

1 **Embedding ecosystem services ideas into policy processes: an institutional analysis**

2
3 **ABSTRACT**

4 What helps or limits the use of ecosystem services ideas in practice? This paper develops and
5 tests a new institutionalist-based analytical scheme to explore how ecosystem services as a
6 ‘new’ policy idea might interact with established policy regimes, processes and norms. The
7 scheme is based on three different decision-making levels: micro, meso and macro. To test
8 the plausibility of the scheme, it is applied to the case of the UK where a specific Ecosystem
9 Services Framework (ESF) was prioritised as a new way of doing environmental policy after
10 2011. Drawing on findings from 32 elite interviews, the paper shows how dynamics at all
11 three levels intersect with differing institutional explanations. It helps explain important
12 factors for embedding - or restricting embedding - of the ESF in policy-making. The scheme
13 provides a useful way to link analysis of the ‘lived experience’ of policy actors implementing
14 the ESF with the institutional landscape they occupy, and allows for a nuanced and integrated
15 analysis of the potential barriers faced by ecosystem services ideas generally.
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17

18 **INTRODUCTION**

19 Ideas to better capture the value of the natural environment in the form of ecosystem services
20 (e.g. Costanza et al 2014; Rafaelli 2016) have a long history and a rich variety of disciplinary
21 origins (**AUTHORS**). But the path from idea to policy is not always smooth. Studying
22 the influence or lack thereof of particular ideas on policy processes, and factors that affect
23 this influence, forms a large and growing area of literature in political studies (Schmidt 2008,
24 Parsons 2016). Moreover, recent work in this journal (Noe et al 2017, Challenger et al 2018,
25 Nordin et al 2017; Waylen et al 2015) and elsewhere (e.g. Jordan and Russel 2014;
26 **AUTHORS**) has shown that embedding ideas about more ecologically sensitive policy
27 making can be far from easy. The role institutions such as established policy regimes,
28 processes and norms play in facilitating or blocking the influence of new ideas in policy
29 processes is an old question. As Margaret Weir (1992) noted, institutions create opportunities
30 for innovation but bound what types are possible. This is particularly the case for
31 environmental policy-making, replete with ideas about problems and solutions, cutting across
32 multiple policy areas such as transport, water, energy and agriculture (Carter 2018). Crudely,
33 therefore, new environmental policy ideas such as ecosystem services often encounter ‘a lot
34 of institution’ when attempts are made to use them to influence policy change. This paper
35 develops an exploratory analytical scheme to understand the different institutions (Peters
36 2016) that may confront ecosystem services ideas when attempts are made to better capture
37 the value of the environment in policy decision making processes. To test the scheme, the
38 paper applies it to the empirical case of the implementation of the United Kingdom’s 2011
39 Natural Environment White Paper (Defra 2011). The paper’s main aim is not to provide a
40 definitive explanation of this case. Rather, it illustrates the utility of our scheme in drawing
41 attention to different institutional processes that can be in play, and points to further areas of
42 research to provide more detailed explanations.

43 There are several reasons for using the UK case. The White Paper drew on analysis within a
44 government-sponsored National Ecosystem Assessment (NEA 2011), the UK being one of
45 the first countries (Waylen and Young 2014) to conduct such an assessment. The White
46 Paper aimed at a major change in how environmental goals were delivered through policy
47 making. At its core were a reduced focus on direct regulation, while better capturing
48 environmental value (both monetary and non-monetary) to society through an Ecosystem
49 Services Framework (ESF) based around a more integrated approach to environmental
50 management. In this context, the ESF aimed at better understanding of “the processes that
51 link human societies and their wellbeing with the environment” (NEA 2011: 15). The White
52 Paper said “[ministries] will be open about the steps they are taking to address biodiversity
53 and the needs of the natural environment, including actions to: promote, conserve and
54 enhance biodiversity; and reduce the environmental impacts of food and catering services.’
55 (Defra 2011 p. 43).

56 One might imagine such a policy idea that was well-established conceptually and had
57 emerged from well-respected scholarship (MEA 2005, NEA 2011), and was given a clear
58 national policy steer, would be implemented in a widespread fashion. But the embedding of
59 the ESF required ministries to adopt new institutional processes and practices to better
60 capture ecological value in their activities, through, for example, data collection, *ex ante*
61 appraisal of policies and evaluation mechanisms (see for instance ****AUTHORS****). And the
62 ESF, while relatively simple in its basic concept, has been shown to have multiple different
63 ideas attached to it in both theoretical debates and policy practice (****AUTHORS****). It has
64 also been repeatedly argued that the UK has fallen short of its ambitious environmental
65 policy goals, due in part to institutional constraints (Russel and Jordan 2008). In sum, we
66 suggest the great expectations around the White Paper were particularly likely to encounter a
67 wide range of institutional challenges. Given the above, rather than choosing a definition of
68 ESF *a priori*, we focus on the term as it was actually used, and explore the various
69 interpretations through ‘lived experience’ of what ESF is in different institutional contexts as
70 part of the empirical research. This allows for multiple interpretations and reasons for (not)
71 embedding or using the ESF as it was differently understood.

