

Environmental Policy Integration:Innovation and Change

Authors: Brendan Flynn and Pádraic Ó hUiginn

EPIIC governance



joined-up thinking—dis-connect integrated policy

environment

examples of good practice



ENVIRONMENTAL PROTECTION AGENCY

The Environmental Protection Agency (EPA) is responsible for protecting and improving the environment as a valuable asset for the people of Ireland. We are committed to protecting people and the environment from the harmful effects of radiation and pollution.

The work of the EPA can be divided into three main areas:

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Knowledge: We provide high quality, targeted and timely environmental data, information and assessment to inform decision making at all levels.

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- intensive agriculture (e.g. pigs, poultry);
- the contained use and controlled release of Genetically Modified Organisms (GMOs);
- sources of ionising radiation (e.g. x-ray and radiotherapy equipment, industrial sources);
- large petrol storage facilities;
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- dumping at sea activities.

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- Office of Environmental Sustainability
- Office of Environmental Enforcement
- Office of Evidence and Assessment
- Office of Radiation Protection and Environmental Monitoring
- Office of Communications and Corporate Services

The EPA is assisted by an Advisory Committee of twelve members who meet regularly to discuss issues of concern and provide advice to the Board.

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Environmental Policy Integration: Innovation and Change

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In memoriam: an leanbh Róisín Ní Uiginn 2018.

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The EPA Research Programme addresses the need for research in Ireland to inform policymakers and other stakeholders on a range of questions in relation to environmental protection. These reports are intended as contributions to the necessary debate on the protection of the environment.

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Executive Summary

The EPIIC project

EPIIC (Environmental Policy Integration: Innovation and Change) was a 1-year desk-study that explored the relevance of environmental policy integration (EPI) for Irish environmental governance. EPI involves bringing environmental concerns into all other policy sectors, but notably agriculture, energy, transport, etc.

The research questions posed were "How joined up is Irish environmental governance?" and "What remedies could be undertaken to improve integration?". The primary method of research was through semi-structured interviews with 38 diverse experts. Interviews were sought with national-level policy experts, but also at the local and regional levels, and with non-governmental actors, including commercial firms, third-sector not-for-profit entities and environmental non-governmental organisations (NGOs). A comparative focus was built into the research design, with interviews in Northern Ireland and Scotland (Figure ES.1).

Chapter 3 of this report examines the history of the EPI concept. In Chapter 4, we recount an Irish EPI success story that combined energy conservation, energy poverty and health. A contrast is made with slow Irish progress on anaerobic digestion, with EPI

absent in this case. Both examples are framed within a wider discussion of environmental policymaking in an era of disruption.

Chapter 5 reports the detailed interview findings. Awareness of the EPI concept was quite limited, and there is a need to engage with ordinary citizens to make EPI accessible. Interviewees were adamant that the "silo mentality" is a genuine problem, including the phenomenon of "silos within silos". It is at the local government level that a lack of integration is most acute, especially as regards planning. There are, however, EPI "policy champions" nestled in specialist agencies, for example the Sustainable Energy Authority of Ireland (SEAI), Teagasc and the City of Dublin Energy Management Agency. Private sector actors can also drive EPI, notably larger multinational firms but also not-for-profit NGOs.

Interviewees expressed strong views on a lack of environmental data sharing, on the suitability of voluntary agreements that aim to go beyond compliance, and the importance of subsidies, specifically feed-in tariffs, for new renewable technologies such as anaerobic digestion or biogas. Also advocated were policy instruments that engage the public and bring the citizen "back in" to policy delivery.

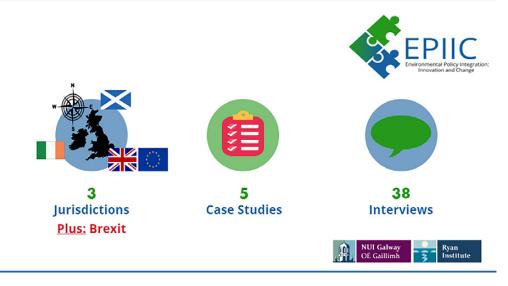


Figure ES.1. EPIIC summary overview.

In Chapter 6, a number of concrete recommendations are made to enhance EPI in an Irish setting. These include better communication of EPI and possible rebranding of the concept, as part of a wider participatory dialogue. Rather than major institutional change, adaptation and evolution is stressed. A dedicated "network agent" needs to be established to broker formal policy networking. This could be either a new bespoke body or a modified formation of the National Economic and Social Council. This network agent should ideally report to the Department of the Taoiseach to maximise its co-ordination role. A Green Bridging Fund (or similar) of not less than €1m per annum is recommended. The diagonal axis of EPI, where state expert agencies predominate (SEAI, Teagasc, the Marine Institute, the Heritage Council, Office of Public Works, etc.) should be reinforced with extra budgetary resources and more staff. However, the National Transport Authority and the Regional Waste Co-ordination Offices need priority support so that they can better play a role as "bridging agents". The Irish local planning system needs a substantive shift in "organisational culture". To do this, ideas from "green infrastructure" and the "transition towns

movement" could usefully be embraced, as they promote integration. A new cadre of Directors for Green Infrastructure Services should be appointed within the local government system.

There is an urgent need for a review of all environmental data held by public agencies, to be facilitated by a dedicated environmental data analytics team. Supports such as renewable energy feed-in tariffs, although expensive, are worth keeping for emergent technologies, notably anaerobic digestion and biogas, as long as they follow international best practices in their design. There is a need to explore "soft bridging instruments". These could be "citizen science" projects but also carbon-neutral certification and labelling schemes. Possible templates for such "bridging initiatives" can be found in the recent catchments.ie and EPA food waste projects.

Finally, Irish environmental policy lesson drawing should be global in its orientation and multilateral, rather than confined to always drawing lessons from the typical comparators (i.e. the UK) or situated within the most ubiquitous institutional fora (typically the EU).

1 Background to this Research

EPIIC (Environmental Policy Integration: Innovation and Change) was a 1-year desk-study that explored the concept of environmental policy integration (EPI) and its relevance for Irish environmental governance (Figure 1.1).

EPI has been defined as making "environmental policy issues becoming part of sectors rather than being a separate (albeit sometimes successful) policy field on its own" (Eckerberg and Nilsson, 2007, p. 3). Since the late 1980s, EPI has been a policy idea of long standing. It is a concept addressed to other policy sectors, such as agriculture, energy and transport, but potentially any policy sector could be the addressee of EPI.

Some definitions of EPI significantly increase the ambition of the EPI concept. For example, Lafferty and Hovden (2003) have argued that EPI demands that "principled priority" be given to environmental and sustainable development concerns. However, it is quite possible to construe EPI as merely a demand that green issues be "taken into account" or balanced against the competing policy goals of other sectors.

There are also distinctions between horizontal and vertical EPI (Lafferty and Hovden, 2003). Horizontal integration involves efforts that cut *across* various sectors or institutions. Horizontal EPI is therefore wide. It broadens the reach of environmental policy to include other ministries, industry, voluntary groups and environmentalists. By way of contrast, "vertical integration" reaches down (or upwards), usually within a specific policy sector. It is therefore deeper, but once again it may be also variable and complex, including not just local governments or specialist agencies

"below" national ministries, but also other stakeholders (Figure 1.2).

