) specified integration of environmental policy into other political arenas, and in the Fifth (1992) and Sixth (2002) Action Programmes policy makers defined concrete environmental problems and their treatment. They also outlined the principle of cooperation between EU actors and their non-governmental counterparts.

Since environmental protection was neither included in the Treaty of Rome nor defined in primary legislation as a European task, the European Commission did not have legitimacy regarding environmental policies. This legitimacy deficit was overcome by a strategy known as “frame-bridging.”² Since the EU’s beginnings as primarily an economic community, its jurisdiction has expanded into other policy fields through interpretative connections to economic issues.³ The EU has expanded its jurisdiction to environmental questions using this strategy (cf. Knill 2003:19ff.; Johnson and Corcelle 1989:2ff.).

In the preamble of the Treaty of Rome, the EU states its objective to improve life and employment conditions. Article 2 states the EU’s commitment to encourage a harmonic development of economic life. The Tre-

² The concept of “frame-bridging” was developed by David Snow in the context of social movement research (cf. Snow et al. 1986; Snow and Benford 1988).

³ For the family policy of the EU, see Gerhards and Hölscher (2003). The EU conducts family policy in every area where family questions correspond to economic ones. In that political regulations of relationships between economy and family have an effect on domestic family life, the EU also indirectly pursues avenues in family policy. In this manner, the EU attempts to establish its own values of a desirable family on citizens.

ty's creators indeed intended for the term "living standards" to be viewed in a strict economic light. However, the "frame-bridging" concept has enabled ecological "living standards" to be included as a relevant mission.

Environmental protection was not explicitly mentioned in the Treaty of Rome, and until 1987 EU environmental measures were legitimised through economic arguments (Barnes/Barnes 1999).⁴ Despite its tenuous legal standing, environmental policy broke away from other policy fields and became more independent. In addition to the Action Programmes, the EU has also adopted around 200 binding legislative acts between 1957 and 1987. This more independent interpretation of EU environmental policy was legitimised by the European Court when it accepted standardised production regulations. These harmonised production regulations and determined emission values.⁵

Legislative Establishment

With the Single European Act of July 1, 1987, the Treaty for the European Economic Community expanded and separated environmental policy from other fields. Consequently, environmental policy was given its own Directorate General, which served to underscore the institutional position of the environment. The Maastricht and Amsterdam Treaties (1993 and

⁴ In addition to Article 2, Article 94 of the European Community Treaty has been applied in such circumstances. "The Council shall, acting unanimously on a proposal from the Commission and after consulting the European Parliament and the Economic and Social Committee, issue directives for the approximation of such laws, regulations or administrative provisions of the Member States as directly affect the establishment or functioning of the common market." These issuances are carried out on suggestion of the European Commission after a hearing in both the European Parliament and the Economic and Social Boards.

⁵ As Knill (2003:25f.) points out, environmental policy has emerged as a self-contained European political field for three reasons. First, pressure evolved from the increased ecological problems that began in the 1980s in member states, (i.e. "Waldsterben" in Germany). Second, pioneer countries increased this dynamic. On the basis that ecological problems transcend national boundaries, Germany, the Netherlands and Denmark attempted to increase pressure on other countries through Europe-wide ecological measures. The Court of Justice has supported these actions. Last, previous negotiations have shown that several member states underestimate the financial consequences of EU environmental regulations. For example, countries agreed upon strict guidelines for drinking water quality without truly comprehending the long term costs of its implementation.

1999, respectively) further strengthened this delineation between environmental policy and other political arenas. The European Environmental Agency opened in Copenhagen in 1994 to collect environmental data and distribute information for decisions made in Brussels.

The symbolic culmination of these institutional developments was the incorporation of environmental protection into the preamble of the proposed European constitution. Article I-3 states “The Union shall work for the sustainable development of Europe based on balanced economic growth and price stability, a highly competitive social market economy, aiming at full employment and social progress, and a high level of protection and improvement of the quality of the environment.” Goals are defined precisely in Art. III-233, which enumerates the following in detail:

- preserving, protecting and improving the quality of the environment;
- protecting human health;
- prudent and rational utilisation of natural resources;
- promoting measures at the international level to deal with regional or worldwide environmental problems.

