Developing the UK Emissions Trading Scheme

June 2022

ABOUT THE ALDERSGATE GROUP

The Aldersgate Group is an alliance of major businesses, academic institutions, professional institutes, and civil society organisations driving action for a sustainable and competitive economy. Our corporate members, who have a collective turnover in excess of £550bn and operate across the economy, believe that ambitious and stable low carbon and environmental policies make clear economic sense for the UK.

We develop independent policy solutions based on research and the expertise and diversity of our members. Through our broad membership, we advocate change that delivers benefits to an ever-growing spectrum of the economy.

KEY MESSAGES

A net zero consistent cap

The Aldersgate Group welcomes the ambition of the proposed net zero consistent cap on emissions, aligned with the net zero strategy. We suggest that the more ambitious end of the range is pursued to accelerate cost-effective decarbonisation. However, this will need to be accompanied by supportive policies – such as a CBAM, innovation support, and low carbon market creation mechanisms – to increase opportunities to reduce emissions (which will also improve participants ability to respond to a carbon price incentive).

It will also be important that appropriate support and compensation mechanisms are in place to support industry when options to decarbonise are not available. **See Question 1.**

Free allocation and the use of surplus allowances

Free allocation should continue to reward efficiency and mitigate the risk of carbon leakage. During the transition to the net zero consistent cap, it is important that free allocation policy support the competitiveness of businesses and prevent the offshoring of economic activity and emissions.

Surplus allowances could support these aims by mitigating the application of a cross sectoral correction factor. They should not, however, be used to support liquidity, which would be much better served through greater linkage with international carbon markets. **See Questions 29-32.**

Linkage with the EU ETS

The Aldersgate Group and its members support greater linkage with the EU ETS. This can support liquidity, reduce the burden of participating in multiple carbon markets, and ease the challenges the UK ETS faces as a small carbon market.

This said, the Aldersgate Group welcomes the proposed reforms that would take the UK ETS beyond the EU Scheme, noting however that any such divergence be based on scientific, rather than political, reasoning and be expressed in a way that will allow future interoperability with other carbon pricing systems. **See Question 21.**

Extending the UK ETS to new sectors

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While the Aldersgate Group warmly welcomes the proposal to extend the ETS to waste incineration and EfW, parallel policies are needed that help businesses move up the wase hierarchy, as excessive incentives to incinerate waste will likely still exist.

We also support the decision to extend the UK ETS to the maritime shipping sector, however it is disappointing to see no proposal for the emissions arising from UK-International journeys. The UK ETS should be extended to cover 50% of emissions from journeys arriving from or leaving to a UK port from abroad, which would capture a much larger share of UK shipping activity (and match the ambition of EU proposals for the sector).

Extending the UK ETS within covered sectors

Missing from this consultation is a proposal to apply a carbon price to bioenergy emissions. There is substantial evidence that biomass is not always renewable, often has carbon debts beyond Paris-compliant timescales to decarbonise, and negatively impacts biodiversity. **See Questions 96-98 and 101.**

As the aviation sector is demonstrably evidenced to be free from risk of carbon leakage, we support the withdrawal of free allowances for the sector, and argue that this happen in keeping with the timeline for early phase out. We also suggest Government swiftly rectify errors that have led to airlines receiving more free allowances than their total verified emissions, which has given the sector a hidden subsidy.

Market mechanisms

The Aldersgate Group disagrees with the proposal to remove the Auction Reserve Price, and argues that a clear ARP is needed to provide certainty against sudden price drops. Concomitantly, more clarity is needed on the Cost Containment Mechanism. When the CCM has been triggered in recent months, government has not intervened, rendering the mechanism unpredictable. These measures would provide a 'collar' on the carbon price that offers a level of stability and predictability in the market without affecting day-to-day price discovery. **See Questions 37-39.**

CHAPTER 1: NET ZERO CONSISTENT CAP

1) Do you agree with the Authority's proposed range for the net zero consistent cap? (Y/N) Please explain your answer.