72
73 The paper proceeds as follows. The next section draws on literature on ideas and institutions
74 to introduce our micro-meso-macro analytical scheme, and shows how this incorporates
75 analysis of different strands of institutionalism as an empirical question. The following
76 section discusses our methods and the section after that presents our empirical findings on the
77 embedding of the ESF in UK policy making in relation to our analytical scheme. The final
78 section discusses the implications of our findings, and proposes an extended scheme for using
79 institutional analysis to understand how environmental ideas are embedded in policy making.
80

81 **IDEA-INSTITUTION RELATIONSHIPS: AN ANALYTICAL SCHEME**

82 Institutions are critical for embedding new policy ideas and associated processes and practice
83 (Béland 2005, 2009, Kern 2011, Oliver and Pemberton 2004, Peters 2016). We follow
84 Scharpf’s (1997: 38) definition of institutions as ‘systems of rules, norms and cultural

85 systems of meaning that shape the courses of action'. Crucially, as Béland (2009) observes,
86 institutions define 'rules of the game' and associated political opportunity structures. As such,
87 institutions can constrain and create opportunities depending on how ideas fit with existing
88 institutional rules (Kern 2011), and challenge powerful actors (Béland 2009).

89

90 Various strands of institutionalism have emerged in the past three decades offering different
91 explanatory perspectives (Peters 2016). In this paper, we draw on three commonly-used
92 strands (Hall and Taylor 1996; Peters 2016) in which decision-making logics emerge through
93 institutional processes that shape values which in turn lead to the creation of norms: the
94 development of set behaviour-based practices and actions and attitudes towards those
95 practices.. However, each strand has a different rationale in terms of what drives the logics.
96 A *rational choice institutionalist* explanation is based on actors behaving, according to their
97 (given) preferences, to optimize utility within the constraints established by institutions.
98 Institutions here are purposefully constructed to ensure a collectively rational outcome that
99 would not materialize if everybody acted individually on their preferences (a 'logic of
100 consequence') (Peters 2016). By contrast, a *sociological institutionalist* explanation is based
101 on collective decision-making driven by "what one can imagine oneself doing" (Hall &
102 Taylor 1996: 948; Peters 2016) in particular contexts. The institutions here are values-based
103 routinised norms that dictate decision rules, and frames of meaning. In this 'logic of
104 appropriateness', actors behave, through a process of socialisation, according to the
105 surrounding institutions. Agency is lower than in a rational choice explanation - but not zero
106 as institutions are still actively created and refined, although not necessarily with the same
107 degree of preference-satisfying purpose. Third, a *historical institutionalist* explanation is
108 based on the 'logic of path dependency': outcomes are dependent on the structural history of
109 decision-making (Peters 2016). Institutions are said to be 'sticky' and hard to change because
110 of embedded power relationships, political authority and the weight of past decisions. Actors
111 are therefore argued to be objects and agents of history meaning that agency is lower still
112 than in a sociological explanation. More recently, different approaches have opened up
113 (Lowndes and Roberts 2013). In place of various institutionalist strands offering competing
114 explanations, the strands are more often used to illuminate different elements of common
115 themes, such as rules, practices and narratives (Lowndes and Roberts 2013) that cross all
116 strands. In this approach, "the character of constraint...is an empirical rather than an
117 ontological matter" (Lowndes and Roberts 2013: 76): "As actors encounter institutions ...
118 they are likely to be motivated by (some combination of) their selfish interests, their 'need to
119 belong', and their underlying ideas and values" (Lowndes 2018: 71).

120

121 In this spirit, this paper builds on the work of (*AUTHORS*), following an inductive
122 exploratory approach to examine how institutional dynamics operating at three different
123 decision-making *levels* embody different strands of institutionalism, and are thus crucial to
124 influencing how the ESF is embedded in policy-making. The *micro level* is concerned with
125 the individual behaviour of policy makers who have to engage with the ESF: their behaviour
126 and the resource constraints (e.g. expertise, professional background, timescale, awareness,
127 understanding) that bear upon them. As Berman (1998, cited in Oliver and Pemberton 2004)
128 notes, ideas need transmitters, individuals or groups, to promote the idea, influence behaviour

129 and build coalitions – also see Béland (2005). However, institutions place constraints on the
130 actions (Torfing 2001) of individual actors in policy making because of the informal and
131 formal policy making rules often operating at a higher ‘meso’ level. The *meso level* is
132 concerned with organisational dynamics, including organisational procedures and
133 management structures, systems of knowledge transfer, norms and incentive structures and
134 inter-organization competition. Behaviour is driven by formal and informal policy making
135 rules, and goals of policy making organisations. Among other things, rules make it possible
136 to coordinate simultaneous activities, avoid conflict and help to mitigate against
137 unpredictability (March and Olsen 1989: 24), and to reduce “the time and energy otherwise
138 used on thousands of decisions about how to perceive and evaluate an otherwise
139 unintelligible stream of information” (March and Olsen 1994: 253). While, over time or in
140 times of acute crisis, these rules and routines can change, it is said that they tend to have a
141 “surprising durability” (March and Olsen 1994: 262), which gives the impression of inertia
142 (Smith *et al.* 2000). The *macro level* is concerned with the wider political, economic and
143 social context, including dominant values, norms and goals Institutional organisation of the
144 polity, society and the economy structures behaviour, and promotes certain values and ideas
145 over others (Hall and Taylor 1996, Weir and Skocpol 1985).

146

147 The levels clearly interact; there is no assumption that the ‘macro’ level provides the
148 overarching societal and political structure within which decisions at other levels are taken.
149 And each level may contain evidence of differing institutionalist explanations. The ways that
150 institutional explanations and different levels interact with, and shape, each other in the
151 attempts to embed the ESF in UK policy-making is an empirical question addressed in the
152 rest of this paper. Our claim is the three levels approach provides a relatively simple way to
153 obtain empirical information because levels are intuitively familiar to policy actors, the ways
154 they work and the structures they work within. Moreover, we seek to probe the plausibility
155 (Eckstein 1975) of the levels approach as a way to link analysis of the ‘lived experience’ of
156 policy actors trying to embed the ESF in their own words with different potential institutional
157 explanations embedded therein.