The concept of environmental protection has become a permanent component of EU policies over the past twenty years. This by no means implies that the EU as an *economically* integrated Europe has been replaced by a concept for an ecologically sound Europe. Nevertheless, economic criteria have been increasingly supplemented by ecological standards that at times contradict the former. This interaction of ecology and economics has taken the EU’s ecological concept beyond abstract ideology; rather, this concept was and is momentous and effective in a number of concrete decisions.⁶

⁶ The following example illustrates the importance of environmental policy: On September 17, 2002, the European Court of Justice confirmed that demanding environmental criteria, which transcend previous legal demands, must be taken into account when observing competitive guidelines. The case in question was on the performance of public transportation. According to the European Court, the EU’s high ecological standards remain applicable even when only a few transport companies can fulfill the criteria. Looking specifically at Helsinki in 1997, the city determined it necessary to include supplementary criteria, such as emission standards, in a bid for the inner-city bus system. Only natural gas buses could comply with these criteria. After the municipally-owned enterprise received the bid, a competitor complained for unlawful discrimination. The Advocates General

Enlargement

In 2004, the EU expanded its policies to new acceding states from Central Eastern Europe, including Cyprus and Malta. The 1993 Copenhagen criteria insist that every acceding state accept the thirty-one chapter *Acquis Communautaire* before joining the union. Chapter 21 covers environmental protection and is divided into ten sections. These provide the basis with which to examine acceding state compliance with EU environmental policy (cf. Appendix 1).⁷

Formal legislative assimilation is intended to accompany practical implementation of these statutory provisions. In this manner, the environmental support programme becomes integrated into economic other policy spheres of accession states. Another aspect of the enlargement criteria is that the ecological benefits of biological diversity be maintained. Acceding states are obliged to establish “realistic long term national strategies dealing with effective and gradual assimilation” (European Community 1995–2005a:1). Implementation of these national strategies was to begin immediately. The European Commission determined which environmental sectors were top priorities on a case by case basis, noting in particular the need for adjustment in air and water pollution and waste management (European Community 1995–2005a:2).

Adjusting to EU environmental standards comes with considerable financial costs for acceding states. Costs in capital investment are estimated anywhere between 100 to 120 billion Euros. This investment deals first and foremost with the costs of setting up an infrastructure for drinking water maintenance, waste treatment, and waste management. Acceding states have to supply the necessary means themselves, but bilateral community programmes have been developed to help defray costs.

responsible for the case argued that a community is allowed to determine environmental objectives, which must also be codified in a bid's criteria searching for the best offer. As explained by the Service Guidelines (RL 92/50), a commitment to combating gas exhaust in public transportation should be a criterion of every desirable offer. Consequently, these environmental criteria could not be interpreted as discrimination toward other bids whose vehicles did not fulfill the required threshold.

⁷⁾ In line with accession negotiations, sixty transition periods were agreed upon for application of community law. These include the particularly cost-intensive areas of waste treatment for water and air purification (BMU 2005).

This support system has had a significant pre-accession history as well. The PHARE-Programme (“Pologne, Hongrie Assistance á la Reconstruction Economique”) was originally conceived for Poland and Hungary in 1989, and has provided one and a half billion Euros to acceding states since 2000. Similarly, ISPA-programmes (“Instrument for Structural Policies and Pre-Accession”) provide up to one billion Euros of funding for combating environmental problems. Access to these funds is dependent on the compatibility of an acceding state’s new investment with the aforementioned *Acquis Communautaire*. The EU even encourages international financial institutions to provide loans to acceding states on the condition that they conform to environmental standards in the *Acquis Communautaire* (European Community 1995–2005a:3).

In summary, environmental protection has achieved increasing significance since the founding of the EEC and has become an integral part of EU policy. Although the Union is still primarily an economic community, ecological criteria have supplemented economic criteria. In creating a unified common market, the EU has, of its own volition, adopted an environmental policy that has gradually become part of the primary legislation in its treaties. This environmental policy has continuously broadened environmental aims in the various “Action Programmes.” One of the most important aspects of EU environmental policy is in regard to enlargement; the EU has created a contingency between membership and investing in comprehensive environmental protection. These measures are annually financed with billions of Euros from a variety of EU programmes.

Environmental Attitudes of EU and Acceding State Citizens

To what extent do European citizens from different societies support the idea of an EU with a high level of environmental protection that may constrain purely economic criteria?