1.1 Yes. The Aldersgate Group welcomes the Authority's decision to reduce the cap by a level greater than that proposed by the Climate Change Committee, to 50MT by 2030. This will send a clear signal to ETS participants to invest in decarbonisation technologies, innovation trials, resource and energy efficiency measures, and fuel switching. It will also more thoroughly apply the 'polluter pays' principle.

1.2 Regarding the proposed 'range' for the trajectory of a net zero consistent cap, the Aldersgate Group advises that the ETS Authority opt for the more ambitious end of the range to make the incentive to decarbonise more effective. It is essential, however, to recognise that a carbon price cannot work in isolation and would require the support of a suite of policies that enable decarbonisation across the economy. Conversely, opting for the less ambitious end of the range could place more strain on other policies to deliver short term emissions reductions for the traded sectors.

1.3 With this in mind, Government also needs to implement policies that support innovation and competition, the deployment of new technologies, fuel switching, electrification, and the development of markets for low carbon products.

1.4 To ensure that the competitiveness of ETS participants is not significantly impaired by a step change in the overall cap, pursuit of the more ambitious range, and a concomitant reduction of the

industry cap, the Authority should ensure that adequate compensation and support is available. This should include remaining free allocation, as well as other forms of policy and financial support, such as business models for hydrogen and CCUS (that are available to both clustered and dispersed sites), as well as innovation support, a Carbon Border Adjustment Mechanism (CBAM), the delivery of competitively priced low carbon electricity,[1] and market creation mechanisms like product standards and green public procurement. These measures will be vital to moving businesses away from high carbon options so they can more readily respond to a carbon price.

1.5 Effective delivery of these policies at pace will be necessary to not just avoiding carbon leakage, but ensuring fairness in the Scheme so that participants have the adequate, albeit temporary, support measures to ensure they do not bear a disproportionate carbon price prior to the availability of the technologies and policies that will help them significantly reduce their emissions. In this sense, compensation and support is needed to prevent the carbon price from merely being an added cost rather than an incentive, when abatement opportunities are not available.

1.6 Although we welcome the ambition of the proposed net zero consistent cap, Aldersgate Group members from across the sectors have heavily emphasised the need for forward visibility of the cap on emissions allowances beyond 2030, as investment decisions for well into the 2030s and 2040s are currently being made. A better idea of the future carbon price trajectory and/or the availability of allowances would impact these decisions, and could help to foster more cost-effective, competitive decarbonisation. Crucially, these investment decisions will affect emissions in the traded sectors in the short and long term.

CHAPTER 2: FREE ALLOCATION REVIEW

4) Do you agree with the Authority's minded to position to reset the industry cap, as presented above? (Y/N) Please explain your answer.

4.1 In part. As the consultation notes, the 'do nothing' option would lead to severe market distortion as free allowances take an increasingly large share of the market (and lead to a percentage increase in the subsidised portion of ETS participants' emissions). This could also delay decarbonisation for those receiving free allowances, as they would not feel the same financial incentive to decarbonise despite the change in the overall cap.

4.2 The industry cap therefore needs to be reduced in keeping with both our net zero ambitions and the net zero aligned cap. This should involve reducing the industry cap in proportion to the reduction of the overall cap, then gradually phasing out free allowances to ensure that ETS participants start pursuing decarbonisation options in a timely manner to mitigate the impact of a steadily increasing carbon price.

4.3 The success of future emissions reducing activities (needed to comply with a decreasing cap) will depend in part on the implementation of adequate incentives to decarbonise now. It is therefore important that the Authority look to instigate investment in decarbonisation by reducing the industry cap and level of free allowances.

4.4 As markets for low carbon and/or 'green' products continue to grow, supporting early movement on low carbon production will also be key to supporting the competitiveness of ETS participants in future years.

[1] For example through increasing interconnection, restoring participation in the day ahead markets, and creating a 'green power pool' of long-term, tradeable, zero carbon electricity contracts. For more information please see UCL, commissioned by the Aldersgate Group (September 2021) Delivering Competitive Industrial Electricity Prices in an Era of Transition

6) Do you have a preference for a tighter or looser proportion than 37% for the industry cap? (Y/N) Please explain your preference.