158

159 METHODS

160 This paper employs the ‘elite interview’ method (Richards, 1996) and draws on 32 interviews
161 with a range of experts within the UK in 2013/14. This was the period immediately
162 following the Natural Environment White Paper and National Ecosystem Assessment: a
163 period which might be expected to have high recognition and traction of the ESF as an idea,
164 but where existing institutions seem to have experienced significant challenges (* REF TO
165 AUTHORS*). The period was a time of flux, and idea-institution dynamics might be
166 expected to be most interesting. In this context, it was important to explore how the
167 interviewees interpreted the ESF and its required integrating into decision making. To ensure
168 a range of perspectives was captured, a classification of policy advisors was used to select
169 interviewees. Howlett (2011: 33), synthesising literature on policy advisors and advice
170 systems, proposed two dimensions as being particularly important in classifying policy
171 advisors: "their location inside or outside of government, and ... how closely they operate to
172 decision-makers". Combining these dimensions results in four 'communities' of policy

173 advisors. These were adopted in this paper: ‘Core Actors’ such as government officials and
174 policy analysts (labelled as interviewees A1 to A15 in the empirical sections below); ‘Public
175 Sector Insiders’ such as commissions, task forces, Research Councils, advisory bodies
176 (labelled B1 to B6); ‘Non-governmental Insiders’ such as consultants carrying out policy
177 appraisals (C1 to C4); ‘Outsiders’ (e.g. businesses, trade associations, Third Sector
178 Organisations, independent academics, think tanks: D1 to D7). Interviews followed a semi-
179 structured format around several headline questions (see Appendix 1) to allow for both
180 comparability and flexibility (see Bryman 2016). These questions were broad enough to test
181 points raised in the literature, while simultaneously avoiding steering or leading the
182 interviewees. The conversations were led by each interviewee’s experiences and knowledge.
183 The interviews were conducted either face-to-face or via telephone. Interview summary
184 transcripts were produced shortly after each interview.
185

186 Analysis of the data was guided by the questions asked in the semi-structured interviews
187 which built upon the research questions and analytical scheme. Following the interviews, the
188 data underwent thematic analysis, a technique widely used in the qualitative social sciences
189 (Nowell et al 2017) for “identifying, analyzing, organizing, describing, and reporting themes
190 found within a data set (Braun & Clarke, 2006)” (Nowell et al 2007, p.2). Thematic analysis
191 is especially useful for ensuring the researcher follows a consistent and well-structured
192 strategy for sorting qualitative data (King 2004). Following established approaches (e.g. see
193 Nowell et al) both authors: 1) read and became very familiar with our interview transcripts
194 and re-checked against the original recordings; 2) established an initial set of meta codes
195 based on step one to guide step three. Broad themes were identified around barriers and
196 enablers to embedding, including aspects such as valuation, bureaucratic burden, and
197 resources; 3) revisited the themes in the data for a more fine-grained analysis so that sub-
198 themes emerged. For example the broad theme of valuation contained subthemes including
199 individual concerns about the ethics of valuing nature, social resistance to valuing nature,
200 and concerns about the accuracy of environment value data; 4) finalised the themes and
201 checked all data assigned to themes for consistency; 5) documented the themes in relation to
202 the research questions and analytical scheme, drawing on the detailed theoretical foundations
203 (see above) to guide us to where the different themes fit. All stages were conducted by two
204 researchers independently to check for consistency. Consistency and reliability were also
205 aided by the use of our interview selection strategy where respondents with different
206 relationships to the ESF and the policy processes could be triangulated (Bryman 2016) within
207 the identified themes to see where perspectives were similar or differed depending on
208 different affiliations (see also Nowell et al 2017).
209
210
211

212 RESULTS

213 This section outlines our findings, which reveal how institutional dynamics operating at the
214 different levels each display different strands of institutionalism.
215

216 **Micro level**

217 From our data, two main findings emerged at the micro level. First, it did not necessarily
218 benefit an individual to understand or be aware of a new idea. Interviewees¹ talked about the
219 difficulties they faced in getting colleagues to fully understand the ESF and relate it to their
220 work. For example one interviewee remarked:

221
222 *“People internally find [the ESF] difficult to grasp. It is the current sexy term but people*
223 *struggle to understand what it means.”* [Interviewee, A3]

224
225 Five² interviewees also spoke of low *awareness* of the issue in general amongst colleagues.
226 Both the issues of understanding and low awareness may have been a product of the technical
227 nature of the ESF, but, under a rational logic, struggling with the concept might in some cases
228 have been a deliberate tactic. Choosing not to understand, to avoid having to address the
229 issues ESF raises around valuing nature³ and consequent burden or threat, demonstrated a
230 strong degree of agency. There is evidence that hierarchical imposition of an idea could have
231 been resented as extra work, with a resulting barely minimal compliance:

232
233 *“Sticks tend to result in tick boxes.”* [interviewee, A2]

234
235 The added value of the ESF was also questioned even by individuals working in the natural
236 environment sector. Three interviewees⁴ suggested this may be because the ESF represented
237 a threat to professional expertise, and by implication jobs, particularly in the environment
238 sector. Another clue to why ESF may have been seen as a threat comes from a more
239 sociological institutionalist perspective. How was the new idea congruent with a norm of
240 expected behaviour by policy makers, or by those employing them? For example, one
241 interviewee expressed scepticism about the chance of embedding ESF in existing policy
242 making processes, as ESF was regarded purely as “economics in some people’s minds”
243 [A13]. In a similar vein, four⁵ interviewees thought that the ESF was mainly an exercise in
244 quantification– and thus:

245
246 *“... people resist it because they think it is just about monetising bio-diversity which runs*
247 *against their core values”* [B2]

248
249 It is not clear from the data whether this interpretation of the ESF was deliberate or not. This
250 distinction might be important because it implies different logics at play, namely a more
251 rational one for a deliberate misinterpretation of the concept, and a more sociological one
252 where established processes for interpreting new knowledge shape how that knowledge is
253 understood.