Data, Variables and Methods

There are a number of data sets that can be used to examine the attitudes of EU citizens toward the environment. We have chosen the 1999 “Gallup International Millennium Survey,” a standardised attitudinal survey carried out in eighty-two countries on every continent by the “Gallup Inter-

national Association” (GIA), one of the largest worldwide commercial opinion research institutes.⁸ The survey is based on a random sample of people over age fourteen. It was carried out in 1999 using a CATI-Interview technique. If this method was not possible due to national technical restrictions, a CAPI-Interview was used. The number of respondents ranged from 500 in smaller countries to up to 2,000 in highly populated countries. The survey asked about personal stances in the following spheres of life: environment, governance and democracy, religion, equal rights of the sexes, criminality, general life goals, the UN, and human rights.

We chose the Millennium Survey for two reasons. First, it has been carried out in the majority of European countries and covers almost all member and acceding EU states. Of the EU-15 countries, only Greece and Portugal were not surveyed. Out of all 2004 acceding countries (Accession I), only Slovenia and Malta are missing. The 2007 acceding states Romania and Bulgaria (Accession II) as well as Turkey were included in the survey.

Our second reason for using the Millennium Survey is that one question operationalizes quite well the core idea of EU environmental policies. The following question was posed to the respondents: “Which of the following statements do you tend to agree with more? (1) It is more important to protect the environment than to ensure economic growth. (2) It is more important to ensure economic growth than to protect the environment. (3) Don’t know.”

The manner in which this question is formulated has two distinct advantages. The question not only broaches the costs associated with environmental protection. It also allows for a more valid operationalization of value alignments. This is the case because the chosen value position can be associated with certain costs either for the individual or for the social entity.⁹ The way in which the question is formulated implies that environmental protection is connected with material costs or, alternatively, that environmental norms restrict economic growth because compliance induces costs for which the individual or the community must pay. We showed in the previous section how ecological ideas were gradually introduced

⁸ The data set is free for scholarly purposes and available at the “Gallup International Association.”

⁹ See Diekmann and Preisendörfer (2003) regarding the so called “low-cost hypothesis.”

alongside economic and general growth issues. The chosen question, therefore, embodies both of these aspects.¹⁰

Results

Table 1 shows the results of our calculations. Citizens in twenty of the twenty-two countries (Hungary and Turkey being the exceptions) place a higher priority on environmental protection than economic growth. This is a very high approval rating as compared to other EU policy fields (cf. Gerhards 2007, 2008). Citizens are astonishingly highly supportive of the EU ecological framework.

There are, however, clear distinctions in levels of support between the four country groups. Almost sixty percent of EU-15 citizens give precedence to environmental protection over economic growth; only in Germany is the average lower than fifty percent. The Millennium survey does not differentiate between respondents from East and West Germany, and as is discussed in the next section, this lower average as compared to other EU-15 countries may trace back to a lower approval rating among citizens of former East Germany. In the accession I and II countries, the approval rating is approximately forty-eight percent. In Turkey, only slightly more than forty percent of respondents showed higher levels of support for environmental protection.

Table 1
Environmental values in EU member states and Turkey (relative frequencies)

	Environmental protection is more important than economic growth	Economic growth is more important than environmental protection	Do not know
EU-15	59,7	25,4	15,0
Denmark	72,5	15,2	12,3
Finland	69,8	15,3	14,9
Great Britain	65,5	25,4	9,1

¹⁰⁾ The question does not measure citizen attitudes towards specific EU environmental policies but rather towards more generalized values. The latter, however, have an impact on more specific policy-oriented attitudes.

Table 1 (*cont.*)

	Environmental protection is more important than economic growth	Economic growth is more important than environmental protection	Do not know
Sweden	62,2	29,4	8,4
Spain	62,0	17,9	20,1
Luxembourg	60,4	26,8	12,8
Netherlands	59,8	19,3	21,0
Italy	59,5	26,0	14,5
Ireland	57,3	23,2	19,5
Belgium	56,1	33,9	10,0
Austria	53,5	21,0	25,5
France	52,7	43,2	4,1
Germany	44,3	33,4	22,3
Accession I	48,2	40,3	11,5
Slovakia	57,2	39,9	2,9
Lithuania	49,0	45,9	5,2
Estonia	48,9	38,2	12,9
Poland	47,4	35,9	16,7
Latvia	45,8	37,1	17,1
Hungary	41,0	44,9	14,1
Czech Republic*	–	–	–
Accession II	47,9	21,8	30,3
Romania	47,9	21,9	30,2
Bulgaria	47,8	21,8	30,3
Turkey	40,5	44,4	15,1

Source: Gallup Millennium Survey, N = 21680; relative frequencies as well as aggregated frequencies in accordance to entry groups; rounded.