6.1 Tighter. An industry cap of 37% means that over a third of the allowances in circulation are given away freely. This could lead to a dilution of the 'polluter pays' principle over time, while reducing revenue raising potential of the Scheme. As stated in **Question 4,** over time, the industry cap should gradually decline to encourage investment in decarbonisation, avoid a situation where businesses backload investment in low carbon options to 2040s onwards, and to support UK businesses looking to participate in growing low carbon markets.

6.2 The proportion of allowances reserved for free allocation must therefore be low enough that ETS participants face an adequate incentive to decarbonise, gradually decreasing to account for technological developments and lower prices for decarbonisation as economies of scale are reached.

6.3 The Authority should thus seek to set the Industry Cap at the most ambitious level possible while mitigating verified threats of carbon leakage.

6.4 Many Aldersgate Group members have expressed that one of the most important factors behind the impact of declining free allowances is clarity around the timing and extent of their reduction. As far as is possible, the Authority should provide greater clarity as regards the amount of free allowances that will be available in each year of both the current and upcoming trading Phases. This kind of information can help businesses plan their investments in a timely and confident manner, especially those operating across several countries and/or jurisdictions.

7) Do you agree with the principles set out above, by which we will propose future changes to free allocation policy? (Y/N) Please explain your answer or whether there are any others you would like us to consider.

7.4 Yes. Free allocation should be based on efficiency (such as benchmarking based on efficiency of electricity use) and verifiable threats of carbon leakage (to reward decarbonisation and the use of best practices, support competitiveness, and prevent the offshoring of emissions). Though free allowances will be crucial to softening the impact of the step change in the emissions cap in 2024, over time they must be phased out to ensure the carbon price rises over the next few decades to a level that is high enough to end polluting activities and remove any subsidies on greenhouse gas (GHG) emissions.

7.5 As options for abatement become increasingly available and cost-effective, free allowances should be withdrawn to accelerate the take up of new technologies, production processes and/or fuel switching option across ETS participants. As these technologies or abatement options scale-up, free allowances based on efficiency can reward early movers and adopters.

7.6 To mitigate unintended consequences such as carbon leakage, and to assist ETS participants during the step-change in the cap in 2024, unallocated allowances could be used to reduce the overall financial burden of the UK ETS. However, unallocated allowances should not be used to support liquidity, as doing so would erase the additional progress achieved through the under utilisation of available allowances. The most effective way to support liquidity would be greater linkage with the EU ETS, to increase both the size of the carbon market and number of participants engaging with it.

8) Do you agree with the proposal to not use a cross-sectoral correction factor to reduce free allocations proportionally for sectors, but to find alternative means of better targeting those allowances? (Y/N) Please explain your answer.

8.1 Yes. By redistributing free allowances based on the risk of carbon leakage, efficiency, and affordability of decarbonisation options, free allowances can be used in the most efficient way to support competitiveness while driving and rewarding decarbonisation.

8.2 The Authority should consider options for the requirement of robust decarbonisation plans from ETS participants receiving free allowances, to ensure that installations are still pursuing emissions

reductions. This would help to mitigate the risk of free allocation policy undermining or slowing decarbonisation and becoming an inefficient subsidy upon which installation continue to rely. This proposal is also discussed in **19.2**.

9) Are there specific elements of free allocation design with regards to eligibility, calculations, or other rules where you would like to see changes made, if you have not already flagged these via your call for evidence response? (Y/N) Please explain your answer and how they would align with the principles we have proposed.

9.1 The Authority should consider the ways in which resource efficiency can be incorporated into efficiency benchmarks when calculating free allowances, to better incentivise practices such as an increased use of recycled material content.

9.2 This would complement policies such as product standards or procurement policies that gradually drive up the resource efficiency of products sold on the UK market, such as by requiring a minimum level of recycled material content, further driving demand for low carbon goods. By introducing a benchmark based on resource efficiency, the Authority can establish a reward mechanism for adopting sector-best-practices where possible, and thereby prevent undue distortion in areas where resource efficiency measure are not readily realisable (for example, where recycled materials are not available, or materials sorting processes for recycling not possible).