254

¹ Interviewees: A3, A4, A15, B2, C1, C2, C3, C4, D3, D5, D7

² A11, A12, A13, A15, B4

³ A2, B1

⁴ A5, B1, C2

⁵ B2, C3, C4, D2

255 Points raised by some respondents⁶ about a lack of suitable data for handling the ESF might
256 indicate a similar issue: policy makers were expected to draw on unfamiliar concepts, made
257 more difficult by lack of complete supporting information. An uncomfortable expectation of
258 being able to handle this could have led to a lack of engagement.

259

260 The second main finding at the micro level was the emerging resource gap for addressing the
261 new idea of ESF. Several respondents⁷ spoke of an individual skills gap for dealing with the
262 type of analysis that the ESF entails. A rational institutionalist perspective might question the
263 extent to which it benefitted organisations to rearrange their skills profiles in response to a
264 new idea, before checking carefully that this would continue to benefit the organisation. A
265 historical institutionalist explanation is also pertinent: another five interviewees⁸ observed
266 that because the established structure of UK government tended to compartmentalise skills
267 across all levels of government, experts had limited opportunity to work together on ESF-
268 related matters. As one respondent put it:

269

270 *“At the moment skills are siloed, meaning for example that an economist working on one*
271 *place may not be properly linked-up with an ecologist working on the same place at the*
272 *moment. So, we need to integrate section skills.” [A4]*

273

274 **Meso level**

275 Several findings emerged at the meso level. First, the role of timing. The applicability of the
276 ESF to existing decision-making timescales was questioned by some interviewees⁹ in two
277 senses: administrative timescale differences, and differences between shorter-term electoral-
278 cycle driven concerns (often based around economics) and longer time frames of
279 environmental protection. Overcoming historically-established ways of handling timescales
280 was crucial¹⁰. One perspective was that change simply takes time¹¹:

281

282 *“There has been 25 years of culture of doing these things the way they are..., so to turn the*
283 *ship around might take some time.” [D2]*

284

285 Second, departmental resistance, ambivalence or boundary-drawing was seen as a key issue
286 for diffusion of the ESF into non-environment departments whose work had an impact on
287 ecosystems quality¹². A strong drawing of boundaries was seen by one interviewee as a
288 rational response to avoiding being overwhelmed with extra work:

289

290 *“This is interesting stuff, but there is no evidence of its value to us” [A2]*

⁶ A3, A4, A7, B2, B3, B4, B5, C3, C4, D2, D3

⁷ A1, A3, A15, B2, C1, C2, C3, D3

⁸ A4, A12, C2, C3, D2

⁹ A4, A8, A15, B1, B2, B3, C1, C3, D3, D5, D7

¹⁰ B2

¹¹ B2, D4

¹² A2, A5, A11, B4, C1, D6

291

292 or by another to the diluting of one's own ministry with another's agenda:

293

294 *“Although the [Environment] White Paper is a Government Document, it is clearly perceived*
295 *by other departments as [the Environment Ministry’s] White Paper. It’s not got the other*
296 *government departments interested. They still see it as the [Environment Ministry’s] or the*
297 *environment sector’s agenda so they are not joining up policy for the holistic view present in*
298 *the White Paper. This makes implementing it not very easy.” [B4]*

299

300 Scepticism of the utility of helping another department achieve its policy goals would not be
301 unexpected from a rational institutionalist perspective. The cross-cutting nature of the ESF as
302 outlined in the 2011 Natural Environment White Paper meant that its implementation would
303 use resources from different ministries, to the detriment of achieving their own core goals,
304 while the environment ministry’s utility would be enhanced by passing the responsibility for
305 action on to others.

306

307 Third, and similar to the micro level, the ESF was seen as a burden and distraction for the
308 organisation as a whole, and therefore rationally treated similarly to the way an individual
309 policy maker might: as a tick-box exercise rather than an opportunity to approach policy
310 making in a different way¹³. But a sociological institutional perspective can help interpret
311 fourteen¹⁴ interviewees' point that the ESF was not particularly congruent with the
312 organisation's decision-making norms, expressed by querying the ESF's applicability to
313 various decision-making situations and project areas even in the environmental sector. Such
314 situations included, for example, simple amendments to policy or in situations where EU
315 policy had to be transposed.

316

317 *“You start to run into existing practices and ways of doing things. If you are actually doing*
318 *nothing it is easier to bring in the ESF. But where you already have existing approaches you*
319 *get adaptation rather than significant change.” [B2]*

320

321 In this sense, interviewees spoke of existing policies which did not reflect the joined-up more
322 flexible nature of the ESF, such as national (and European) policies and approaches that
323 promoted the in-situ regulation of the management of sites of special scientific interest or
324 nature reserves rather than an integrated more adaptable way of ecological management. In a
325 similar vein, the European Union’s Common Agricultural Policy was not geared towards the
326 ESF, being more concerned with environmental protection and production through farmer
327 support.