* The environmental question was not asked in the Czech Republic.

Differences between the country groups are highly significant (Pearson $\chi^2 = 1.1e+03$, $p_t < .001$).

When looking at the second column of Table 1, an approximately inverse pattern emerges. Whereas only about a quarter of interviewed EU-15 citizens give priority to economic growth over environmental protection, this jumps to over forty percent when looking only at Accession I countries and Turkey. In Accession II countries, a larger number of respondents are ambivalent, with thirty percent not in a position to make a decision between these two values.

Significant differences also exist within the country groups at the national level. The Scandinavian countries have the highest approval rating for environmental protection, followed by Western European countries such as Great Britain, the BeNeLux-countries, Italy, Spain and Slovakia. Scandinavian countries represent the paragon for EU values, as with a number of other value spheres (cf. Gerhards 2007; Hölscher 2006). Latvia, Hungary and Turkey have the lowest approval rates for environmental protection, and these results correspond to a large extent with other data sets like the Eurobarometer 62.1 (European Commission 2005:41 et sqq.; or the 1990–1993 World Values Survey; see Inglehart 1995:61).

Citizen approval rating for EU environmental policy is rather high overall, and we can say that environmental protection is a fixed component of European citizens' belief systems. However, this does not apply equally for all countries; support for environmental protection in acceding countries is less strong. EU enlargement will consequently change the overall level of support for environmental protection. Even in the medium term future, this may have consequences for both the institutional structure of the EU and for those political actors who have clearly associated their careers with environmental issues.

We expect the terms and conditions for implementation of EU goals to deteriorate with further expansion due to the fact that support for central institutional demands will weaken. New countries receive an equal voice on the EU-boards after becoming member states. If these representatives from new member states orient themselves with their citizens' environmental beliefs, securing the right for environmental questions to be heard may become more difficult.

However, values are not immutable, and change depends upon the social conditions that mould these attitudes. If general conditions in the acceding countries change, this can lead to increasing support for EU environmental objectives in the long run. It is therefore important to analyse

which social contexts influence personal beliefs concerning environmental protection.

Explanation of Attitudinal Differences Toward the Environment

Hypotheses

We assume that citizen attitudes toward environmental protection depend on three conditions: (1) the material welfare of the citizens and of their country, (2) citizens' general value orientations, and (3) the environmental quality of the respective countries.¹¹

A. Environmental Protection as a Budget Restriction

We presume that EU citizens perceive environmental protection as a financial burden. This is due to the fact that environmental protection measures are predominately associated with expenses, as opposed to being viewed as sources of economic progress (cf. Diekmann and Preisendörfer 2003). A number of environmental protection measures, such as installing filter equipment or establishing protected land reserves, are certainly connected with increased costs. Hence, environmental protection competes with citizens' material interests and a number of other societal values.

We assume, therefore, that preferences for protecting the environment depend on level of individual welfare. Wealthier citizens have fewer budget restrictions when it comes to investing in environmental protection and generally supporting environmental protection (cf. Diekmann and Franzen 1999). This assumption corresponds to other theories, whereby the readiness to engage in environmental protection increases along with rising levels of individual welfare (Baumol/Oates 1979:174 et sqq.). We operationalize individual welfare by means of citizen per capita income (equivalent income).

¹¹⁾ From our point of view countries in and of themselves do not constitute relevant analytical categories; rather, one must break countries down into social variables by investigating what lies below the surface of these countries. Emile Durkheim was the first to formulate the dictum that social facts must be explained by social facts. Following this logic, we attempt to decipher the particular social characteristics of the countries (like the level of modernization), which may influence the attitudes of their citizens.

H1: The higher the equivalent income of an EU-citizen, the more strongly he/she is to prefer environmental protection.

This same relationship may also be valid for budgetary restrictions of a particular EU country. Higher expenditures for environmental protection increases pressure on a state's budgetary expenditures for competing state programmes. In accordance with other studies (Diekmann and Franzen 1999; Franzen 2003), we assume that citizen approval for environmental protection depends upon the economic well-being of their country. Consequently, citizens of richer countries tend to show higher levels of support for environmental protection. We measure a country's material welfare by means of its GDP per capita.

H2: The greater a country's GDP per capita, the greater its citizen level of support for environmental protection.