EPI has found formal legal expression in successive European Union (EU) treaties and, at one stage, enjoyed a dedicated EU-level initiative on EPI, the so-called Cardiff process of 1998. It is mostly through EU participation that EPI has been discussed in Ireland, although increasingly the focus is on how demands for ambitious climate change legislation at both national and EU levels can be combined with other policy goals such as "Blue Growth" and Ireland's high-priority Food Wise 2025 strategy. Today the global focus is increasingly upon climate policy integration (CPI) rather than EPI (Adelle and Russel, 2013).

There have been at least two recent and significant Irish studies (Moore *et al.*, 2013; Mullally and Dunphy, 2015), both of which contextualise the EPI concept in an Irish setting. The National Economic and Social Council (NESC) report of 2013 (Moore *et al.*, 2013), although not specifically focused on the EPI concept, examined the potential for integrating sustainability agendas into core Irish government activities, very much with the political and economic effects of the "great recession" in mind and the immediate context of an Irish government "Action Plan" for jobs.

In recent years there has been a certain disillusionment with EPI (Adelle and Russel, 2013). A key question at this stage, after more than two decades of EPI research, is "How can the EPI concept be made meaningful in a tangible way that avoids the obvious pitfalls of becoming so demanding as to be unworkable?".



examples of good practice

Figure 1.1. Objectives and focus of the EPIIC study across the environmental governance landscape of Ireland, Northern Ireland and Scotland, seeking examples of good practice.

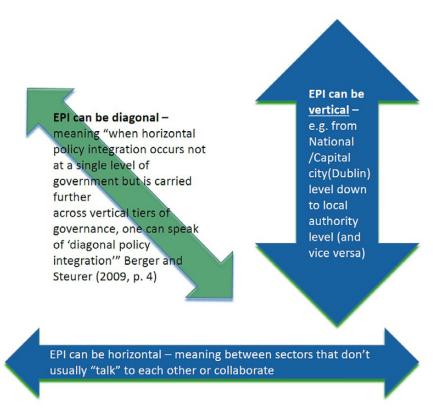


Figure 1.2. The directions of institutional EPI efforts.

1.1 Objectives

This question in many ways formed our core research question in the Irish context in which this research was positioned (though note our comparative focus – below). However, the research objectives are further split into a number of discrete but related objectives.

1.1.1 Identify pressures 1: exploring EPI in a specifically Irish context

An important second objective of the project has been to fill a lacuna in the literature and research about the actual state of play of EPI in Ireland by asking the questions: how joined up is Irish environmental governance and where are the more serious disconnects? In particular, we were interested to see to what extent there is awareness of the EPI concept, which was first articulated over 30 years ago and remains a principle of EU environmental law within the treaties since then. Has EPI simply dropped off the radar of Irish environmental governance? We were also most keen to see whether a shift towards CPI. noted in some of the academic literature, was evident in the Irish case, and to what extent interviewees were more familiar or responsive to the CPI concept rather than EPI, which is broader in scope.

1.1.2 Identify pressures 2: exploring Irish EPI as regards institutions, instruments and ideas in concrete cases

EPI can be made much more tangible if one thinks of the quality of integration as pivoting around a balance among *institutional* arrangements (unified environmental ministries), certain types of policy *instruments* (e.g. green taxes) and core policy *ideas* (such as sustainable development or the circular economy). Figure 1.3 provides a visual presentation of these three elements and gives specific examples of what EPI looks like under each heading.

Another way of making such a sweeping concept meaningful is to examine it in specific case studies across various sectors where environmental challenges are obvious: agriculture, energy, waste, water, air pollution, transport, marine, etc. Obviously, given the limitations of this study, it was not possible to examine all of these sectors in comprehensive case studies, so the focus is on a small number of relatively narrow cases that allow us to explore EPI in detail.

Accordingly, our questions here were "What sorts of Irish institutional arrangements are conducive to EPI?" and "Where are the weakest institutional links in Irish environmental governance?". This research

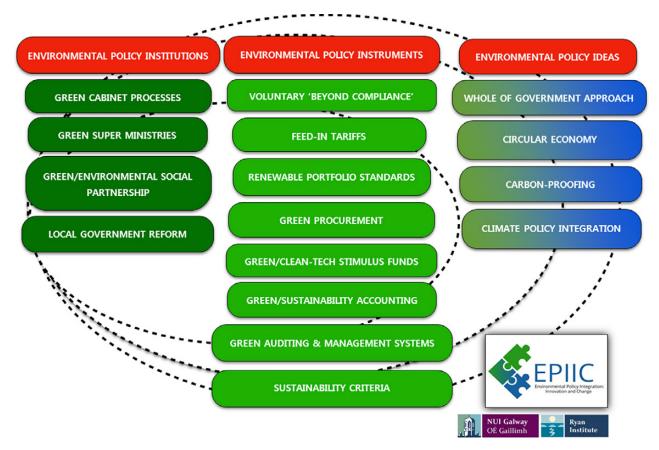


Figure 1.3. Making environmental policy integration tangible – ideas, instruments and institutions that embody EPI.

also examines instruments to determine which types of policy tools most effectively integrate environmental agendas in various sectors: traditional legislation, fiscal charges or taxes, subsidies, voluntary agreements, etc. Finally, questions were posed about core ideas which help achieve integration – notably the idea of the "circular economy", but also whether EPI itself is seen as a valuable concept.

1.1.3 Identify pressures 3: giving voice on where the gaps are

Another objective of this report is to provide voice to a variety of stakeholders connected with Irish environmental policy. Although the concept of EPI can at first appear somewhat cerebral and academic, it nonetheless does resonate as a real issue with those engaged in environmental policymaking. In short, the goal of this research was to uncover what a variety of experts on Irish environmental governance think about this problem – according to them, how severe is it, where is it most acute and how does it manifest itself in the policy process?

Figure 1.4 gives an indication of some the key responses that interviewees offered.

1.1.4 Informing policy: learning and innovation – identifying Irish policy champions for integration

This study links EPI to the concepts of policy learning and innovation in an Irish context. The key question posed here is "To what extent does the Irish governance system have the ability to learn lessons about EPI, or to reflect on where there is a lack of 'joined-up-ness'?" In particular, we found most useful Gore's (2014) conception of policy learning and institutional "policy champions" for EPI. He defines the latter as actors "who are able to bridge across different interests, approaches and viewpoints" (Gore, 2014, p. 310). They often do so by deploying key "policy narratives" that reduce complexity, transfer meaningful lessons and help exploit the opportunities of "policy windows". The objective under this heading can then be summed up in the research question "Who are the Irish policy champions for EPI or greater integration?".

"...a champion..."

"...silos within silos..."

"...no-one is going to sign-off without evidence..."

"varies from one local authority to another"

"the EU is the single most important mechanism that we have had for breaking down those silos...especially as regards sharing information and data..."

"you cannot forget air quality...if you just say we'll do this for climate you can create other problems..."

"The biggest thing I've learned is you have to bring society with you..."

Voicing the gaps & opportunities

"Ireland is getting better at integration... making the decisions can be hard."

"rotation takes out commitment -too unwilling to champion anything"

(on EPI): "...'policy integration' is probably better -drop the 'environmental'..."

"younger generations get climate change...but do the current decision-makers?"

"de-centralisation does work on the continent"

"...we have to join the dots for them..."





Figure 1.4. Voices of the broader spectrum of environmental policy in Ireland: voicing the gaps and opportunities.

1.1.5 Developing solutions 1: articulate examples of Irish best practice

The third objective of this project is to offer a positive analysis that explores not just examples of a lack of co-ordination but also examples of best practice, where Ireland has managed to integrate many diverse issues within a single policy or project, thus providing a template for how a more integrated style of environmental policy could be delivered.

