Official Statistics: Woodland Carbon Code Statistics: data to June 2017

This release provides quarterly statistics on projects registered under the Woodland Carbon Code. The Woodland Carbon Code is a voluntary standard, initiated in July 2011, for woodland creation projects that make claims about the carbon they sequester (take out of the atmosphere). All projects must be placed on the Register of UK Woodland Carbon Projects. Their claims about potential carbon sequestration are validated by an independent certification body. Validated projects are then verified on a regular basis to confirm the progress of carbon sequestration.

Press release: Welsh Secretary promises certainty and stability to international companies in Wales

Mr Cairns will visit Japanese electronics company Panasonic Manufacturing on the outskirts of Cardiff which has had a presence in Wales since 1974.

Alun Cairns said:

> My visit to Panasonic is a continuation of my commitment to engage with global companies based here in Wales and to offer the reassurance that Wales will still be the same outward looking, ambitious country it has always been after we leave the EU.
>
> Panasonic is an important inward investor in Wales. We want to work closely with businesses from every part of the world to demonstrate the huge potential available to them here in Wales, and to give them the certainty they need to invest and grow.

Panasonic has a long standing history in Wales and has developed and manufactured a vast array of product lines including microwave ovens, vacuum cleaners and mobile solutions over the years. Its Cardiff site employs over 400 staff members and offers the ability to provide testing services to external companies.

Mr Cairns said:

> Panasonic is a synonymous with expertise and has a strong manufacturing history. We are proud to have them here in South Wales, employing our local skillset and contributing to local economic growth.
>
> Japan is one of the UK's key economic partners and our second largest inward investor. We want to see our partnership continue to grow and flourish.

ENDS

Independent report: Graphene and its use in nuclear decommissioning

Background

Graphene is a relatively new material, first isolated from bulk graphite in 2004 (Figure 1). Since then, developments in graphene based technology have been rapid in a number of sectors. However, developments within the nuclear sector have been slow. The Nuclear Decommissioning Authority (NDA) has identified graphene technology as a potentially promising area that could offer some benefits to the NDA in delivering its mission. The NDA is aware of some of the novel properties of graphene and its compounds that could enable the use of these new materials in a wide range of applications. This project aims to raise awareness across the NDA estate, regarding the properties and potential opportunities for using graphene and related materials in nuclear decommissioning

Summary

An initial review of the chemical and physical properties of graphene was undertaken and resulted in the production of the publishable report "Summary of Graphene (and Related Compounds) Chemical and Physical Properties" [1]. This report was intended to be used as a reference point for the NDA, and the NDA estate for graphene related information.

Following this, a broad review of international graphene related information was undertaken. This involved researching a number of nuclear and non-nuclear graphene projects being undertaken in Europe, Asia and the United States. The review identified over 800 graphene projects and/or publications, which were then assessed to determine whether they could be relevant to the nuclear decommissioning industry.

In parallel to the graphene review, the NDA Research and Development (R&D)

technical baseline document [ ] was reviewed to identify the NDA's R&D requirements. Once these requirements were fully understood, an activity was undertaken to assess the requirements against the graphene research identified in the previous stage.

The key opportunities identified for using graphene [3], included:

- Advanced Materials – Graphene doped advanced polymers, cements, ceramics and glasses could be utilised in the conditioning/immobilisation of nuclear wastes. Composite conditioning materials could provide improved mechanical, thermal and leaching characteristics. Composites could also potentially be used in construction of modern devices or buildings/facilities to offer improved mechanical properties.
- Radionuclide Remediation and Adsorbents – Graphene oxide can adsorb nuclides and hence be used in aqueous effluent treatment for the removal of radionuclides. These materials could be further functionalised to incorporate ligands to improve selectivity;
- Membranes – Graphene oxides ability to separate hydrogen isotopes could potentially be used to selectively remove tritium from waste streams. Moreover, graphene oxide membranes could be applied to filters and other parts of effluent systems to minimise radionuclide build-up and fouling. This in turn could prolong the life of effluent systems and reduce overall secondary waste arisings. Also, future waste containers could potentially incorporate graphene based membranes to minimise release of radionuclides;
- Sensors – Molecular detection sensors for utilisation in numerous roles, such as monitoring gaseous species that could indicate corrosion, or inform on the humidity and environmental status of storage facilities;
- Radiation Detectors – Graphene based field effect transistors have been developed for radiation detection. These components could support the development of small, inexpensive and low-powered devices that offer exceptional sensitivity to X-rays, gamma-rays, and neutrons;
- Gas Storage – Projects focusing on the development of novel carbon structures for use in hydrogen cells are being undertaken and may have applications in capturing tritium. This could be applicable to waste treatment to selectively remove radioactive gases. Alternatively, graphene based structures could be incorporated into waste packages to minimise the release of gaseous radionuclides;
- Energy and Energy Storage – Projects focusing on the use of graphene within charge collecting materials in batteries and other advanced energy storage devices may be applicable in the development of devices intended for remote operations. Improved battery/power performance may benefit remotely operated vehicles and portable detection devices used in decommissioning and remediation applications.

