Subject: ‘Brexit’, ‘Brexatom’ and nuclear policy – major changes ahead?
Part 1 – impacts on UK energy policy and nuclear safety and the wider issues on Ireland and its ‘energy island’ plans

1. Overview of report
This report is the first of two briefings being published by the NFLA as the UK begins the process of formally leaving both the European Union and the EURATOM Treaty. This first briefing comes out of reports developed by the NFLA Scotland Policy Advisor for ‘The Ecologist’ magazine and in preparation for the March 24th meeting of the NFLA All Ireland Forum. The second briefing, which will come out in early April, will consider how leaving the EU may have an impact on defence policy, constitutional matters and other areas of nuclear policy.

The decision to leave the European Union is one of the most profound changes for the UK arguably since it joined, with the Republic Ireland, what was the EEC in 1972. While it already had major implications for nuclear policy, the additional decision made by the UK Government to also leave the 1957 Euratom Treaty adds much greater complexity for the civil and defence nuclear industry. As a UK and Ireland organisation, the NFLA is also aware it will have a significant impact on wider energy policy, particularly between Northern Ireland and the Republic of Ireland. These briefings attempt to get to grips with the large amount of issues that these decisions will affect.

2. Brexatom
A footnote in the Parliamentary Bill published on 26th January to authorise Brexit confirmed that the UK intends to leave EURATOM as well as the European Union. (1) Up until that point this was a ‘grey area’ with disagreements over whether Brexit meant the UK would also have to leave EURATOM.

Despite the initial alarmist comments made by the nuclear industry since the announcement the balance of opinion before then seemed to be that, although EURATOM is legally distinct from the European Union, the UK would have to leave both once Article 50 was triggered. At a meeting the NFLA Scotland Policy Advisor attended at the Scottish Government HQ last September the nuclear industry representatives and regulators appeared to be resigned to leaving EURATOM.

The UK nuclear industry is particularly worried that leaving EURATOM will complicate and delay plans to build a new generation of nuclear power stations. EURATOM has approximately 20 nuclear co-operation agreements with other countries around the world which allow trade in nuclear equipment and materials between Europe and those other countries. The UK is going to have to negotiate new international agreements with all these countries to maintain access to nuclear power technology - crucially with the US because several of the UK’s existing and planned nuclear reactors use US technology or fuel, but also with EU member states and other states such
as Japan and Canada who have nuclear co-operation agreements with EURATOM. Negotiating new agreements could take a decade or longer to agree, so transitional arrangements will probably be necessary to gain time to negotiate and complete new agreements. The House of Commons Business, Energy and Industrial Strategy select committee recently heard that even transitional measures would be challenging to complete within the two years the government will have to negotiate its exit from the EU. (2)

The UK now faces a scramble to assemble a new regulatory regime to uphold safety standards, while negotiating dozens of international agreements needed to maintain access to nuclear technology.

Rupert Cowen, a nuclear specialist at Prospect Law, a London law firm, told the Select Committee that the UK was “sleepwalking” to disaster. “If we do not get this right, business stops,” he said. “If we cannot arrive at safeguards and other principles which allow compliance [with international standards] no nuclear trade will be able to continue.”

The potential consequences of failure – from the shutdown of nuclear power stations to the loss of radiotherapy for cancer patients – seem implausible, but coming up with a fix will not be easy. New nuclear projects involve foreign technology from companies such as EDF of France and Hitachi of Japan and Mr Cowen said the UK’s withdrawal from Euratom would plunge them into doubt. “Those that are building new nuclear reactors want to be sure they can get their fuel, their components and their people. When you come out of Euratom, if you have not put transitional arrangements in place, we will not be able to do any of those things.” (3)

EDF has warned that Brexit could increase “the costs of essential new infrastructure developments and could delay their delivery”. EDF is also worried that Brexit will affect the movement of people and delay the delivery of Hinkley Point C (4). It could also impact upon its costs. For the reactor builders, being outside the nuclear common market as well as the single market, and having no freedom of movement, may lead to higher prices if tariffs and customs checks are introduced or if restrictions are imposed on foreign nuclear scientists and engineers. (5)

3. Sellafield

Critical to replacing the EURATOM regime will be a bilateral deal with the International Atomic Energy Agency (IAEA), which oversees global nuclear safety and security. EURATOM reports to the IAEA on behalf of its members and the UK would need to replicate this relationship. One option would be for IAEA inspectors to replace those of EURATOM in the UK, although there must be some doubt about whether the UN agency would want its limited resources diverted from its core nuclear non-proliferation monitoring in places such as Iran.