328

329 We also observed incongruence between ESF and organisations' decision-making norms
330 related to a lack of sustained leadership from ministers, senior civil servants, executive

¹³ A14, B3

¹⁴ A1, A3, A4, A8, A11, A12, A14, A15, B3, B4, B5, C1, C2, D3

331 officers and central government departments¹⁵. Indeed, one interviewee noted open hostility
332 amongst management in his institution:

333

334 *“The high command tried to sabotage the ESF as it runs against the reductionist and*
335 *managerialist culture of [my institution]. The ecosystems [framework] is thus seen as*
336 *inconvenient. So they make the appearance of implementing the ESF, but in reality they may*
337 *or may not be.”* [B1]

338

339 Fourth, the match (or not) of the new idea with existing processes was important. Three
340 particular types of mismatch were evident: of the *concept*, of *structures* and of *terminology*.
341 Many interviewees¹⁶ were negative about the *concept* of the ESF, mainly on the basis of the
342 rational critique of whether it really added value to existing policy making processes. Some
343 interviewees¹⁷ for instance wondered whether the ESF was something (i.e. greater
344 environmental protection) that had been attempted (albeit in different guises such as
345 sustainable development) many times before, suggesting a form of historical path-
346 dependency. For one (Interviewee A6) it was seen as an empty ‘buzzword’. Others
347 questioned whether employing an ESF led to better decisions, or whether it added anything to
348 what they were doing already. For example, one commented:

349

350 *“The common question is invariably, ‘what is it that we should be doing different*
351 *internally?’”* [B2]

352

353 While interviewees questioned the utility of the ESF, it was noted by some respondents that
354 regardless of the concept’s utility: *“[the environment ministry] has spent a great deal of*
355 *money in promoting [the ESF] and so they have to have a practical outcome.”* [C1], giving
356 evidence of maximizing returns from sunk costs.

357

358 The *mismatch of structures* formed another significant challenge: whether the ESF was
359 compatible or not with historically-entrenched institutional arrangements. In some cases, this
360 was framed as a structural problem in terms of institutional fragmentation and the existence
361 of silos:

362

363 *“... the planning system doesn’t address agriculture and forestry. These are not covered by*
364 *planning and are the responsibility of a different department”* [C1]

365

366 Fragmented institutional arrangements have a history and thus traction; the consequence of
367 this, according to interviewees¹⁸, was that policy was often not joined up which could impede
368 the ESF as an idea. Crucially there were a lack of institutional platforms for discussing the

¹⁵ A4, A2, B1, B4, D4

¹⁶ A6, A10, A14, A15, C1, C2, C3, D4, D7

¹⁷ A5, A7, A14, B2, B3, C2, D6

¹⁸ A5, A14, C1, D3

369 management of ecosystems limiting the opportunity of learning across institutional silos
370 (interviewee C2).

371

372 Finally, a *mismatch of terminology* between the ESF and the more practical context of policy
373 making was raised¹⁹. For instance, one interviewee remarked:

374

375 “...at the moment, the concept is so nebulous there is a danger that it won't be meaningful....
376 If I have 10 experts in a room, I will currently get 10 different approaches.” [C2].

377

378 The issue of language was compounded by a lack of clear terminology²⁰, with weakly-
379 defined concepts like shared social values, natural capital, environmental valuation and
380 various related terms such as the ‘ecosystems approach’, tended to muddy the waters and
381 create ambiguous targets for policy makers. This meant that for these interviewees there was
382 a lot of confusion over what the implementation of the ESF in a specific context entailed. For
383 example, did they have to establish and appraise environmental values, did they have to
384 produce a natural capital stock take, did they need have a more joined up approach to
385 ecosystem management? Some interviewees suggested that academics should more simply
386 and better define their concepts, for example:

387

388 “...we operate in an academic world, so there is a lot of jargon of language and terms
389 surrounding the [ESF]. As things develop, we need to be less worried about the specifics of
390 jargon. Even if we are not quite talking in the same terms, are we pushing in the same
391 direction?” [A2]

392

393 Thus, we saw conflicting understandings between academics and policy makers, operating
394 within different contexts and expectations of their profession groups, of the appropriate
395 conceptualizations of the ESF.

396

397 **Macro level**

398 Similar to both micro and macro levels was the sense of burden or threat emerging from a
399 new idea at the macro level. Speaking to a more rational logic, the role of political steering
400 was observed by five of our respondents²¹, which they argued affected the embedding of the
401 ESF. Politicians responding to public pressures, party politics, manifesto commitments and
402 crises pushed for their preferred policy outcome. In such situations embedding the ESF into
403 policy was seen by some to have been heavy-handed or indeed superfluous.²² In these cases,
404 one interviewee (B1) argued that such pressures meant that the ESF was seen as a threat for
405 overtly rationalist political reasons, which led to resistance. This could manifest itself through
406 a desire to appear to implement while not actually doing so, using the requirement for, for
407 example, proportionality in policy making as an excuse to keep the new idea away.

¹⁹ A4, A12, C2, C3, D2

²⁰ A4, A8, A14, C1, C2, C3, C4, D3, D7

²¹ A6, A8, A11, A12, D3

²² A11, A12

408

409 Our findings showed that broader political priorities during the period studied tended to
410 concentrate on economic issues such as austerity in public spending, and reducing the
411 regulatory burden²³, to reduce costs and impacts of policy on business and society. These
412 high-profile macro-level policy discourses and strategy undermined efforts to mainstream the
413 ESF in policy making. For instance, according to one interviewee (A5), new procedures or
414 regulations may have contradicted broader political priorities. As another interviewee's
415 rationalist interpretation of this problem argued: "[the government is keen to] *not let*
416 *environmental regulation get in the way of infrastructure development and housing*" [B4].
417 This trend was argued by three respondents²⁴ to have worsened during the environment of
418 austerity, which placed further pressure on resources.