To provide a balanced assessment, the potential limitations in graphene's use were also assessed and included: cost, scale-up manufacture, environmental safety impacts, regulatory concerns, lack of standardisation and radiation tolerance. However, the significance of these limitations will depend on the application graphene is intended for and whether further research is able to resolve the limitations.

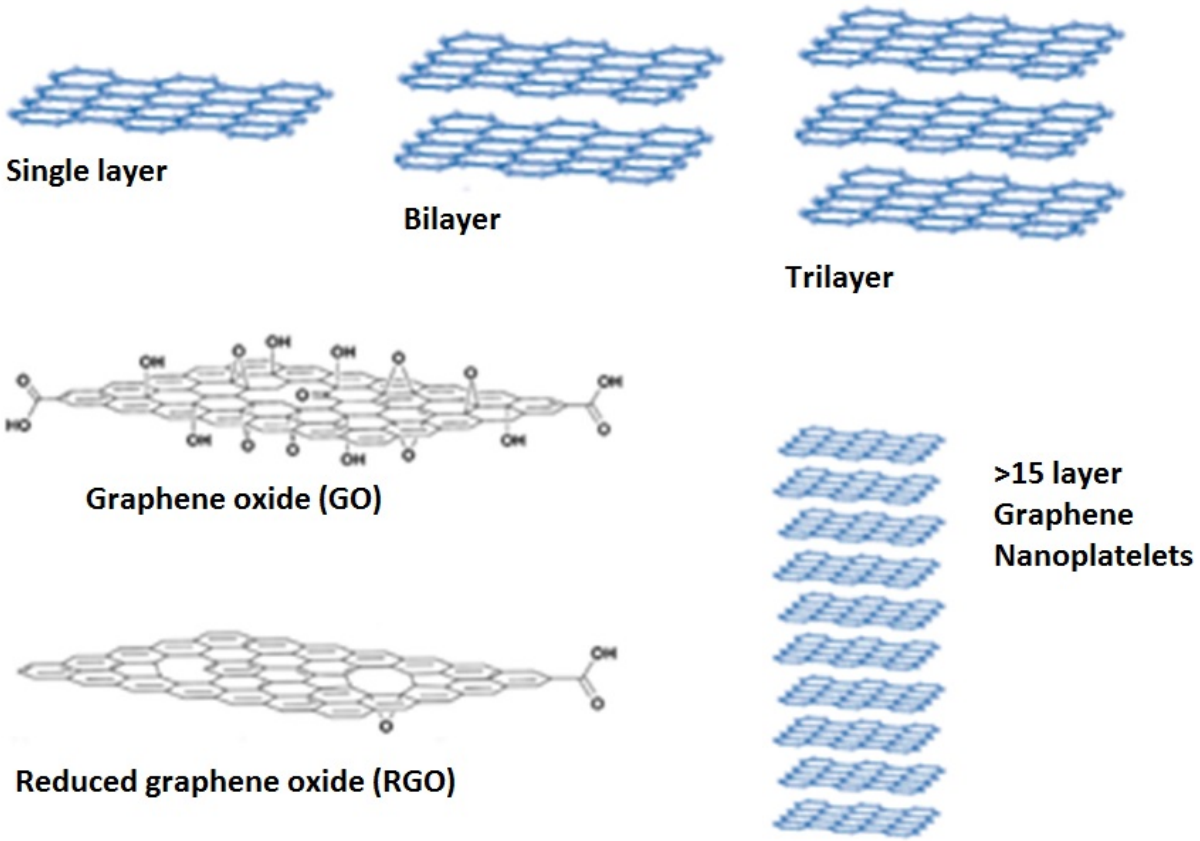

Figure 1: Common types of graphene materials

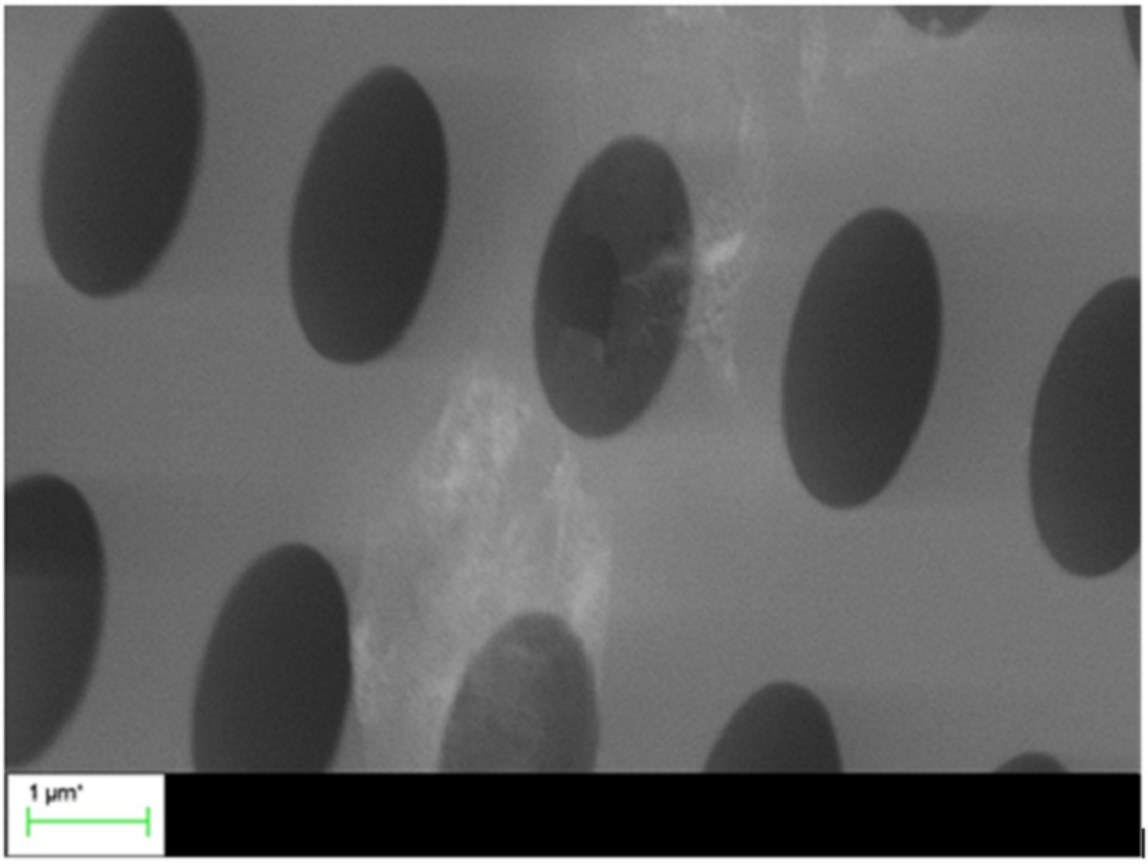

Figure 2: Scanning electron microscopy image of a graphene membrane transferred on a Si3N4 [Courtesy of Professor Sergey Kubatkin, Chalmers University]

1. P. Davies, A. Tzalenchuk, P. Wiper and S. Walton, Summary of Graphene (and Related Compounds) Chemical and Physical Properties, NS4145-500-001, Issue 1, November 2016
2. NDA, Research & Development Technical Baseline, Issue 1, October 2016
3. P. Davies, S. Walton, A. Tzalenchuk, and P. Wiper, The Potential Applications of Graphene (and Related Compounds) Relevant to the NDA Decommissioning Needs, NS4145-500-001, Issue 1, March 2017

Statement to Parliament: Update on the Airports NPS and a decision on night flights

In October 2016, the government selected a new north-west runway at Heathrow as its preferred scheme for delivering new airport capacity in the south-east.

In February a consultation on a draft Airports National Policy Statement (NPS) was launched, which set out the reasons for this preference, along with the mitigation and compensation measures the government expects the promoter to put in place if planning permission is to be granted.

The consultation closed on 25 May and the work to analyse the over 70,000 responses is progressing well. I would like to thank all of those who contributed their views.

This government is fully committed to realising the benefits that a new north-west runway at Heathrow would bring, in terms of economic growth, boosting jobs and skills, strengthening domestic links and – critically – increasing and developing our international connectivity as we prepare to leave the European Union.

The timing of the election, in particular the need to re-start a Select Committee inquiry into the draft Airports NPS means we now expect to lay any final NPS in Parliament in the first half of 2018, for a vote in the House of Commons.

I will provide a further update to the House after the summer recess on our next steps following analysis of the consultation responses.

Today (13 July 2017) I am also publishing a response to the consultation held earlier this year on a new night flight regime for Heathrow, Gatwick and Stansted. I am fully aware that noise is a major concern for those living near these airports, and that night noise is widely regarded as the most disturbing impact of aviation. While advances in new technology mean that aircraft are generally getting quieter, the limits governing night noise at

these airports has not kept pace with these developments.