B. *Generalised Values*

People follow not only their material interests but also their ideological orientations and beliefs (see Fehr/Fischbacher 2002 for an overview of empirical results). The left/right scheme depicts an abstract ideological grid that citizens use to interpret concrete political topics. Dieter Fuchs and Hans-Dieter Klingemann (1990) have empirically reconstructed the left/right scheme through an investigation in three countries. In their reconstruction, "right" is strongly associated with economic development, growth, and national identity. "Left" is associated with equality, solidarity, socialism, and internationalism.

As shown by different empirical studies, the left/right schema also affects attitudes toward environmental protection (cf. Preisendörfer 1999: 156; Preisendörfer and Franzen 1996:228). We assume that people who consider themselves on the left are more likely to support environmental protection, whereas citizens on the right are more likely to oppose environmental protection.

H3: People with a leftist orientation show higher levels of support for environmental protection than do people with a rightist orientation.

In our second hypothesis, we proposed that a country's welfare influences the environmental ideals of its citizens. We take up this hypothesis once

again, now using different indicators within a different context. Ronald Inglehart assumes that an improvement in economic well-being is accompanied by changes in citizens' fundamental value system (Inglehart 1971, 1990, 1997.) That is, the increased possibility of satisfying material needs leads to a shift in value system, from materialist ideals toward post-materialist values. Materialist values include a satisfactory amount of economic security and living conditions. Post-materialist values include desires for self-development and participation.

According to Inglehart, citizens with post-materialist orientations support environmental protection to a higher degree because they interpret a sound environment as a precondition for self-development (Inglehart 1995; also see Betz 1990). This effect occurs independently of a person's current budget restriction or that of his/her country. A basic assumption of socialisation research is that citizens internalise fundamental values during adolescence (cf. Inglehart 1971; Nunner-Winkler 2000). This value orientation tends to remain relatively stable even if individual or national economic conditions change (cf. Franzen and Meyer 2004:121). Using the "Inglehart-Index" to measure post-materialist attitudes, we formulate the following hypothesis:

H4: People with a post-materialist value orientation show higher levels of support for environmental protection than do people with a materialist value orientation.

A number of different studies have shown that environmental consciousness fades as people age (Buttel 1979; Greenbaum 1995; Mohai and Twight 1987). A cohort effect seems to be responsible for this correlation. Socialisation for people born after 1960 in EU-15 countries took place when environmental damage, such as air and water pollution or the risk of using nuclear energy, were increasingly perceived in the public as societal problems. Environmental issues were barely discussed in public during the socialisation period of people born before 1960. We therefore assume that age, as a proxy for EU citizen cohort groups, reveals an independent and self-contained effect on a respondent's environmental orientation.

H5: The younger a person is, the more likely he/she is to support environmental protection.

C. *Environmental Quality*

Our last hypothesis focuses on the relation between objective environmental conditions and environmental attitudes. Some authors assume that higher environmental consciousness results from poor local and national environmental conditions. Using data from the “World Values Survey” (1990–1993), Inglehart shows that citizens approve environmental protection measures when higher levels of air pollution emerge in their country.

Riley Dunlap comes to similar results from a different theoretical approach (Dunlap 1994; Dunlap et al. 1993). Using the 1993 Gallup “Health of the Planet Survey”, Dunlap concludes that the worse the environmental conditions are in a local area, region or country, the more sensitive citizens appear to be to environmental problems. He also asserts that these citizens place greater importance on environmental protection.

The “Environmental Sustainability Index” (ESI) from Yale University’s “Environmental Performance Measurement Project” is an appropriate indicator to measure the environmental quality of a country. The ESI consists of twenty-two socio-economic, environmental and institutional indicators (cf. Appendix 2). Following Dunlap’s empirical results, our last hypothesis is:

H6: The worse the environmental quality of a country, the more a country’s citizens will prefer environmental protection.

Data, Variables and Methods

The Gallup Millennium Survey does not contain relevant information on the socio-economic situation or respondents’ political value orientations. Therefore, we could not use this data set for our causal analysis. Instead, we use data from the 2000 “International Social Science Programme” (ISSP). The ISSP, begun in 1983, coordinates comparative country surveys. In 2000, environmental attitudes were surveyed in twenty-six countries worldwide, with national samples ranging from 900 to 1,500 respondents. Depending on the particular country, the ISSP employed standardised questionnaires to be filled out individually or in face-to-face interviews.