419

420 Our findings also revealed a more sociological institutional element to why the ESF may
421 have been seen as an inappropriate way to frame environmental problems, thus hampering its
422 traction in policy-making. Environmentally-sympathetic people may be put off by the
423 perceived economic framing and question the underlying ethics of valuing nature in monetary
424 terms, arguing that nature has a right to exist or be valued beyond its services to humans²⁵.
425 Moreover, to some respondents the whole notion of the ESF contrasted with broader values
426 of society, which generally prioritised factors other than ecosystems such as wealth creation,
427 health, job security, and car-friendly transport policy²⁶.

428

429

430

DISCUSSION

431 In this paper we sought to build upon the literature on the difficulties faced when embedding
432 ideas to better capture the value of the natural environment into policy. We have examined
433 the role of institutional dynamics, in the form of established policy regimes, processes and
434 norms. The paper used a case - embedding the ESF in the UK in the period immediately
435 following the 2011 Natural Environment White Paper - as a plausibility probe (Eckstein
436 1975) for an analytical scheme based on different institutional levels - individual behaviour
437 (micro), organisational dynamics (meso) and wider social and political context (macro). In
438 the remainder of this section we first discuss how activity at all three levels intersected with
439 differing institutional explanations for the embedding (or not) of the ESF idea in established
440 policy processes. We then use this to propose a more detailed expansion of the analytical
441 scheme.

442

Micro-level institutional dynamics

443 Institutions offer incentives and disincentives for certain types of individuals' interventions
444 and behaviours, for example how far dealing with the issues associated with policy ideas can
445 help achieve formal goals and positive career progression for policy officials (Hall and
446

²³ A2, A6, A12, B3, B4, B5, C1, D1, D2, D3, D5, D6

²⁴ A14, B2, D2

²⁵ B3, D5

²⁶ A4, A6, A8, B1, B2, B4, B5, C1, D3

447 Taylor 1996). In relation to this aspect, we found low awareness of the ESF concept despite
448 some strong signalling by the core executive, suggesting that the concept was a long way
449 from helping policy makers achieve formal goals. Moreover, institutional prioritisation
450 shapes how much human and time resources are available to policy makers to collect suitable
451 data related to the policy idea, and to integrate this data into their policy making (Turnpenny
452 et al 2008, Russel and Jordan 2009). From our data it appeared that actions at a micro level
453 were bounded by individuals' low understanding of the concept, and/or deliberate subversion,
454 in some cases intentionally choosing not to understand the concept of the ESF as a
455 professional or organisational threat. It appeared that individual action may be bound by
456 'congealed preferences' relating to rational logics of consequence where decisions are framed
457 around achieving rational instrumental goals and efforts to reduce transaction costs of action
458 (Torfing 2001). Sociologically constructed 'logics of appropriateness', through which
459 images, symbols and rituals combine to form rules of behaviour which can lead to the
460 development of shared meaning (Morgan, 1997: 132) or to "webs of meaning" (Marsh, *et al.*,
461 2001: 21), were also revealed at the micro level. These included some of the expected norms
462 of policy makers which led them to reject (or embrace) the economic analysis elements of the
463 ESF, on the basis of their professional identity (Torfing 2001) and beliefs (Hall and Taylor,
464 1996). Another factor that can bound action is the supply of information to decision makers
465 (Hall and Taylor, 1996, Torfing 2001). As our data imply, information asymmetries and data
466 gaps made it difficult for policy makers to understand the impacts of a policy idea in their
467 sector and the relevance to the policy at hand (**AUTHORS**). In relation to this point and
468 our data, a 'logic of appropriateness' may also help explain the observed perceived lack of
469 suitable data: the economic data available on the value of the environment was in conflict
470 with resistance to 'pricing the environment'. Moreover, individual policy makers have a
471 bounded cognitive capacity and are only capable of processing and interpreting a given
472 amount of data (Béland 2005, Simon 1985). The ability to focus on a few core issues at once
473 may account for the observed low awareness and ambivalence within our data. Overall, if an
474 issue raised by a new policy idea is not seen as core to an official's job, it can easily be
475 ignored.

476

477 **Meso-level institutional dynamics**

478 Rules for handling and embedding new policy ideas at the meso-level may develop for a
479 number of reasons: from a logic of consequence structuring interactions to stop free-riding
480 and pursue organisational goals, from a logic of appropriateness in which webs of meaning
481 shape the rules through which networks and collectives of policy-making actors interpret
482 policy ideas (Hall and Taylor, 1996), and/or from a logic of path dependency. In this latter
483 historical institutionalist perspective, rules are structured around past policy decisions and
484 practices, creating path dependency and institutional stickiness. Institutional rules act as
485 external constraints that define the repertoire not the choice of action (Torfing 2001: 286) and
486 as such structure the range and sequence of alternative actions when confronting policy
487 making (Hall and Taylor 1996).