1.1.6 Developing solutions 2: how can EPI in Ireland learn from abroad?

Also significant here was the issue of policy learning, and, to address this, a comparative focus was built into the research design. Northern Ireland and Scotland are employed here as two jurisdictions where lessons and experiences that are relevant for Ireland are explored. The objective here was pragmatic: can best practices from other cognate jurisdictions offer reform ideas for Ireland, and can their pitfalls and problems as regards policy integration be avoided?

2 Methods and Research Design

This study is based chiefly on original interview research. Potential interviewees were identified based on our knowledge of the specific case study areas selected, from available official and "grey literature" sources. A "snowballing" approach (Bryman, 2015, p. 415) was also used to get interviewees to identify additional possible interview contacts. The interview format was semi-structured, with a number of typical questions and their sequence repeated over most interviewees. However, interviewees were also given scope to vary the format somewhat, and they were free to communicate their own insights when and where they wanted to. Interviews typically lasted between 40 and 90 minutes, but some were longer than this. An example of a typical interview questionnaire is included in Appendix 1.

Some 38 interviews were carried out (Figure 2.1): 24 from within Ireland and 14 with key informants from outside the jurisdiction (five from Scotland and nine from Northern Ireland). Interviews were carried out on a strictly confidential basis so that the key informants, and their organisational affiliation, were not identifiable. The reporting of the findings is anonymised in this report, with individual interviews identified by a unique random sequence (e.g. K7b). For logistical reasons

it made sense to group the interviews into a series of "case studies", each of which examines a detailed problem that cuts across the sectoral categories (waste, water, agriculture, etc.). Figures 2.2 and 2.3 provide the interview breakdown by gender and sector, respectively.

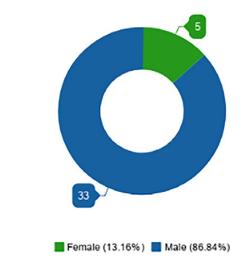


Figure 2.2. Interview breakdown by gender.

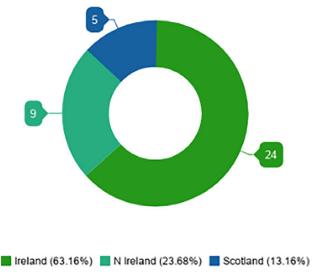


Figure 2.1. Interviews by jurisdiction.

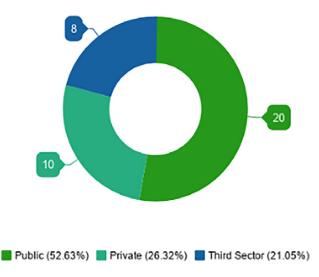


Figure 2.3. Interview breakdown by sector. A more technical and detailed breakdown is available in the EPIIC final report.

2.1 Case Study 1: Anaerobic Digestion Technology as an Integrated Environmental Challenge

The first case study (CS1) was concerned with anaerobic digestion (AD) and the related topics of farm wastes management in Ireland. The focus of this case study were the reasons for a relatively low level of AD deployment in Ireland. Is there a policy integration angle that explains the relatively low rate of Irish AD activity?

2.2 Case Study 2: What Scope for Green Gas in Ireland and Bridging Agents (Teagasc/SEAI)?

The second case study (CS2) evolved from the first one, in that it takes the story of biogas forwards and asks the question "Why and how could green gas become a feature of the Irish energy mix and how does environmental policy integration have a part in explaining Ireland's relatively low level of 'green gas' exploitation?". This case study was also designed from the outset to allow us to explore the scope that specialist agencies have to act as bridging agents (for example SEAI/Teagasc).

2.3 Case Study 3: Ireland as Energy Conservation–Energy Poverty Innovator

The third substantive case study (CS3) examined the nexus between energy poverty and energy conservation, or sometimes referred to as fuel poverty and energy efficiency agendas. Ireland in this regard has a track record of innovation in tackling both problems, and increasingly is doing so in an integrated way. This case study was therefore selected because *prime facie* it was felt it offered a good example of where best practices in Irish EPI may be found.

2.4 Case Studies 4 and 5: Comparator Jurisdictions

Northern Ireland and Scotland are used here as comparator jurisdictions. Northern Ireland offered potential insights in terms of a different jurisdiction with an environment intrinsically linked with that of the Republic of Ireland, along its border. Scotland offered potential insights as another region within the UK, with its own devolved government for a population similar in size to that of Ireland.

¹ This report uses the term "Republic of Ireland" to distinguish between the jurisdictions of Ireland and Northern Ireland.

3 Findings 1: The Spectre of "Disruption"

The concept of "disruption" was used in this study. Disruption is a usually sudden policy shock which often challenges, and sometimes actually shatters, established modes of governance, core policy ideas or a consensus that underpins policy. It may or may not take the form of a policy crisis or disaster; however, it is clear that some types of disruption emerge more slowly, via perhaps insidious, attritional dynamics that chip away at "policy as normal".

Over a number of interviews the theme of "disruption" was alluded to. "Brexit" was unquestionably the most significant and ongoing "disruptive" event that occurred during this research, and this was foremost discernible in the interviews conducted in Northern Ireland. Interviewees from the Republic of Ireland also noted Brexit was creating uncertainties for the European Emissions Trading Scheme because various market actors were speculating that it might reduce the cost of carbon credits (and therefore the cost of abatement). Some interviewees invoked a more general sense of disruption, reflecting on the recent attempts to introduce a system of water charges in Ireland. One interviewee noted:

the underlying consensus for policy has to be worked on . . . (we need to communicate) for a very diverse public which is not one mass of people . . . there are very different audiences and segments . . . The biggest thing I've learned is you have to bring society with you . . . (Interviewee L8f)

Another interviewee was worried about the rise of climate scepticism from some well-respected Irish lobby and interest groups and feared that they might in the future adopt a more aggressive climate-sceptic stance, which was troubling because "younger generations get climate change ... but do the current decision-makers?" (Interviewee C3d).

Conversely, shocks, such as the great recession from 2008 to 2013, can stimulate environmental policy innovation, of which the best example is a conscious policy decision made to expand funding and ambition to address the integrated agendas of energy poverty and home energy conservation. Ireland went from allocating circa €15m to such issues in the 2009 budget to €76m in the 2012 budget. By the end of 2015, almost 120,000 energy-poor homes had been upgraded with insulation and other conservation measures, reflecting investment of €152m (DCENR, 2016, pp.14 and 24).

This Irish success story on energy conservation/ energy poverty was examined over a number of interviews. What was notable in the Irish case was that a *de facto* coalition of senior civil servants and activists on energy and fuel poverty, together with technical experts on energy conservation, brokered this expansion over successive governments (2007–2010, 2011–2016).

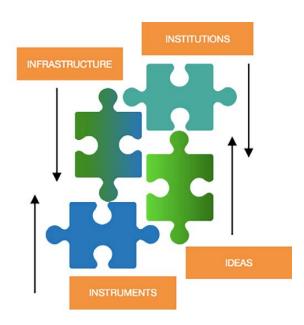
However, some of our interviewees made points which reflect how "disruptive" perceptions increased risk thresholds. Together, these trends could pose barriers to more integrated solutions emerging in Ireland. In the Republic of Ireland, this research revealed that various authorities have a marked sensitivity to digestate from the AD process. One of the reasons that interviewees suggested contributed to this less welcoming attitude in the Republic of Ireland was the "disruptive fear" of potential food safety risks.