The new rules we are publishing today will encourage the use of quieter aircraft at all 3 airports by reducing the amount of noise these airports are legally allowed to make, and will give local residents a 5 year guarantee about the level of noise that they will be exposed to. This decision strikes a balance between managing the impacts on local communities by locking in the benefits offered by recent technological developments, with the economic benefits of night flights.

This decision should be seen as a signal that this government takes this issue very seriously, which is why we expect a ban on scheduled night flights of 6.5 hours at an expanded Heathrow. We will also explore whether there is more we can do – including considering further legislation – to incentivise the industry more generally to invest in the quietest aircraft and operate them in the quietest way.

Strong international links are critical to the future prosperity of our country, with a world-class hub airport and thriving aviation sector central to this. We are committed to realising the economic and social benefits aviation has to offer, while taking seriously the need to balance this with managing the local and environmental impacts of aviation.

Press release: Historic State Visit celebrates depth and breadth of our longstanding ties with Spain

Spain's State Visit is an opportunity to celebrate our longstanding partnership with Spain and our shared, history, values and interests, the Prime Minister said today, as she prepared to host King Felipe VI at Downing Street.

The three-day visit by King Felipe and Queen Letizia is Spain's first State Visit to the UK since 1986 and follows centuries of diplomatic relations. It highlights the close and vibrant links we have built through cooperation on trade and investment, security and defence, science and innovation, and on the world stage.

Ahead of the UK-Spain Business Forum at Mansion House today, the Prime Minister welcomed the scale of this investment as a sign of the depth of our commercial ties and Spain's continued confidence in the strength of the UK economy.

Britain remains the number one European destination for Spanish investment.

Today’s business forum will highlight examples of Spanish investment in a range of sectors across the UK, including:

- today’s announcement by Spanish manufacturer CAF that it is to start building trains and trams at a new factory in South Wales. The company will invest £30 million in the facility near Newport, creating 300 jobs and giving a boost to UK manufacturing and the Welsh economy.

- today’s announcement by Spanish infrastructure company Sacyr that it will soon open a new London office close to Victoria Station, which will provide a base for further investment and job creation in the UK.

- the ongoing expansion of Luton Airport, whose majority shareholder is Spanish airport operator AENA. Over £100 million is being invested in this major redevelopment which aims to increase capacity by 50% to 18 million passengers and is expected to create thousands of jobs, with the first phase now complete.

- the construction of a £26 million factory on a Steel & Alloy Processing site in Oldbury, as Spanish steel producer Gonvarri Steel Services, part of the Gestamp Group, scales up its production capacity in the West Midlands. The project has been supported by the Department for International Trade and will create more jobs in the local area.

- the recent launch of new clinics in the West Midlands and London by Spanish fertility specialists IVI as they invest in their UK expansion, creating jobs and supporting research.

The Prime Minister also hailed the enduring friendship between Britain and Spain and pledged that our relationship will continue to go from strength to strength as the UK leaves the EU.

Prime Minister Theresa May said:

> Britain’s longstanding relationship with Spain has been built over centuries on the deep and solid foundations of our shared history, values and interests.
>
> Today, we work closely together in a range of areas to ensure the security and prosperity of our people, including through our military and law enforcement cooperation to fight international terrorism, our academic collaboration on science and innovation, and our growing trade and investment ties.
>
> Indeed, the sheer scale of Spanish investment in Britain demonstrates Spain’s continued confidence in the strength of the UK economy, and shows that we can and will maintain the closest

possible relationship.

This week’s State Visit is an opportunity to celebrate the historic bond between our countries and our citizens. We are firm friends, and I look forward to seeing our partnership go from strength to strength in the years ahead.

Speaking ahead of the UK-Spain Business Forum, International Trade Secretary Liam Fox said:

As an international economic department over the past twelve months we’ve helped secure more foreign direct investment projects than ever before, supported thousands of UK businesses on their export journey, and continue to promote British trade values across the world.

I’m delighted to welcome further Spanish investment into the UK today, as we remain Spain’s number one destination in Europe for direct foreign investment.

Our diplomatic relations stretch back more than 500 years, and as we leave the EU we want to remain a good friend and neighbour to Europe and build a positive new partnership with each of its member states”.

There are over 300,000 Britons living in Spain, while over 130,000 Spaniards have made the UK their home. In today’s talks with King Felipe, the Prime Minister will welcome the valuable contribution that Spanish citizens make to Britain’s economy and society.

And she will pay tribute to the heroism of Ignacio Echeverría, the Spanish banker who was killed in last month’s appalling act of terror at London Bridge as he rushed to help someone who was being attacked.