Currently international inspections of UK nuclear plants and materials to ensure there is no diversion of materials to military misuse is verified by EURATOM on behalf of the IAEA. (6) A quarter of all time spent on nuclear inspections by EURATOM inspectors is spent in Britain, due to the scale of nuclear fuel fabrication and waste management facilities, such as Sellafield. Britain’s plutonium stockpile is also currently overseen by EURATOM inspectors. Sellafield has enough plutonium to make about 20,000 nuclear bombs. It is the world’s largest stockpile of civilian plutonium – one of the most toxic substances on the planet – accumulated from decades of reprocessing nuclear fuel from power stations not only in the UK but also Germany, France, Sweden and other countries. EURATOM has a permanent presence at Sellafield and owns the cameras, seals and testing laboratory used to monitor Sellafield.

Without EURATOM the Office for Nuclear Regulation (ONR) will need to undertake many more inspections in order to meet IAEA requirements. The Government will also have to find extra cash, but it will also struggle to hire and train the necessary new staff especially when ONR is already currently struggling to keep up with the assessment of several new reactors designs (EPR, AP1000, ABWR and Hualong One) under the Generic Design Assessment criteria. (7)
4. Existent Reactors

New trading arrangements will also be essential for the existing fleet of power stations, which use imported fuel and components. Nuclear reactors might have to shut down in the absence of international agreements when existing fuel runs out.

It is important to note that the UK has little experience of negotiating nuclear agreements. For example, it took four years of "lengthy and difficult" negotiations in the 1990s to agree an upgrade to the EURATOM-US co-operation agreement, which was due to lapse. And even then the deal could not be ratified on time by the US Senate. The wait caused a three-month hiatus when all transatlantic nuclear trade stopped dead. That is something the UK would not want to risk today. Britain's ageing power stations rely heavily on supplies from the US. Yet a new co-operation deal will be required with the US — and it must be approved not only by US President Donald Trump but also by the US Congress, creating significant opportunities for delay.

5. Nuclear Safety and Waste Management

The ONR is a member of the European Nuclear Safety Regulators Group Working Group (Ensreg). It has commented that: "There is not a precedent" for this to continue "should we move away from Euratom". There is, however, the Western European Nuclear Regulators Association, "which works alongside Ensreg as its technical support arm and we would continue to be able to have membership of that from a collaborative perspective in Europe".

The UK has treaty obligations with the IAEA. Those treaty obligations are primarily through what are known as conventions. There are two key conventions: the Convention on Nuclear Safety and the Joint Convention on the Safety of Spent Fuel Management and on the Safety of Radioactive Waste Management. The Convention on Nuclear Safety mainly focuses on nuclear power plants and their safe operation. The other convention focuses more on the management of spent fuel and radioactive waste.

The UK has to demonstrate compliance every three years with the IAEA's Convention on Nuclear Safety, and the Joint Convention on the Safety of Spent Fuel Management and on the Safety of Radioactive Waste Management. It has to do the same and with the same frequency for EU directives that mirror those conventions. So leaving EURATOM shouldn't mean that the UK is any less safe or any less compliant. The EURATOM agreement is driven by the IAEA's global oversight of nuclear energy, which will still apply to the UK post-Brexit.

The issue is the timing rather than the absolute demonstration of safety, according to Dame Sue Ion.

"Much of the equipment that enables us to demonstrate compliance is not ours; it is EURATOM's. The cameras, the high-cost equipment and the labs that do that are not ours. The people are not ours; they are EURATOM's. The translation of that activity and the equipment into IAEA or national space demonstrated to IAEA will have to take place. It is about buying time to put all the right things in place and make sure that we are compliant and therefore still able to trade."