In summary, the phenomenon of disruption is of relevance for EPI and the desire to see environmental policy become more joined up. This is because disruption creates both opportunities and barriers to integration. It creates crises which can force open relatively closed and stable policy silos to engage with new environmental issues.

4 Findings 2: Ideas, Institutions and Instruments

Chapter 5 of the full report gives a more systematic recounting of the findings that address the core research questions and the framing device for operationalising EPI through a triad of institutions, ideas and instruments. A summary of the main findings is provided here in bullet point style:

- A majority of the interviewees were quite limited in their awareness of, familiarity with and openness to the very concept of EPI. There was little understanding of the diverse ways that EPI can be implemented, through policy ideas, instruments, institutions and infrastructure (Figure 4.1).
- A significant number of interviewees affirmed that the "silo mentality" is not a cliché but a genuine problem, including the phenomenon of "silos within silos".
- Interviewees identified the local government level as the level where the lack of integration is most acute and, moreover, that this is manifested in a

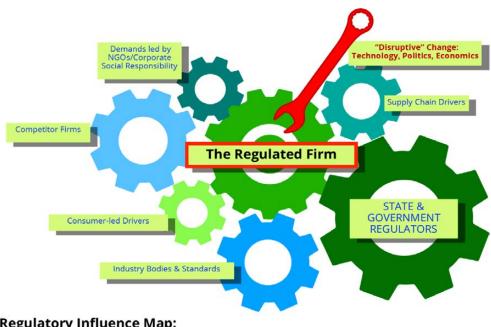


THE FOUR "I"s OF EPI-Putting EPI together means getting a balance between environmental policy ideas, institutions, instruments and infrastructure in all sectors (agriculture, transport, energy, waste, consumption, innovation, education, etc.)

Figure 4.1. The four "I"s of EPI.

- quite precise problem of a lack of consistency with regard to the application of planning norms and procedures.
- There was, however, evidence of "policy champions" for EPI situated along the "diagonal axis", nestled in specialist agencies, which usually have a national remit but lie outside the vertical and horizontal structures of national (cabinet/ departmental) government or local governments. Examples of these were the Sustainable Energy Authority of Ireland (SEAI) and Teagasc, but also local specialist agencies such as CODEMA (the City of Dublin Energy Management Agency) (Figure 4.2).
- EPI in Ireland is also furthered by diverse private actors that drive innovation, notably larger multinational firms but also not-for-profit community and charity-type non-governmental organisations (NGOs) (see Figure 4.2).
- The Department of the Taoiseach was cited by many interviewees as a powerful agent for horizontal EPI (Figure 4.3).
- EPI as a concept and jargon was viewed as elitist

 there is a need to engage with ordinary citizens
 and consumers, and to make the language and
 concepts accessible (Figure 4.4).
- Some interviewees expressed frustration with "churn" – civil servants moving from different policy sectors before they have had a chance to change things or develop expertise. Ironically, such personnel policies are often designed to reduce the "silo" mentality!
- Interviewees commented less on policy instruments to achieve EPI, but there were significant numbers who expressed strong views on a lack of environmental data and data sharing, on the suitability of voluntary agreements that aim to go beyond compliance, and the importance of subsidies in the guise of feed-in tariffs (FITs) for new renewable or green technologies such as AD or biogas. Policy instruments that engaged the public and brought the citizen "back in" to policy delivery were also extolled by some interviewees as a great way to achieve EPI.



The Regulatory Influence Map:

-Who and What is Driving Firm-Level Environmental Compliance?

(This schema modifies, but is inspired by, the Scottish Environmental Protection Agency's Regulatory Influence Map, viewable at Fig. 6: https://www.sepa.org.uk/media/219427/one-planet-prosperity-our-regulatory-strategy.pdf)

Figure 4.2. The regulatory influence map - who and what is driving firm-level environmental compliance?

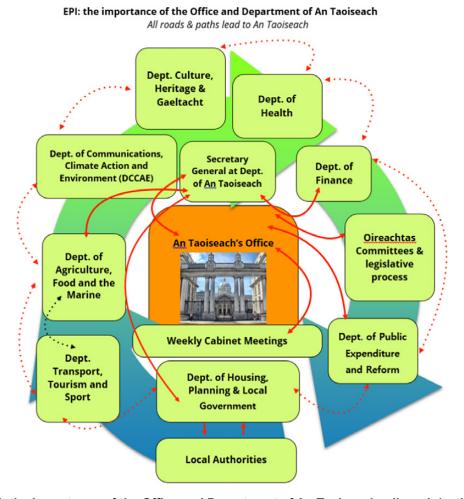


Figure 4.3. EPI: the importance of the Office and Department of An Taoiseach: all roads/paths lead to An Taoiseach's Office.



Figure 4.4. The human face of EPI – a need to engage with citizens and consumers. Photo credit: Bryson Recycling.

5 Recommendations

Following on from the findings, and using the structure of ideas, institutions and instruments, this report makes a number of specific suggestions for how EPI could be further implemented in the Irish context.

5.1 Policy Ideas

The new National Planning Framework will require careful attention to co-ordination between national, regional and local governments levels if it is to achieve its potential. This is an urgent and novel EPI challenge for Ireland.

A structured and well-thought-out campaign to communicate EPI should be a priority. Connections and distinctions between related concepts such as climate policy integration, the circular economy and climate-proofing need to be explained. The terminology of EPI might be usefully rebranded to more intuitive wording, such as "policy bridging" (Figure 5.1).

The best way to communicate the greater need for EPI would be through an open-ended, exploratory and participatory exercise with diverse stakeholders to discuss national priorities for environmental policy concepts, institutional reform and new instruments.

Workshops could also profitably communicate the idea of EPI to the general public. A key question to be explored in this regard is where the gaps are, or the weakest links as regards ideas, institutions, instruments and infrastructure.

There needs to be much greater clarity on how exactly greater integration will lead to better environmental policy outcomes. EPI priorities and "value added" could be explored within participatory workshops that should employ a diversity of methods: multicriteria decision analysis, contingent valuation, participatory mapping, Foresight/Delphi methods, scenario analysis, etc.

5.1.1 Policy institutions

Rather than major institutional change, adaptation and evolution is stressed. Formal networking that brings together key actors (the policy champions) who are otherwise "isolated" within their individual institutional silos can achieve a lot. However, a dedicated network agent needs to be established to achieve this, which could be either a new bespoke body or a modified formation of the National Economic and Social Council.

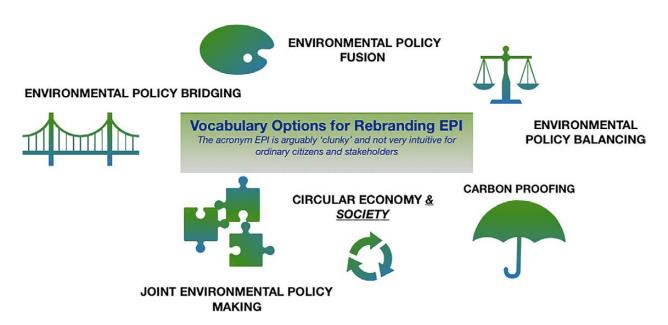


Figure 5.1. How better to name EPI? (This is something that emerged from interviews, with the alternative suggestions being proposed by the researchers themselves.)