12) Are there other carbon leakage mitigation policies which are not already being considered by the UK Government, Scottish Government, Welsh Government, and DAERA, as listed above, which you would like to flag to us? (Y/N) Please explain your answer.

12.1 Yes. To improve the competitiveness of UK ETS participants and mitigate risks of carbon leakage, the Government should implement policies that support the creation of markets for low carbon products, prevent high carbon imports from undermining low carbon domestic products, and create incentives to retain valuable secondary materials central to low carbon production.

Product standards, labelling and public procurement:

12.2 We welcome BEIS' consultation earlier this year, *Towards a Market for Low Emissions Products,* and urge Government to implement mandatory product standards and green procurement practices that set targets on lifecycle and embodied emissions in industrial goods and projects.

12.3 Product standards, labelling and procurement practices are important tools for driving demand for low carbon goods and services, and can help to support the competitiveness of low carbon industry. This in turn is crucial to mitigating against the risk of carbon leakage and the effects of cheap, high carbon imports.

12.4 The Green Public Procurement Programme in the Netherlands is likely the best global example of green procurement at current. Using two assessment methods,

12.5 using project-level environmental assessments tools – the CO2 Performance Ladder and DuboCalc (environmental impact measure) – a discount is applied to project bids depending on their environmental and CO2 impacts, after which the cheapest option is chosen.[2]

12.6 Similarly, the Buy Clean California Act requires state-funded projects to consider the global warming potential (GWP) of specific materials. By requiring the submission of Environmental Product Declarations (EPDs), the State Government establishes an industry average for the GWP of structural steel, flat glass and mineral wool insulation. Using this data, from 01/07/2022, a maximum GWP threshold will be set for each product category, that bidders must achieve to be awarded a state funded project.[3]

[2] European Commission. 2013. *Using LCA and CO2 performance to assess bidders. GPP In Practice*, p.36. [accessed 15/06/2022]

[3] California Department of General Services. 2022. *Buy Clean California Act,* [accessed 15/06/2022]

Carbon Border Adjustment Mechanism:

12.7 We are also pleased to see the recent statement from Financial Secretary to the Treasury, on the UK Government's intention to consult on the implementation of a Carbon Border Adjustment Mechanism (CBAM).[4]

12.8 Low carbon materials produced in the UK market risk being undermined by cheap, high carbon imports. A CBAM is needed to level the playing field between domestic and international goods and place an equal price on carbon irrespective of the origin of a product.

12.9 Crucially, the Authority should develop both product standards and a CBAM in tandem, rather than looking to develop and/or implement one or the other in isolation. This will provide the UK with a range of options as more is understood about how product standards and a CBAM can interact with one another, and, as global carbon pricing evolves.

12.10 As the EU implements its CBAM in c.2026, there is a risk that higher carbon products destined for the European trading bloc may be diverted to the UK if equal measures are not in place. This would further undermine UK producers and increase the risk of carbon leakage due to competitive strain. Aldersgate Group members from across the sectors have called for a CBAM that matches the EU's proposals to avoid these outcomes.

Tax incentives to avoid the offshoring of materials needed for decarbonisation:

12.11 At current, the waste and scrap metals sector suffers from a form of carbon leakage in that many valuable waste materials are exported overseas, where handling or repurposing waste materials is cheaper or sustainability criteria weaker, before being imported back in to the UK in the form of finished products. This is not only a missed economic opportunity (UK firms could expand production were the business case strong enough to retain these materials for reprocessing in the UK), but leads to an increase in the UK's consumption emissions. One example is scrap steel. Despite a high rate of recovery a great deal of scrap steel is exported to countries such as Turkey that, with higher carbon energy inputs, reprocess it into finished or semi-finished products that are imported back into the UK. Many of these goods are higher value than those produced by UK producers through other means.