6. Nuclear Liability

The Nuclear Liability regime in the UK should not be particularly affected by 'Brexit'. The Nuclear Installations (Liability For Damage) Order 2016 (2016 Order) was made on 4 May 2016 and is expected to become law early this year (2017). In two Protocols dated 12 February 2004, the contracting parties to the Paris Convention and Brussels Convention agreed a number of significant changes to the regime on nuclear third party liability. The 2016 Order implements the Protocols from 2004 in the UK. In the event of a nuclear incident an increased amount of compensation will be available, in respect of a broader range of damage, to a wider category of claimants.

There will be an increase in the maximum amount of compensation payable from £140 million to €1.2 billion for operators of standard installations. The operator's liability will be extended to include three new categories of damage: reinstatement of impaired environment; loss of income derived
from the environment; and cost of preventative measures presented by an actual or a "grave or imminent threat" of a nuclear incident.

Potential claimants can include those suffering damage in non-nuclear non-convention states or in nuclear states which are not a party to the Paris Convention but have equivalent and reciprocal liability arrangements.

The 2016 Order empowers the UK government to provide insurance cover on commercial terms in order to step in and fill any gaps if the insurance market is unable to meet this demand.

Although the 2016 Order extends the geographical scope of the Paris Convention, there remains a risk in respect of claims brought by claimants who are domiciled in non-convention states, but who suffer damage as a result of a nuclear incident in the UK bringing claims in their home country courts. For example, a claimant in Ireland (Eire) who suffers damage from a nuclear incident occurring in the UK could bring a claim in the English courts under the Paris Convention regime. That claimant would also be able to make a non-convention claim in the Irish courts, which would not be subject to the restrictions and caps of the regime (though this may also pose enforceability issues in the English courts). Claims could be brought against parties other than the operator (e.g. contractors working on UK nuclear sites) as the strict channelling of liability principles will not apply to non-convention claims. (8)

7. Timing

Rupert Cowan was keen to stress to Parliament that the timetable for leaving EURATOM does not have to be the same as for the EU. He said it may be possible to negotiate “a transition period that allows us to make these changes that we need to make in order to continue our business … unlike any of the other arrangements … such as the Emissions Trading System and so on, if we do not get this right, business stops; there will be no trade.” (8)

8. Wider impact in Europe

The political impact in the EU remains equally unclear. Britain has been one of Europe's most active supporters of nuclear power. Brexit could potentially tip the balance of member states towards an anti-nuclear majority – something which NFLA and its European partner group Cities for a Nuclear Free Europe (CNFE) would welcome. One assessment is that when the UK leaves EURATOM there will be 13 pro-nuclear countries and 14 anti-nuclear.

And what then? Just as the International Whaling Commission has become an essentially anti-whaling UN agency, might EURATOM states seek to use the treaty to block, not support, the construction of new nuclear power stations in Europe. Its main role would then be to supervise the sector's long term decline.

The complications around the UK withdrawal from EURATOM could also be to put a spotlight onto the EURATOM Treaty itself, whose legal status and many of its functions are out of step with the modern EU and may once again lead to calls for it to be abolished. (9) NFLA plan to discuss this matter in an ongoing fashion with CNFE.

9. Time for reform - or abolition

In the NFLA’s view, the UK nuclear establishment is going to have its work cut out to make sure that Brexatom does not add to the delays in its proposed new nuclear reactor programme already in prospect as a result of financial problems at EDF, Areva, Toshiba, Engie and Hitachi. There will be widespread support for efforts to avoid any hiatus in the safeguarding of the huge quantity of fissile material in the UK. But as Hans-Josef Fell, president of the Energy Watch Group and a former member of the German Parliament for the Greens points out, the UK’s exit from EURATOM should be seen as an opportunity.