This network agent should ideally report to the Department of the Taoiseach to maximise the potential co-ordination role and its standing and influence. It requires its own small secretariat and, just as important, its own guaranteed budget together with a well-thought-out work programme/calendar. This network agent should include membership from state expert agencies (SEAI, Heritage Council, the Environmental Protection Agency, the Marine Institute, etc.) and if possible, some local government expert participation.

Separately, and available immediately, government already has at its disposal a number of state and regional agencies that are working in various aspects of environmental policy. There can be a tendency to set up interdepartmental groups to address cross-cutting policy implementation, the role of which is to facilitate communication among the relevant departmental officials. However, in doing that there is the risk that the state agencies "in the field" are excluded from the main discussions while their "parent" departments are involved in the direct deliberations. A low-cost integrative step would be to make more use of broader working groups that bring in the relevant state agencies and some regional agencies, as well as their "parent" department. The researchers draw on interviews in CS3 in particular as evidence for this. Again, this is a low-cost and immediately implementable measure in that standing personnel costs and some travel and expenses costs are the primary budget items required for integrative interagency groups to convene.

There should be a Green Bridging Fund (or similar) of not less than €1m per annum, which may be administered by the network agent. This would fund projects that address "joined-up environmental solutions", and such a fund could be managed on the basis of competitive bids, with multiannual awards made to syndicates of local authorities, regional agencies, specialist state bodies (such as SEAI, Teagasc, the Marine Institute, etc.) and perhaps national departments of government.

The diagonal axis of EPI, where state expert agencies predominate (SEAI, Teagasc, the Marine Institute, Heritage Council, the Office of Public Works, etc.) should be reinforced with extra budgetary resources and more staffing expertise. The rationale for this is these institutional actors tend

to be "integrative" bridging agents within and across sectors.

However, this role seems weak for the transport and waste policy sectors. Accordingly, it should be a priority to reinforce the National Transport Authority and the Regional Waste Co-ordination Offices so that they can better play a role as "bridging agents". Dedicated staff are required to both draw lessons and implement changes in a systematic rather than ad hoc manner (Ó Tuama/BYPAD, 2018).

To provide guidance and coherence to local governments, there needs to be a greater quality in producing and communicating national policy and planning strategy documents relating to both key sectoral issues and emergent topical concerns (agriculture, waste, Natura 2000: Birds and Habitats Directives, planning, freshwater and coastal waters, flooding, new technologies, etc.).

The Irish local planning system urgently needs to be reformed. Until now, reform has mostly focused on "fast-tracking". However, EPI requires different planning ideas to achieve more "joined-up planning". This would require allowing local governments to access a wider range of planning tools, such as economic and fiscal charges or levies. Other approaches might involve Transport Impact Assessments, which are not required by law but reflect an openness to participation.

Local planning needs a substantive shift in "organisational culture". Ideas from "green infrastructure" and the "transition towns movement" could be usefully embraced as they promote integration. To lead this culture shift, a new cohort of Directors for Green Infrastructure Services is required. This role should be appointed as a formal rank within the local government administration. Such personnel could be shared between several local authorities and appointed initially as part of a pilot programme.

5.1.2 Policy instruments

There is an urgent need for a review of all environment relevant data held by national government agencies, specialist state agencies, semi-state commercial entities and local authorities. This review should focus on the critical issues of data-sharing, accessibility, ownership and data integrity (the accuracy and consistency of data).

To do this task there is also a case for a dedicated environmental data analytics team to be developed, possibly within the EPA, which can focus on the specific job of analysing diverse data for environmental problem analysis, and "mining" these data sets.

FIT supports, such as REFIT (renewable energy feed-in tariffs), are very important and the specific format of the FIT, compared with other models of financial support, gives them unique benefits which are worth keeping. It would be a serious mistake to ditch FITs as an instrument, especially for immature sectors and technologies that are still in their infancy. This applies to AD and biogas, but also technologies such as offshore wind, ocean energy and combined heat and power in an Irish context.

The concept of a balanced environmental policy instruments toolbox approach (Figure 5.2) should be used, chiefly as an audit mechanism to systematically uncover cases where policy interventions are imbalanced and to discover gaps in how different policy instruments overlap.

There is a need to explore "soft bridging instruments", by which we mean initiatives that bring together ordinary citizens and wider social sectors, possibly forging links and associations between the two very different social levels. These could be "citizen science" projects, but also carbon-neutral certification

and labelling schemes for domestic dairy and meat food products, which would seem an important opportunity in an Irish context. Possible templates for such "bridging initiatives" can be found in the recent catchments.ie and EPA food waste projects.

Irish environmental policy lesson drawing should be global in its orientation and multilateral, rather than confined to always drawing lessons from the "usual suspect" comparators (the UK) or situated within the most ubiquitous institutional fora (typically the EU).

To be of real value, lesson drawing should be structured and systematic. Comparative surveys of "best practice" approaches and study trips/exchanges under the headings of ideas, institutions, instruments and infrastructure could be a regular feature of the annual work programme of the networking agent advocated above.

One "disruptive" limit on policy transfer and lesson drawing may be the as yet unknown impacts of Brexit, as there are considerable uncertainties about how this will impact on British environmental policy. Nonetheless, the risk of significant policy divergence between the UK and the Republic of Ireland on environmental policy issues is far from trivial. As a final summary, Figure 5.3 presents a "checklist" of approaches that could be used to further EPI in the Republic of Ireland.



Figure 5.2. The environmental policy toolbox of instruments.

Busting Silos -A "How-To" Checklist for Irish Environmental Governance

LISTEN to **and learn** from diverse opinions, data, trends, well beyond the formal boundaries of official government, to include diverse social partners, environmentalists, business, scientific and technical experts but also ordinary citizens. Ask THEM about silos and where things need to be urgently joined up! This includes systematic lesson-drawing from other jurisdictions asking the question: 'what are other countries doing to tackle this problem in a joined up way, and should/could we do that in Ireland?'

DEFINE the problem of silos carefully. **Not every silo is a problem** and some 'silo effects' are both inevitable and sometimes valuable, shielding niches of specialism or innovation in governance and technology. There is need to be clear what the costs of the 'silo effect' are and where these fall.



MAP the silo problem and the wider governance grid for environment, Sustainable Development Goals and Climate Change. Find out where the weakest and strongest institutional links are and reinforce these.

DESCRIBE what silo-isation and the converse, good joined-up environmental governance, both look like with concrete case studies that everyone can quickly understand. Paint them a policy 'picture', **but don't let EPI languish in abstract and overly academic jargon**.

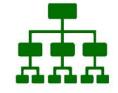


RE-THINK and challenge mental and jargon-based silos

through new policy language, concepts, ideas, and exchange of data, innovations, trends and problem definition. Focus on simpler language that ordinary citizens can instinctively appreciate-i.e 'policy

bridging' rather than EPI or CPI.

NETWORK to disrupt institutional silos by continuous, deep but also flexible networking which is anchored through modest funding to reward collaborative innovation pilots and access to the very highest level of government (i.e. Dept. of Taoiseach).



FUND joined-up policy innovation. Without money, silo busting will be likely just dismissed as rhetoric. However, small amounts of state funding (circa €1-3m per annum), if matched by private investments, may be all that is required to create positive momentum for change.

REINFORCE existing policy champions with additional funding, staff, expertise and where necessary additional policy powers and mandates.





REWARD and identify 'policy champions' who are the key individuals or the projects which are making environmental policy 'bridges'.