The ISSP data set “Environment II” certainly has the shortcoming of not covering all EU countries, which is why we did not use this data set for our descriptive analysis in Table 1. Citizens from ten out of the EU-15 countries were interviewed as part of the ISSP. Surveys were carried out

separately for East Germany and West Germany, and they are treated separately in our analysis. Only three Accession I countries and one Accession II country were included, which adds up to fourteen European countries.¹²

Despite this shortcoming, we decided to use this data set for three reasons. First, it contains all of the independent variables described in the previous section. Second, unlike other data sets, such as Eurobarometer 62.1, the ISSP 2000 provides data from each of our four EU country groups. Third, we assume that the causal relationships postulated above apply to all European countries to the same degree. In our view, countries stand for specifications of particular constraints, such as the degree of economic modernisation or of environmental pollution.

We can test the validity of this assumption by comparing results from the ISSP with those of Gallup survey. If the results correspond, our assumption is correct and our use of ISSP data is justified.

There are several items available to measure environmental values that compete with economic ones. The following ISSP question measures the degree to which a respondent would be prepared to accept a lower standard of living for the sake of the environment: “And how willing would you be to accept cuts in your standard of living in order to protect the environment?” The respondents then answered this question on a five point scale. We prefer this item over index-based environmental awareness measurements because it corresponds most closely with our measurement strategy as discussed in the section “Environmental Attitudes...”: Environmental protections are combined with potential costs for the respondent.

We conducted partially expanded linear regression analysis to test our hypotheses, and Appendix 2 provides a brief description of the variables used. Our basic model tests the influence of age and individual material well-being on a respondent’s viewpoints regarding environmental protection. The second model adds post-materialist values and political orientations. The next two models test the influence of a country’s economic welfare and environmental quality. Since both variables are highly correlated ($R^2 = .45$), we test their particular influence separately to reduce multi-collinearity. The third model adds the Environmental Sustainability

¹²⁾ There was no household size provided in Ireland, which is necessary for calculating equivalent income. Therefore, the data from Ireland is not included in our analysis. This is why only data from 13 countries plus East Germany are available.

Index, which measures the environmental quality of a country. The fourth model includes all variables from the second model plus GDP per capita (Purchasing Power Parity).

Since several people from every country were interviewed, we assume that membership of an interviewee in a country still has an unobserved influence on his or her environmental attitudes. This would weaken the results of the regression analysis. To compensate, we evaluate robust standard errors in consideration of country clusters (Huber-Regression; cf. Huber 1967).¹³

Results

The extent to which the ISSP and Gallup Millennium Survey data reveal similar country differences is shown in Table 2. Approval ratings are markedly lower than those in Table 1, but the overall country distribution is similar in both surveys. Once again, EU-15 citizens express the most environmentally friendly opinions; Scandinavian countries, Austria and West Germany are in the forefront, followed by Accession I then Accession II countries. Latvia supports environmental protection the least, with only a six percent approval and a seventy-eight percent disapproval rating.

Table 2
Accepting a lower standard of living for the sake of environmental protection (relative frequencies)

	Agreement	Disagreement	Neither
EU-15	36,4	38,4	25,2
Austria	50,6	28,7	20,8
Sweden	44,9	27,3	27,8
Germany (West)	43,3	27,4	29,3

¹³) We do not use multi-level analysis because our hypothesis does not contain cross-level effects between individual and national levels of analysis, nor does it suggest different effects for the individual variables in different national contexts. We therefore confine our analysis to a Huber-Regression. Additionally, we do not include other socio-demographic attributes in our models such as gender and level of education because these variables are not of theoretical interest to us. We did calculate models with both variables and the coefficients remained stable, thereby justifying their exclusion here.

Table 2 (cont.)

	Agreement	Disagreement	Neither
Finland	42,3	30,2	27,5
Netherlands	39,6	34,9	25,5
Ireland	35,3	48,0	16,7
Denmark	32,8	34,0	33,2
Spain	30,9	44,8	24,3
Germany (East)	26,6	47,0	26,4
Great Britain	26,3	49,9	23,8
Portugal	16,8	60,8	22,4
Accession I	20,3	56,5	23,2
Slovenia	33,8	30,3	35,9
Czech Republic	21,0	60,6	18,4
Latvia	5,8	78,1	16,1
Accession II	12,1	69,1	18,8
Bulgaria			

Source: ISSP 2000, N = 15467. Operationalization: Addition of both agreement and disagreement categories; rounded.

Differences between the country groups are highly significant (Pearson $\chi^2 = 663.3538$, $p_t < .001$).