488

489 All manifest in our data. There was a mismatch between the structured decision-making
490 timescales and the longer timeframes associated with the ESF. Moreover, rules can structure

491 what is considered a legitimate course of action (Torfing 2001), or legitimate evidence to
492 support action (Juntti et al 2009). Within the data, the observation that ESF was the
493 Environment Ministry's agenda seemingly provoked a rationalist reaction undermining the
494 ESF's legitimacy, viewing it instead as a threat by other ministries. We observed a
495 questioning of the utility of the ESF, and whether it really represented something different.
496 Rules either allow space (rule in) or crowd out (rule out) certain ideas, depending on how the
497 issue fits with established practice (Russel and Jordan 2009, Torfing 2001). Rules also shape
498 the relations and interactions of the sub-units of an organisation, which may have a set of
499 complementary but also different and conflicting rules (Richards and Smith 2002). This
500 pattern was manifest for example in the observed mismatch between the ESF and other
501 organisational norms; the ESF was observed to run against established practice. There was
502 similarly an observed mismatch between ESF and historical institutional structures, which
503 made embedding ESF in important departments (even within the environment ministry)
504 difficult. In such situations where rules conflict between sub-units, departmental pluralism or
505 departmentalism (Russel and Jordan 2009) can develop where the cross-cutting initiative or
506 idea enthusiastically taken up in one part of the organisation does not fit with the rules of
507 another, leading in some cases to conflict and active resistance, over the questioning of the
508 added value of the approach. The data also showed that sociologically constructed webs of
509 meaning created different understandings of both the problem the ESF attempted to address
510 and the proposed solutions to said problems, between different institutions of science and
511 between the institutions of science and policy making (also see *AUTHORS*).

512

513 **Macro-level institutional dynamics**

514 Power asymmetries, allowing some groups disproportionate access to policy making over
515 others (Hall and Taylor 1996), can lead to the creation of constraints and opportunities for
516 embedding new ideas (Béland 2005), as the historical sequence of decisions structure
517 political debate and related dominant paradigms and values in society (Béland 2005). In such
518 situations, problems can arise with the embedding of new ideas into policy making if that
519 issue is too far from a dominant policy paradigm. As Niemelä and Saarinen (2012) note, this
520 maintenance of the dominant norms is akin to the production of cognitive locks, so rather
521 than a change in policy making approach, policies and existing institutions are reproduced
522 over time. Thus there is a risk of path dependency (Hall and Taylor 1996), whereby new
523 policy ideas are rejected to reduce the risk of instability at the macro level. Here we see in our
524 data the perception that the ESF was a threat from a rational institutionalist perspective. In
525 this understanding, utility-maximising politicians responded to public and interest group
526 pressures for reduced policy 'burden', especially in times of economic difficulty as in this case
527 study. Thus, the ESF was employed in an attempt to appease environmental interests, but not
528 in a way that was disruptive to traditional policy concerns around the economy. New ideas
529 can also contradict entrenched societal norms about what is an important or appropriate
530 subject to consider. In such circumstances, even if change is initiated it is marginal as the
531 'new ideas' are built upon pre-existing political, societal and economic paradigms that
532 dominate a sector and/or wider society (Niemelä and Saarinen, 2012, Torfing 2001: 297).
533 Again, we can see examples of this in our data, including on the one hand wariness of valuing

534 nature in the environmental sector, and on the other an explicit prioritising of non-
 535 environmental issues among wider societal groups in the period studied.

536

537 **Developing and using the analytical scheme**

538 The levels-based analytical scheme, for the case studied, has helped link analysis of the
 539 ‘lived experience’ of policy actors working with the ESF in their own words with different
 540 potential institutional explanations embedded therein, adding layers of nuance, as well as
 541 offering a practical approach to empirical enquiry. It seems to confirm the claim that "each
 542 [of the strands of NI] seems to be providing a partial account of the forces at work in a given
 543 situation” (Hall and Taylor 1996: 955). In so doing, the scheme does not imply that one
 544 institutional logic is at play more than the other, or at specific levels. Rather, it combines
 545 related but different institutional perspectives to explore the types of responses that a new
 546 environmental policy idea might encounter.

547

548 How might the scheme be used in other cases? Table 1 summarises the kinds of responses
 549 that might be encountered when listening to policy actors' views about a new environmental
 550 policy idea, across the nine intersections between institutional logics and levels.

551

552 *Table 1: What might we hear when a new idea confronts existing institutions?*

Institutional logic	Micro level: individual behaviour	Meso level: organisational dynamics	Macro level: wider social & political context
Rational	CELL 1: "How far does Idea X help me as an individual?"	CELL 2: "how far does Idea X help our organisation / unit / team protect core resources / influence / budget?"	CELL 3: "How far does Idea X help meet wider political and societal preferences?"
Historical	CELL 4: "How familiar am I with Idea X?"	CELL 5: "How does Idea X challenge established decision-making roles and competencies?"	CELL 6: "How does Idea X challenge established societal structures, ideas and power relations?"
Sociological	CELL 7: "How far is Idea X consistent with what is expected of me?"	CELL 8: "How far is Idea X consistent with how we make decisions in our organisation / unit / team?"	CELL 9: "How far is Idea X consistent with wider social norms?"

553

554 At the micro level, if the answer to the question in Cell 1 is ‘no’, idea X may be seen as a
 555 burden or a threat, and likely to be resisted by the individual. Idea X is also likely to be

556 resisted if the individual policy actor is unfamiliar with it (Cell 4). In Cell 7, expectations on
557 the individual may come from a variety of sources - colleagues, management, social norms -
558 but to overcome barriers to embedding, idea X should fit with policy makers' expectations of
559 what is appropriate activity. At the meso level, in Cell 2, the implication is the organisation,
560 unit or team will check to see if they can still maximise their utility in the face of idea X. In
561 Cell 5, the source of the entrenchment can come as a result of exercise of power ("we'll tread
562 on other departments' toes") or of simple repetition ("this isn't our job, it's Ministry A's").
563 The implications are that idea X could either fit with entrenched decision-making structures,
564 challenge these in a way that leads to resistance, or challenge these at critical junctures and
565 enable embedding of the idea. In Cell 8, idea X is more likely to be embedded if it fits with
566 organisational decision-making norms, such as how evidence is collected, when evidence is
567 collected, what type of evidence to collect, different approaches and timings in relation to
568 governmental and non-governmental stakeholders involvement, etc. At the macro level, in
569 Cell 3, ideas that contradict socio-political preferences would be a threat to utility. In Cell 6,
570 as in Cell 5, an idea's degree of fit with entrenched decision-making structures would
571 influence the embedding of the idea. In Cell 9, idea X is likely to need to fit with social
572 norms to become embedded.