SCHEDULE silo busting as a multi-annual activity for all relevant stakeholders. At a minimum, ensure an annual high profile event/workshop given over to the need for 'policy bridging'. Set objectives or priorities for each year.





DEVELOP a balanced policy instruments toolbox which

combines a range of approaches to solve the most serious problems, including voluntary approaches, fiscal and economic instruments with traditional command and control (law) based measures. These should target diverse actors: ordinary consumers, firms and business, specialist sectors of the society/economy, public sector actors.

DESIGN, debate, pilot and build infrastructure in the physical, social and cyber-data domains which is open architecture, resilient, and hardwired to facilitate sharing while combining intrinsic features that are



low-impact on climate change, environment and Sustainable Development Goals.

COMMUNICATE silo busting continuously, clearly and via multiple modes and channels that reflect the 'disrupted' reality of how people communicate today (i.e. social media, traditional media and the importance of communicating complex and quality scientific findings).







Figure 5.3. Busting silos – a "how-to" checklist for Irish environmental governance (from the researchers).

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Abbreviations

AD Anaerobic digestion

CODEMA City of Dublin Energy Management Agency

CPI Climate policy integration

EPI Environmental policy integration

EPIIC Environmental Policy Integration: Innovation and Change

EU European Union FIT Feed-in tariff

NGO Non-governmental organisation

SEAI Sustainable Energy Authority of Ireland

Appendix 1 Sample Semi-structured Interview Questionnaire



meaningful to you . . . or maybe it is not?"

SEMI-STRUCTURED INTERVIEW QUESTIONS – OUTLINE

	WILD INTERVIEW QUESTIONS OUTLINE
Inte	erviewee name, institutional affiliation and location (to be redacted)
Tim	e/venue/date of interview
(to	be partially redacted if identifiable)
Ra	ndomised Interviewee no. (Eg.H6y)
1.	Brief/summary introduction to the interviewer's role in the project and re-cap on the purpose of the interviewer
2.	ANONYMITY – we stress this from the outset – for the project and project case studies, we use CHATHAM HOUSE RULES of identification "neither the identity nor the affiliation of the speaker(s), nor that of any other participant, may be revealed."
	(https://www.chathamhouse.org/about/chatham-house-rule#sthash.JtvVnkTY.dpuf)
	 this includes in the printed final report but also in academic presentations and discussions and other interviews.
3.	Ultra-brief background to the project for the interviewee:
	[provided to interviewee by email/initial phone call/immediately prior to interview]
Qu	estions
4a.	Were you familiar with the concept of "Environmental Policy Integration (EPI)"previously?"
	Yes
	Somewhat
	No
	Another key general question might be asked here is EPI relevant or meaningful to them as an environmental policy expert?
4h	"Does EPI make sense as a concept — is it speaking to a serious problem or opportunity — the need to

break out of institutional silo . . . mindsets . . . the need for joined-up solutions . . . does it sound relevant or

	Yes, EPI is relevant
	Somewhat meaningful
	Not really relevant at all
	In fact, the other really big pressing issue in Irish environmental governance is
5a.	"What best describes your background as an environmental expert?"
	Local authority-general administrative management
	Local authority-technical engineering management
	Local authority-planning management
	National or regional level State agency or authority-general policy
	National or regional level State agency or authority-technical expertise
	Private consultancy-general/commercial
	Private consultancy-technical expertise
	Interest group/lobbyist
	NGO/environmentalist/not for profit
	Other (describe)
5b.	"We are interested in people's background education to see if that reflects on their views on policy integration, as well especially where somebody would have technical expertise"
	(This is solely to get an understanding of the perspectives or viewpoints of the interviewee)
	A professional engineering qualification, BEng degree type?
	A professional scientific qualification, BSc degree type?
	A professional law/planning qualification of degree type (LLB, BCL, etc.) or a planning diploma?
	An administrative qualification, say from the IPA. At degree, diploma, certificate level?
	Accredited member of an institute, guild, professional society or association
	Other specialist/technical qualifications
	Postgraduate qualifications relevant?
	Male Female
	Age cohort. 20–40s60+
	Retired? YesNo
	Years of experience in current position
6.	One of the things we are interested in is the extent to which environmental policy integration leadership emerges from different levels – where does it come from? – e.g. does it come top-down from Dublin? Or conversely does it happen bottom-up – e.g. where a local authority takes an initiative and builds a partnership with other actors?

EPIIC project emphasises: we are not asking you to "bad mouth" any state agency or body, but to identify where there is a culture of doing things in a joined-up way, or conversely where the silo mentality dominates.

- 6a. "In your case study tell us about support/lack or support from Dublin ministries or departments...what departments are more supportive of integrating different agendas, and why...and what ones might be described as more comfortable in a silo mentality?"
- 6b. "How important is the Dublin dimension for example if somebody at senior level . . . Secretary General (head of govt. dept.), Principal Officer level inside a department wants things to be more joined-up . . . will it happen . . . or maybe it's not that simple? At the local or regional level, how much scope do Dublin departments have to broker positive change?"
 - (Sub questions below break this into more detail which may be relevant dependent on interviewee or time and context)
 - 6b.1 Some people have said to us that integration is often pushed from bodies outside the state . . . such as the European Commission when they investigate an infringement proceeding . . . they kind of force various parties to speak to each other and eventually co-operate . . . in your experience is that accurate . . . is there extra-state EPI . . . also maybe co-operation with British players in the context of Northern Ireland? . . . but more generally, in that we copy and learn a lot from the UK.
 - 6b.2 How would you characterise the following departments as regards environmental policy integration? Supportive of joined-up governance or more focused on their own silo?
 - The new department of Communications, Climate Action and Environment?
 - The new department of Housing, Planning, Community and Local Government?
 - Maybe you might comment on this split which is very recent . . . taking environment away from local government and planning?
 - Department of Jobs, Enterprise and Innovation supporting green and clean tech jobs?
 - Department of Public Expenditure? Has there been a change of approach since this was separated from the "old" Department of Finance?
 - Department of Finance . . . does it overlord everything as paymaster or is that exaggerated?
 - Dept. of Agriculture, Food and the Marine . . . do they want to hear about sustainability challenges of Food Harvest 2020 (and now FoodWise 2025)?
 - Dept. of Transport, Tourism and Sport do they want to address our transport emissions which seem a bit out of control in contrast to other sectors?
 - Dept. of An Taoiseach.
 - Others.
- 6c. Also at the Dublin/capital city or national level there are specialist agencies . . . SEAI, EPA, Marine Institute, OPW, NPWS, Heritage Council, Teagasc and others . . . in your experience/case study . . . what role do they play . . . do they help things become more joined-up or maybe the opposite . . . do they hinder that . . . only thinking and acting for their own specialist patch of concerns?
- 6d. Tell me a little bit from your perspective/your case study about how joined-up local authorities are . . . or are they jacks of all trades (masters of none) . . . do local authorities co-cooperate with each other . . . with specialist agencies
- 6e. We are very interested in other stakeholders in environmental governance, i.e. private sector consultants, engineering firms, contractors . . . but also maybe environmental stakeholders and representative groups . . . e.g. NGOs, lobby groups e.g. An Taisce, farming organisations, academics, etc. Do they help or hinder a more joined-up environmental policy in your experience or case?
- 6f. Related to this we are interested in your opinion on the sectors that are most in need of better integration into environmental concerns . . . policy sectors which do not have enough "environment" in them as it were and environmental sectors which are being left a bit ghettoised or isolated . . . from the list below please indicate sectors that you think are not integrated enough.