It is a clear sign that it is possible for anti-nuclear countries like Austria, the Republic of Ireland and Germany to unilaterally leave the Treaty - even a unique chance to dissolve EURATOM. He says the
core task of EURATOM is to support the nuclear industry. After Chernobyl and Fukushima ending that support is long overdue. (10)

The NFLA pointed out shortly after the EU referendum result that it sees “the EURATOM Treaty as one of the most direct ways the nuclear industry has promoted nuclear power in Europe over the past 60 years. It has often been the inside track from which pro-nuclear governments have ensured support for nuclear power within the European Commission.” (11)

For instance, in 2014 the European Union’s Competition Commissioner Margrethe Vestager had less leeway in evaluating the UK’s Hinkley Point C financial support scheme than it would have done for a non-nuclear project because of the EURATOM Treaty, which is meant to support and encourage investment in nuclear projects where needed.

“This means that if member states choose to invest in nuclear energy, the EURATOM’s objective to facilitate that investment becomes an objective of common interest that the Commission should take into account in its state aid assessment”, she said. (12)

So the European Commission approved the UK Government’s plans to subsidise Hinkley Point C despite the fact that even the UK government itself expects solar and wind power to be cheaper than new nuclear power by the time Hinkley Point C is completed. (13)

It is therefore not surprising then that NFLA sees this as “an ideal time for a major and all-encompassing reform of the EURATOM Treaty to take account of the changed energy market in the EU, where renewable energy is rapidly expanding and nuclear power is in decline.” (14)

10. European Single Energy Market and Ireland

In a briefing for the House of Commons Select Committee, the independent ‘think-tank’ Chatham House discussed the Importance of access to the EU single market & single energy market. They argue the implications of withdrawal from the single energy market are not clearly understood. This issue is on the radar but cavetaded:

“It doesn’t help to spend time on it right now - we can come up with lots of questions but there are no answers.” (15)

Since 2007 there has been a Single Electricity Market (SEM) on the island of Ireland. One interesting question that is clearly related to Brexit is whether it might force an end to the SEM.

In written evidence to the Select Committee Centrica – which owns Ireland’s Bord Gais Energy says:

“If Great Britain were to depart from the IEM, a key driver for the integration of the Irish energy market would fall away, damaging market liquidity and increasing costs for customers. In addition, a proposed new electricity interconnection between the Republic of Ireland and Northern Ireland could also be compromised. Northern Ireland is a relatively small energy market which relies on energy integration with the Republic of Ireland and Great Britain to support effective competition in power generation and energy supply, as well as enhancing energy supply security.” (16)

Paul Hallas, regulation and strategy director at Centrica, told the Business, Energy and Industrial Strategy select committee that in a “rational world”, the energy industry would want to preserve as much as possible of the existing internal energy market arrangements. We would not like current arrangements to be dismantled or undone. We want an outcome where the UK adopts the vast majority of technical internal energy market rules in order to make effective use of capacity and encourage investment.” (17)

At present, the UK is fully integrated into EU Energy Markets. Switzerland wanted to join but after a Swiss referendum which voted against freedom of movement, the EU cut off negotiations. This now looks to have been resolved by Switzerland backing down on freedom of movement for EU citizens. By implication, the EU may find it difficult to apply terms to the UK which are clearly more favourable than those it offers Switzerland. This suggests that, although the UK is now thoroughly integrated
into the EU single market in electricity, and has played a major part in developing and nurturing it, it cannot rely upon being permitted to continue as part of it.

Clearly the UK will still be able to trade bilaterally with the EU in energy. It could also develop its own trading platform, such as currently used by Switzerland and on the island of Ireland. The disadvantage of bilateral trading is that in such a complex market, without automated arrangements, there is a substantial reduction in gains from trade. Prices will be more volatile in the UK as a consequence. There will be price differences across borders even when interconnector capacity is available. Moreover, flows over interconnectors will much more often be in the “wrong” direction. (18)

The island of Ireland is not yet coupled in the European market. A new All-Island wholesale market arrangement is planned, and this would have been ultimately intended to lead to coupling to integrate it with the European market more widely, via the interconnectors across the Irish Sea. Clearly the Republic of Ireland and Northern Ireland can still come to bilateral arrangements to integrate their markets, and, if they choose, couple the market with the UK. But broader coupling with the wider EU market might be excluded by EU ruling, as in the case of Switzerland.