The results of our multivariate calculations are shown in Table 3. Our *basic model* shows that the younger the respondent, the more likely he or she is willing to accept a lower standard of living in return for environmental protection. This confirms hypothesis H5. Other studies reach similar conclusions (Greenbaum 1995; Mohai and Twight 1987). We also found that the level of equivalent income correlates positively to a preference for environmental protection, thus confirming hypothesis H1. The larger an individual's financial resources, the more likely he or she is prepared to support environmental protection. This highly significant effect remains constant in all the models.

Model 2 takes generalised value orientations into account. The coefficients for socio-demographic variables do not fundamentally alter the stability of

our model. To verify the political orientation effect, people with a leftist orientation were chosen as the reference category. In comparison to leftist interviewees, respondents with a rightist orientation showed lower levels of support for decreasing their standard of living for the sake of environmental protection. This highly significant and robust effect confirms Hypothesis H3.¹⁴

Hypothesis H4 is also confirmed by our analysis. People with post-materialist orientations have a greater sensitivity for matters concerning the environment than people with materialist value orientations.

Table 3
Linear Regression “Lower Standard of Living for environmental protection”

	Model 1	Model 2	Model 3	Model 4
<i>Socio-demographic features</i>				
Age (in years)	-.054** (-3.35)	-.0446** (-3.31)	-.038** (-3.19)	-.044** (-3.59)
Equivalent income	.064** (3.52)	.066** (3.93)	.067** (3.82)	.068** (3.76)
<i>Generalised attitudes</i>				
Political orientation (Ref.-cat. far left)				
Middle/ left		.001 (0.01)	.003 (0.06)	.003 (0.08)

¹⁴⁾ Additionally, we calculated separate regressions for EU-15 countries and Accession I & II countries (without table). Results show only one significant difference, namely a reverse effect of the political orientation. In Accession I & II countries, respondents with leftist orientation vote against environmental protection, whereas in EU-15 countries, leftist interviewees argue for it. We interpret this discrepancy as an effect of different political traditions during the state-socialistic period in Central Europe. After controlling for interaction effects between EU-group affiliation and political orientation, the main effects remain stable.

Table 3 (cont.)

	Model 1	Model 2	Model 3	Model 4
Right / far right		-.107*** (-4.82)	-.087** (-3.41)	-.081** (-3.10)
Post-materialism (Inglehart-Index)		.142*** (8.31)	.131*** *(8.46)	.110*** (8.58)
<i>Country features</i>				
Environmental quality (ESI-Index)			.125* (2.34)	
GDP per capita (PPP)				.206*** (5.48)
R²	.008	.041	.056	.082

Source: ISSP 2000; N = 7063; hierarchical regression models with robust standard errors in consideration of clusters depending on country membership; standardised regression co-efficients are indicated; t-values in brackets; * $p_t < .05$, ** $p_t < .01$, *** $p_t < .001$.

In *Model 3*, we tested to see if a country's particular environmental quality influences the environmental attitudes of its citizens. Unlike the position proposed by Dunlap, we cannot determine any negative correlation between a country's environmental quality and its citizens' environmental values. On the contrary, we found that when the environmental quality of a country improves, so does citizen readiness to sacrifice some individual standards of living for environmental protection.

Model 4 expands upon *Model 2* by including GDP per capita (PPP) into the analysis. In concurrence with Hypothesis H2, we notice that support for environmental protection increases with higher levels of GDP.

Finally, we compare the standardised effects of independent variables. A country's GDP has the strongest effect on citizen support for environmental protection, followed by national environmental quality and post-materialist orientations. It is important to note, however, that the total explained variance, eight percent, is not that large. It is not our goal to present an all-encompassing explanation of people's environmental attitudes; rather,

we have tested several hypotheses that are decisive for the long-term development of EU environmental policy.¹⁵

Conclusion

In this article, we have explored the extent to which citizens support the institutionalised environmental values of the European Union. We have seen that EU environmental policy has become increasingly important since the 1970s. The EU expects member states actively to protect the natural environment even at the price of less economic freedom and higher financial costs. We analyzed the extent to which citizens support the idea of protecting the environment and found overall that the approval rating for the EU's ecological ideas is rather high. Environmental protection is an integral component of European citizens' values.

One can conclude from our findings that the new EU initiative regarding environmental protection and combating climate change will find support from citizens of the European Union. Nevertheless, not all countries support this to the same degree. Citizens of EU-15 countries show higher levels of support for the environment to take precedence over economic claims than citizens in Accession I and II country groups and in Turkey.