	Agriculture and food
	Marine
	Transport
	Energy
	Waste
	Industrial development
	Infrastructure in general (please specify)
	Soil/contaminated sites
	Climate change
	The planning system
	Forestry, habitats and land use
	Water supply
	Water quality
	Flooding
	Others?
7.	We are interested in how and where EPI might arise in the policy cycle for instance you have policy agenda setting policy formulation within the civil service [of course a lot of this happens at EU level but even there we feed into that] then the policy evolves to become a formal and binding thing either a law, a Statutory Instrument, or a measure in the Finance Act or perhaps it's a policy fleshed out by an executive agency then we get to policy implementation making it work on the ground.
	In your view at what stage is being joined-up most important/problematic in Ireland?:
	At the early stages of policy design
	At the stage of detail in drafting the policies legal or financial measures
	At the stage of implementation
8.	We are interested in the content of EPI what gets integrated and why and what does not. By content we also mean different types of environmental policy instruments taxes, charges, regulations, bans, etc.
8a.	In your view or experience is it only "soft" things that get integrated like policy ideas, concepts, mindsets?
8b.	Are you familiar with some of the following EPI-related concepts?
	Circular economy
	Climate policy integration
	Sustainable development goals
	Clean-tech
	Bioeconomy/bio-based economy
	Suggest others
	Which of those, if any, seem most promising or tangible for you?

- 8c. Conversely, are there examples of hard infrastructure projects . . . where what is being built is fundamentally integrative . . . and joined up with environmental agendas? Can you give examples?
- 8d. What about information data, GIS info, large data sets and real time monitoring and management . . . is that shared or integrated sufficiently or do we have a problem with environmental data silos in Ireland?
- 8e. What about specialist technical knowledge, expertise, complexity . . . are these barriers to a more joined up environmental governance system in Ireland? What I mean here is that some people say various players lack the technical expertise to really have a shared conversation. There can be unrealistic assumptions and even contestation over technologies we need for environmental management and this is corrosive. Or is that exaggerated?

8f.	Which of the following are more or less integrative as instruments?
	Acts of the Oireachtas
	Regulations/statutory instruments
	Taxes or charges
	Soft policy instruments like education campaigns (e.g. Power of One)
	Other measures or outputs
9.	FINAL OPEN QUESTION what in your view or experience is the situation in Ireland with regard to integrating the environment where are we joined up quite well and where are we not joined up at all?

AN GHNÍOMHAIREACHT UM CHAOMHNÚ COMHSHAOIL

Tá an Ghníomhaireacht um Chaomhnú Comhshaoil (GCC) freagrach as an gcomhshaol a chaomhnú agus a fheabhsú mar shócmhainn luachmhar do mhuintir na hÉireann. Táimid tiomanta do dhaoine agus don chomhshaol a chosaint ó éifeachtaí díobhálacha na radaíochta agus an truaillithe.

Is féidir obair na Gníomhaireachta a roinnt ina trí phríomhréimse:

Rialú: Déanaimid córais éifeachtacha rialaithe agus comhlíonta comhshaoil a chur i bhfeidhm chun torthaí maithe comhshaoil a sholáthar agus chun díriú orthu siúd nach gcloíonn leis na córais sin.

Eolas: Soláthraímid sonraí, faisnéis agus measúnú comhshaoil atá ar ardchaighdeán, spriocdhírithe agus tráthúil chun bonn eolais a chur faoin gcinnteoireacht ar gach leibhéal.

Tacaíocht: Bímid ag saothrú i gcomhar le grúpaí eile chun tacú le comhshaol atá glan, táirgiúil agus cosanta go maith, agus le hiompar a chuirfidh le comhshaol inbhuanaithe.

Ár bhFreagrachtaí

Ceadúnú

Déanaimid na gníomhaíochtaí seo a leanas a rialú ionas nach ndéanann siad dochar do shláinte an phobail ná don chomhshaol:

- saoráidí dramhaíola (m.sh. láithreáin líonta talún, loisceoirí, stáisiúin aistrithe dramhaíola);
- gníomhaíochtaí tionsclaíocha ar scála mór (m.sh. déantúsaíocht cógaisíochta, déantúsaíocht stroighne, stáisiúin chumhachta);
- an diantalmhaíocht (m.sh. muca, éanlaith);
- úsáid shrianta agus scaoileadh rialaithe Orgánach Géinmhodhnaithe (OGM);
- foinsí radaíochta ianúcháin (m.sh. trealamh x-gha agus radaiteiripe, foinsí tionsclaíocha);
- áiseanna móra stórála peitril;
- · scardadh dramhuisce;
- gníomhaíochtaí dumpála ar farraige.

Forfheidhmiú Náisiúnta i leith Cúrsaí Comhshaoil

- Clár náisiúnta iniúchtaí agus cigireachtaí a dhéanamh gach bliain ar shaoráidí a bhfuil ceadúnas ón nGníomhaireacht acu.
- Maoirseacht a dhéanamh ar fhreagrachtaí cosanta comhshaoil na n-údarás áitiúil.
- Caighdeán an uisce óil, arna sholáthar ag soláthraithe uisce phoiblí, a mhaoirsiú.
- Obair le húdaráis áitiúla agus le gníomhaireachtaí eile chun dul i ngleic le coireanna comhshaoil trí chomhordú a dhéanamh ar líonra forfheidhmiúcháin náisiúnta, trí dhíriú ar chiontóirí, agus trí mhaoirsiú a dhéanamh ar leasúchán.
- Cur i bhfeidhm rialachán ar nós na Rialachán um Dhramhthrealamh Leictreach agus Leictreonach (DTLL), um Shrian ar Shubstaintí Guaiseacha agus na Rialachán um rialú ar shubstaintí a ídíonn an ciseal ózóin.
- An dlí a chur orthu siúd a bhriseann dlí an chomhshaoil agus a dhéanann dochar don chomhshaol.

Bainistíocht Uisce

- Monatóireacht agus tuairisciú a dhéanamh ar cháilíocht aibhneacha, lochanna, uiscí idirchriosacha agus cósta na hÉireann, agus screamhuiscí; leibhéil uisce agus sruthanna aibhneacha a thomhas.
- Comhordú náisiúnta agus maoirsiú a dhéanamh ar an gCreat-Treoir Uisce.
- Monatóireacht agus tuairisciú a dhéanamh ar Cháilíocht an Uisce Snámha.

Monatóireacht, Anailís agus Tuairisciú ar an gComhshaol

- Monatóireacht a dhéanamh ar cháilíocht an aeir agus Treoir an AE maidir le hAer Glan don Eoraip (CAFÉ) a chur chun feidhme.
- Tuairisciú neamhspleách le cabhrú le cinnteoireacht an rialtais náisiúnta agus na n-údarás áitiúil (m.sh. tuairisciú tréimhsiúil ar staid Chomhshaol na hÉireann agus Tuarascálacha ar Tháscairí).

Rialú Astaíochtaí na nGás Ceaptha Teasa in Éirinn

- Fardail agus réamh-mheastacháin na hÉireann maidir le gáis cheaptha teasa a ullmhú.
- An Treoir maidir le Trádáil Astaíochtaí a chur chun feidhme i gcomhair breis agus 100 de na táirgeoirí dé-ocsaíde carbóin is mó in Éirinn.

Taighde agus Forbairt Comhshaoil

 Taighde comhshaoil a chistiú chun brúnna a shainaithint, bonn eolais a chur faoi bheartais, agus réitigh a sholáthar i réimsí na haeráide, an uisce agus na hinbhuanaitheachta.