11. Conclusions and recommendations

This briefing has highlighted a number of key areas where ‘Brexit’ and ‘Brexatom’ could, and almost certainly will, have profound impacts on UK energy policy, Irish energy policy and European energy policy. Much detailed, prolonged and potentially protracted negotiation will have to take place. The two year deadline for the ‘Article 50’ negotiation on leaving the EU is likely to be extremely challenging in this area of policy. Renegotiation of a post-EURATOM arrangement for the UK may take potentially much longer, and a transitional agreement could be the corollary of such complexity.

Leaving EURATOM also has the potential for seeing a dramatic shift in the balance of energy in Europe. For the first time, there may be a majority of states opposed to new nuclear facilities and in favour of renewable energy technology in the EU. Losing the biggest ‘cheerleader’ for new nuclear (the UK) in the EURATOM arrangements is likely to have some medium or longer term impact on the European energy debate. NFLA encourage leading supporters of renewable energy like Austria, Germany, Denmark and the Republic of Ireland to cooperate in a call for wholesale reform of European energy arrangements and focus policy rather on the renewable energy revolution that has enveloped the continent over the past two decades. NFLA plans to discuss these matters directly with its European partner CNFE.

NFLA is submitting this report to Dr Paul Dorfman, the NFLA representative on the Irish Environmental Protection Agency Radiation Issues Committee, and a recently appointed advisor to the House of Lords EU Energy and Environment Sub-Committee considering the scope of their inquiry into the UK and Brexit and its implications for energy and the environment.

These matters are being discussed in detail at the NFLA All Ireland Forum meeting in Newry on the 24th March, as well as the NFLA Steering Committee meeting in Manchester on the 7th April. At the Newry meeting, NFLA is planning to also discuss how it can cooperate with separate representations made by the NGO ‘Friends of the Irish Environment’ to the Irish Government over the use of the ‘Espoo Convention on Environmental Impact Assessment in a Transboundary Context’ for proposed new nuclear power stations in England and Wales, particularly Hinkley Point C. Though this is a slightly different matter, it could be impacted in an indirect way by the UK’s decision to leave EURATOM. The NFLA has been given permission from the group to publish its letter to the Irish Government on this matter, which is attached as Appendix 1. This matter is just one international example of how ‘Brexit’ and Brexatom’ could change the framework of the nuclear policy debate in Europe.

The NFLA Secretariat encourages independent specialists and environmental groups from across Europe to read this report and cooperate with it over these matters. It encourages its member authorities to also work with it to ensure adequate challenge is made to the UK Government and other European Governments, and the European Commission, as these discussions begin in earnest.
12. References

(1) FT 26th January 2017  https://www.ft.com/content/fe3b50a4-e3e1-11e6-8405-9e5580d6e5fb
(3) FT 2nd March 2017  https://www.ft.com/content/9b99159e-ff2a-11e6-96f8-3700c5664d30
(6) David Lowry’s Blog 27th Jan 2017  http://drdavidlowry.blogspot.co.uk/2017/01/how-brexit-britain-could-become.html
Friends of the Irish Environment Letter to the Irish Government

Espoo Convention on Environmental Impact Assessment in a Transboundary Context: Hinkley Point C

19 March 2017

Dear Minister Naughten,

We wrote to your predecessor, Phil Hogan, in March 2013 asking him to intervene to ensure that the provisions of the Espoo Convention on Environmental Impact Assessment in a Transboundary Context are respected by the UK Government, ensuring that Irish citizen's rights to participate in the EIA of the proposed new nuclear power plant at Hinkley Point are respected.

(https://www.friendsoftheirishenvironment.org/attachments/article/16590/Minister-letter-15.03.13.pdf)

To the best of our knowledge, the Minister did not take any steps to vindicate the public participation rights of Irish citizens.

The UK Government went ahead with a decision on the Hinkley Point plan without complying with the provisions of the Espoo Convention. In response, we complained to the Implementation Committee of the Convention.

(https://www.friendsoftheirishenvironment.org/attachments/article/16592/Espoo-complaint-and-supplementary-25.03.13.pdf)

Following receipt of our complaint and a similar one from Sylvia Kotting-Uhl, a member of the German Bundestag, the Implementation Committee considered the issue. It wrote, inter alia, to the Irish Department of the Environment, Community and Local Government on 14th October 2013 asking whether the Government of Ireland considered that the proposed nuclear power plant was likely to cause significant transboundary environmental impact on the territory of Ireland.