Preferences for environmental protection depend, above all else, on a country's degree of economic and ecological modernisation and then also on the fundamental value orientations of its citizens. Post-materialist attitudes also depend on a country's degree of economic modernisation.

At this time, Accession I and II countries, as well as Turkey, remain significantly behind the older member states in all of these aspects. This can change in the long run if our causal analysis is correct and the following steps are realised: First, the expected economic modernisation in new member states proceeds; second, the fundamental materialist value system changes to post-materialism. Lastly, the environmental constraints imposed

¹⁵⁾ To reassure the validity of our findings, we have additionally calculated regression models using the 1999 Millennium data set. The question on the primacy of environmental protection over economic growth functions as dependent variable, and post-materialism, GDP and environmental quality act as independent variables. The results confirm the findings of our analysis of the ISSP data set.

on new member states in the course of accession negotiations will enhance environmental quality in the European Union.

Appendix 1

EU-criteria to become accepted as a member in the EU in the field of environmental legislation (Source: European Community 1995–2000b; see country reports)

1. Horizontal integration of environmental concerns in other political fields (the country's degree of approval for horizontal, environmental regulations with the environmental Acquis. These include the ratification of the Kyoto Protocol and the signing of other accords, to name a few).
2. Water protection (protection of ground water, protection of bodies of water against contamination of nitrates and other dangerous substances, the reduction of fluoride in drinking water, water waste treatment, discharge of dangerous substances);
3. Waste management (disposal of waste, packages and old vehicles, recycling and disposal of dangerous waste and packages, tax on packaging, constructing a network of recycling plants and a licensing system);
4. Air quality (i.e. emission rates and taxes, materials contaminating the air, the Genf agreement concerning wide ranging air contamination that transcends national boundaries, The ratification of the London and Copenhagen modifications to the Montreal protocol);
5. Controls on pollution by means of industrial plants and risk management (i.e. emission of organic compounds which arise from the use of solvents, waste incineration, large combustion plants, determination of a nation emissions limit, integrated avoidance and reduction of environmental pollution);
6. Genetically modified organisms;
7. Chemicals (evaluating and supervising the risk of old chemical materials, procedures in labelling, packaging, classification, identification and notification, import and export regulations for particular, dangerous materials);
8. Nuclear safety and radiation protection (nuclear safety is dealt with in the "Energy" chapter.
9. Protection of nature (the accession countries must produce lists of regions which they suggest are regions of mutual significance or special protected areas, decree of a natural monument law, national programme that assists in the realization of Natura 2000, hunting regulations);
10. Noise pollution.

Appendix 2

Description of variables

Variable	Range	Description	Data-source
<i>Attitudes toward environmental protection</i>	1, 5	“Willing to accept cuts in standard of living in order to protect the environment: 1 = very willing, 2 = fairly willing, 3 = neither willing nor unwilling, 4 = fairly unwilling, 5 = very unwilling.” <i>Operationalization:</i> recorded.	ISSP 2000
<i>Age</i>	15, 95	Age in years	ISSP 2000
<i>Equivalent income</i>	-2.08, 20.49	Family income in the country’s currency, public survey. <i>Operationalization:</i> Conversion of the Equivalent Income, z-transformation (country’s average)	ISSP 2000
<i>Left/right scale</i>	1, 7	1 = far left etc., 2 = left, center left, 3 = center, liberal, 4 = right, conservative, 5 = far right etc; 6 = other, no specific, 7 = no party, no preference. <i>Operationalization:</i> Summary of Categories 1 & 2, 4 & 5. Categories 6 & 7 were recoded as missing.	ISSP 2000
<i>Post-Materialism</i>	0, 2	4-Item-Ranking-Scale. <i>Operationalization:</i> 0 = no post-materialistic item, 1 = one postmat. item, 2 = two postmat. items.	ISSP 2000 (recorded according to Inglehart 1990)

(cont.)

Variable	Range	Description	Data-source
<i>The Environment's quality (ESI-Index)</i>	47.4, 80.5	“Environmental Sustainability Index” (ESI) encompasses five components, which consist of different individual indicators: “1. Environmental systems, 2. reducing stresses, 3. reducing human vulnerability, 4. social and institutional capacity, 5. global stewardship”.	Global Leaders of Tomorrow Environment Task Force, World Economic Forum (2001) http://www.yale.edu/esi/
<i>Per-capita GDP (Purchasing Power Parity)</i>	5071, 25918	Standard welfare-measure (HDI report 2001)	http://hdr.undp.org/reports/global/2001/en/pdf/back.pdf

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