Measúnacht Straitéiseach Timpeallachta

 Measúnacht a dhéanamh ar thionchar pleananna agus clár beartaithe ar an gcomhshaol in Éirinn (m.sh. mórphleananna forbartha).

Cosaint Raideolaíoch

- Monatóireacht a dhéanamh ar leibhéil radaíochta, measúnacht a dhéanamh ar nochtadh mhuintir na hÉireann don radaíocht ianúcháin.
- Cabhrú le pleananna náisiúnta a fhorbairt le haghaidh éigeandálaí ag eascairt as taismí núicléacha.
- Monatóireacht a dhéanamh ar fhorbairtí thar lear a bhaineann le saoráidí núicléacha agus leis an tsábháilteacht raideolaíochta.
- Sainseirbhísí cosanta ar an radaíocht a sholáthar, nó maoirsiú a dhéanamh ar sholáthar na seirbhísí sin.

Treoir, Faisnéis Inrochtana agus Oideachas

- Comhairle agus treoir a chur ar fáil d'earnáil na tionsclaíochta agus don phobal maidir le hábhair a bhaineann le caomhnú an chomhshaoil agus leis an gcosaint raideolaíoch.
- Faisnéis thráthúil ar an gcomhshaol ar a bhfuil fáil éasca a chur ar fáil chun rannpháirtíocht an phobail a spreagadh sa chinnteoireacht i ndáil leis an gcomhshaol (m.sh. Timpeall an Tí, léarscáileanna radóin).
- Comhairle a chur ar fáil don Rialtas maidir le hábhair a bhaineann leis an tsábháilteacht raideolaíoch agus le cúrsaí práinnfhreagartha.
- Plean Náisiúnta Bainistíochta Dramhaíola Guaisí a fhorbairt chun dramhaíl ghuaiseach a chosc agus a bhainistiú.

Múscailt Feasachta agus Athrú Iompraíochta

- Feasacht chomhshaoil níos fearr a ghiniúint agus dul i bhfeidhm ar athrú iompraíochta dearfach trí thacú le gnóthais, le pobail agus le teaghlaigh a bheith níos éifeachtúla ar acmhainní.
- Tástáil le haghaidh radóin a chur chun cinn i dtithe agus in ionaid oibre, agus gníomhartha leasúcháin a spreagadh nuair is gá.

Bainistíocht agus struchtúr na Gníomhaireachta um Chaomhnú Comhshaoil

Tá an ghníomhaíocht á bainistiú ag Bord lánaimseartha, ar a bhfuil Ard-Stiúrthóir agus cúigear Stiúrthóirí. Déantar an obair ar fud cúig cinn d'Oifigí:

- An Oifig um Inmharthanacht Comhshaoil
- An Oifig Forfheidhmithe i leith cúrsaí Comhshaoil
- An Oifig um Fianaise is Measúnú
- Oifig um Chosaint Radaíochta agus Monatóireachta Comhshaoil
- An Oifig Cumarsáide agus Seirbhísí Corparáideacha

Tá Coiste Comhairleach ag an nGníomhaireacht le cabhrú léi. Tá dáréag comhaltaí air agus tagann siad le chéile go rialta le plé a dhéanamh ar ábhair imní agus le comhairle a chur ar an mBord.

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Environmental Policy Integration: Innovation and Change



Authors: Brendan Flynn and Pádraic Ó hUiginn

The EPIIC (Environmental Policy Integration: Innovation and Change) project explored the relevance of environmental policy integration (EPI) for Irish environmental governance. EPI involves bringing environmental concerns into all other policy sectors, notably into agriculture, energy and transport

Identifying pressures

This research was initially designed prior to Brexit, COP21 and national developments such as the Citizens' Assembly's deliberations on climate change and the Oireachtas Joint Committee on Climate Action and its subsequent report.

The research questions posed were "How 'joined up' is Irish environmental governance" and "What remedies could be undertaken to improve integration?".

This report provides a detailed history of the EPI concept. An Irish EPI success story is recounted, which combined energy conservation, energy poverty and health. A contrast is made with slow Irish progress on anaerobic digestion (AD), with EPI absent in this case. Both examples are framed within a wider discussion of environmental policymaking in an era of disruption.

The findings from this research suggest that awareness of the EPI concept was quite limited and that there is a need to engage with ordinary citizens to make EPI accessible. Interviewees were adamant that the "silo mentality" was a genuine problem, including the phenomenon of "silos within silos". The local government level is where the lack of integration is most acute, especially with regard to planning. There are, however, EPI "policy champions" nestled in specialist agencies (e.g. the Sustainable Energy Authority of Ireland, Teagasc, the City of Dublin Energy Management Agency). Private sector actors can also drive EPI, notably larger multinational firms but also not-forprofit non-governmental organisations.

Interviewees expressed strong views on a lack of environmental data sharing, on the suitability of voluntary agreements that aim to go beyond compliance and on the

importance of subsidies, specifically feedin-tariffs, for new renewable technologies such as AD or biogas. Policy instruments that engaged the public and brought the citizen "back in" to policy delivery were also advocated.

Informing Policy

This research examined Irish environmental governance independently of those domestic factors, and in its current state, to identify where there may be so-called disconnects and to find examples of integration and joined-up thinking. It offers the policymakers' equivalent of a "Rough Guide" or "Lonely Planet" travel guide of "must see" and "best to avoid" places, to those tasked with identifying areas of pressure, and also areas of opportunity in Ireland's system of environmental policy governance.

Developing solutions

This research identified several concrete recommendations to enhance EPI in an Irish setting. These include better communication of EPI and possible rebranding of the concept, as part of a wider participatory dialogue. The findings suggest a need for institutional change, adaptation and evolution. A dedicated "network agent" needs to be established to broker formal policy networking. This could be either a new bespoke body or a modified formation of the National Economic and Social Council. This network agent should ideally report to the Department of An Taoiseach to maximise the potential co-ordination role. A Green Bridging Fund (or similar) is recommended of not less than €1m per annum. The diagonal axis of EPI, where state expert agencies - "bridging agents"

(e.g. the Sustainable Energy Authority of Ireland, Teagasc, the Marine Institute, the Heritage Council, the Office of Public Works) - predominate, should be availed of more often, in a co-ordinated and collaborative fashion, drawing on existing resources. A further reinforcement of that axis of EPI, with an increase in budgetary resources and personnel in that sector, is also recommended. Furthermore, the National Transport Authority and the Regional Waste Management Offices need priority support so that they can better play a role as "bridging agents". The Irish local planning system needs a substantive shift in "organisational culture". Ideas from "green infrastructure" and the "transitions towns movement" could be usefully embraced, as they promote integration. A new cadre of Directors for Green Infrastructure Services should be appointed.

There is an urgent need for a review of all environmental data held by public agencies, to be facilitated by a dedicated environmental data analytics team. Feed-in tariff (FIT) supports such as renewable energy feed-in tariffs like REFIT, although expensive, are worth keeping for emergent technologies such as AD and biogas, as long as they follow international best practices in their design. There is a need to explore "soft bridging instruments". These could be "citizen science" projects but also carbonneutral certification and labelling schemes.

Finally, Irish environmental policy lesson drawing should be global in its orientation and multilateral, rather than confined to always drawing lessons from the typical comparators (i.e. the UK) or situated within the most ubiquitous institutional fora (typically the European Union).

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