The Department response on 22nd November 2013 did not attempt to address the question asked by the Committee as to what the Irish Government's view was of the potential transboundary effect of the proposed power plant. Instead (as summarised by the implementation committee) it "claimed that since the United Kingdom had concluded that the activity was not likely to give rise to a significant adverse transboundary impacts on the environment of another European Economic Area State, the requirements under the Convention regarding notification to other States did not arise and formal notification was not necessary." It also referred to the Radiological Protection Institute of Ireland's [RPII] report "Proposed nuclear power plants in the UK – potential radiological implications for Ireland."


However, it did not set out the environmental impacts on the Irish territory which that RPII report predicted in the event of an unplanned release of radioactive material, in a contradiction of the UK's conclusions as to transboundary impacts.

We find it impossible to understand why your Department was unwilling to answer the simple question put by the Implementation Committee in November 2013, failed to set out the Irish Government's opinion as requested, but instead presented a legally mistaken interpretation of the Convention which minimised the rights of Irish citizens to participate in a transboundary Environmental Impact Assessment (EIA) process in relation to a proposed new nuclear power plant across the Irish Sea.

At its meeting on in March 2016 the Implementation Committee concluded its deliberations, making the following findings:
"The Committee notes that the activity at Hinkley Point C is a proposed activity listed in appendix I, paragraph 2, and finds that the characteristics of the activity and its location warrant the conclusion that a significant adverse transboundary impact cannot be excluded in case of a major accident, an accident beyond design basis or a disaster. The Committee also finds that, as a consequence of its conclusion concerning the likely significant adverse transboundary environmental impact, the United Kingdom is in non-compliance with its obligations under article 2, paragraph 4, and article 3, paragraph 1, of the Convention."

The Committee's recommendations to the Meeting of the Parties (MOP), to be held in June 2017, included recommendations that the MOP:

"(b) Invite the United Kingdom to enter into discussions with possibly affected Parties, including Parties that cannot exclude a significant adverse transboundary impact from the activity at Hinkley Point C, in order to agree on whether notification is useful at the current stage for this proposed activity;

"(c) Ask the United Kingdom to report to the Committee on the results of its discussions;"

We recently learned that the UK took actions in advance of the June 2017 MOP meeting to confirm the ruling of the Implementation Committee and on 21 December 2016 asked several states if they wanted a delayed transboundary participation procedure at the current stage for Hinkley Point in line with recommendation (b). We understand from Ms Kotting-Uhl that three countries, Norway, the Netherlands, and Germany responded in the affirmative.

The Committee recently recommend to the MOP that if a potentially affected Party requests to be notified, the United Kingdom should suspend works related to the proposed activity until the transboundary EIA procedure is finalized. Therefore, the UK should now refrain from carrying out further works at the proposed activity until the required trans-boundary assessment is completed.

**While the withdrawal of the United Kingdom from the European Union will not affect its obligations under the Espoo Convention, given the decision of the UK Government to withdraw from the Euratom Treaty confirmed on 26 January, 2017, it is more essential than ever at this time of great change that you ensure that your Department actively engages itself in relation to the reducing and eliminating the risks which Ireland faces from nuclear power in nearby countries, as set out in the RPII report and in the subsequent ESRI 2016 study on "The potential economic impact of a nuclear accident - An Irish case study".**

We are aware that a regular bi-annual meeting of the UK-Ireland Contact Group on Radiological Matters is scheduled for late April. In this context we would be grateful for your assurances that you will ensure Ireland’s commitment to this treaty and the rights of Irish citizens to participate in the transboundary EIA process in relation to nuclear power projects in the UK.

We would be grateful if you provided us with Ireland’s response to the December 2016 invitation from the United Kingdom (if any was received by Ireland and if any response was made) and for your reassurance that policy changes have been made since 2013 to support the right of Irish citizens to partake in trans-boundary decisions which examples in other jurisdictions have shown can dramatically impact on lives for many generations.

Yours sincerely,

Tony Lowes, Director
Caroline Lewis, Director