573
574 The scheme we propose does not necessarily resolve how both the dynamics at the
575 institutional levels and the drivers of these dynamics interact. There is clearly interaction
576 between the levels. For example, individual responses to the idea are determined/shaped by
577 meso-level organization dynamics and these are in turn shaped by wider social preferences
578 and values such as whether or not to monetise the natural environment. Interactions also
579 occur in different directions; for instance, a lack of resources / expertise (micro) can influence
580 how far an organisation sees an idea as a concept worth taking seriously (meso). Individual
581 responses are also shaped by an individual's 'position' within one of the four distinct
582 communities of policy advisors, whether they identify with more than one community, and
583 how well-established their position and influence is. More directly, such positioning may also
584 influence the views gathered and reported in this paper. Points made above by a wide range
585 of 'types' of interviewee may be seen as less likely to reflect an individual's own
586 circumstances.

587
588 Moreover, the explanations embedded within the different strands of institutionalism will
589 interact in a manner which requires further exploration. For instance, the extent to which
590 policy processes stem from the rational management of complexity in the policy sphere, a
591 logic of appropriateness, or historical legacy is not a question our scheme can necessarily
592 resolve on its own. The scheme's usefulness rather lies in revealing different factors present
593 in any chosen case as a way to direct subsequent more explanatory research. Exploring first
594 which 'cells' in Table 1 are present and to what degree can guide development of more
595 detailed research questions around, for example, which institutionalist explanation is most
596 strongly at play in a given case. In this way, our scheme is more research-question-generating
597 than question-answering.

598

599 Which interesting cases might be examined in such a way? While this paper showed a limited
600 uptake of the ESF and many institutional constraints in the period studied, there has since
601 been significant presence of the ideas behind the ESF in national and local policy in the UK
602 which shows that despite the difficulties of embedding the ESF, the idea still has traction.
603 For example, initiatives have included the creation of Nature Improvement Areas in 2016,
604 which seek to create joined up and resilient ecological networks at a landscape scale to
605 provide clear economic and social benefits (Natural England, accessed 24/10/2019) The 25
606 Year Environment Plan (HM Government 2018), promised a new cross-government
607 approach to governing the environment based on the notion that environmental protection and
608 enhancement is crucial to social and economic well-being. An expert Natural Capital
609 Committee was established in 2012 and reappointed for a second term in 2016 whose role is
610 to advise government and oversee the 25 Year Environmental Plan in relation to sustainable
611 use of natural capital including the benefits the economy and society derive from nature (HM
612 Government 2016).

613 These developments suggest that institutional contexts are not fixed – they can change
614 significantly over time, although this change may be slow (**AUTHORS**); Peters 2016).
615 Future research could explore what institutional changes have happened over time, why, and
616 the impact these have had on uptake of the idea of ESF. A particular area of focus could be
617 on any gap between policy steer and what happens on the ground; as this paper has shown,
618 the inclusion of the ESF in policy documents does not necessarily mean it is being carried out
619 in practice. For example, the above-mentioned 25-year Environment Plan has been criticised
620 for being full of good intentions but lacking legally binding targets, underpinning legislation
621 and specific practical solutions (EAC 2018). Drawing on institutional analysis future research
622 could posit that such plans might not amount to much in practice in the short term as they will
623 be heavily dominated by the institutional process they encounter. These could include
624 inadequate resources or rewards for pursuing the idea of ESF, lack of support from senior
625 staff, or contradictory messages at ministerial or Cabinet level, among many others. The
626 dynamics of if/how these change over time could be revealed using the scheme in Table 1
627 informing both more explanatory research question development and more targeted
628 approaches by policy actors to overcome such barriers. For example, for Cell 1 a suitable
629 strategy might be to link the ESF to career progression, spending or budgets. Likewise, the
630 logics described in Cell 5 might be countered by dedicated training and censure for failing to
631 adopt the ESF norms. We, therefore, present Table 1 as consolidation of our exploratory
632 approach so that more deductive analysis can be pursued in other critical environmental
633 policy initiatives from a local to a global scale, and where appropriate targeted strategies can
634 be developed to improve implementation on the basis of the analysis. Overall, the resulting
635 more detailed and integrated accounts would not only provide new academic insights but
636 could be useful in devising policy strategies for environmental policy that are more sensitive
637 to institutional environments in which they are expected to perform.

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Appendix 1 - Headline questions for interviewees

1. Who are you and what is your role?
2. What is your opinion of the ESF?
3. What do you understand the ESF to be?
4. How important is the ESF to your sector/organisation/day-to day work responsibilities?
5. What key factors influence the adoption of the ESF in your organisation/sector/more generally?
6. To what extent has appraisal become an important venue for embedding the ESF in decision making?
7. What are the advantages and disadvantages the government's current approach to embedding the ESF in policy making?
8. How did you go about including the ESF in your decision making? What helped or hindered you in doing so?
9. How might ESF be better embedded in the decision-making processes of your organisation?