12.12 The Authority should seek to reduce the offshoring of valuable waste and scrap materials to other countries, by creating tax incentives that drive investment in better recovery of waste materials (to maximise available resource in the UK market), but beyond this, should look to increase the retention of recovered materials in the UK by improving the business case for their trade with UK-based producers. The Authority should implement sustainability criteria on exports of waste that match those on domestic sales between waste management companies and producers, to level the playing field. Business rates should also be reduced to incentivise B2B sales of wastes like scrap steel and aluminium.

12.13 It is crucial to note that greater use of recyclable products is a key route to decarbonising many sectors such as steel, glass, aluminium and cement, but is often electricity intensive. It is therefore paramount that the Authority consider the measures at its disposal to reduce industrial electricity prices. Such mechanism are explored at length by the Aldersgate Group in a 2021 report commission from UCL, *Delivering Competitive Industrial Electricity Prices in an Era of Transition*.

13) Should the current rules be maintained for the 2022 Activity Level Changes process? (Y/N) Please explain your answer.

13.1 In part. Maintaining the current Activity Level Changes rules is an important way of ensuring the integrity of the UK ETS. If firms activity levels did change in line with their emissions, then they will need fewer free allowances and will not be negatively affected.

13.2 However, firms that reduced their total output during the COVID-19 pandemic, particularly in 2020, may not have also seen a proportional reduction in their emissions per unit of output. This

[4] https://questions-statements.parliament.uk/written-statements/detail/2022-05-16/hcws26 [accessed 07/06/2022]

means that these companies would be negatively affected by changes in their free allowances. To ensure fairness, it is important to understand the capabilities of each sector to reduce emissions per unit of output. For example, the ceramics sector uses kilns that are on and consuming fuel 24/7 year-round, with little or no option to turn them off or reduce the energy consumption upon a reduction of their total output. Understanding what is and is not possible for a given sector may allow the Authority to amend the Activity Level Changes rules differently depending on the reality for a given sector. For example, if a ceramics producer *was* able to reduce energy consumption in line with a reduction in output, their higher rate of efficiency should be considered when calculating their free allowances comparative to their peers (as is standard practice through the use of an efficiency benchmark). This would ensure that best practices are still rewarded without unduly penalising ETS participants that reduced output due the a lack of demand caused by the COVID-19 pandemic.

16) Should specific thresholds be set between the reduction in output levels and reduction in emission levels for operators to be eligible to have the 2020 Covid year omitted from the 2022 Activity Level Changes calculation? (Y/N) Please explain your answer.

16.1 Perhaps. In keeping with the above answer in **13.2**, it is important to understand why emissions did not reduce proportionally to output in a given sector, and what options were feasibly available across different sectors. Rather than applying a blunt threshold across the Scheme, which could unfairly penalise some ETS participants while letting laggards off lightly, the Authority must do more to base thresholds on the reality for different sectors.

16.2 If ETS participants reduced their emissions in keeping with a reduction in output, they do not need to be shielded from a temporary reduction of free allowances, as they emitted fewer tonnes of CO2e. If ETS participants did not reduce their emissions in line with a reduction in output but *could* have, they should not receive extra protection in comparison to competitors who did use available abatement options. If they and their peers could not have feasibly taken steps to reduce emissions in line with output, then 2020 should be omitted from the 2022 Activity Level Changes calculation.

16.3 Similarly, as production returns to pre-pandemic levels, it is important that free allowances reflect the change in output in line with available abatement options. Again, those without an abatement opportunity should receive support through temporary free allowances.

18) Do you agree that no changes should be made to the Activity Level Changes Regulation to take into account the turn-off of activity? (Y/N) Please explain your answer.

18.1 Yes. The consultation document rightly recognises that during the time that activity is turned off, emissions will reduce, meaning operators will have received more free allocation than needed to cover their reduced emissions. If uncorrected, this will reward companies for emissions reductions they did not make, and reduce their total cost of GHG emissions.

18.2 The consultation also rightly recognises that whilst the COVID-19 pandemic era could not be planned for, it is reasonable to expect that, in general, turn-off activity is arranged well in advance (to ensure it is as efficient and cost-effective for the operator if nothing else).

19) Do you agree with this proposed change? (Y/N) Please explain your answer.

19.1 In part. Incumbent sub-installations should more quickly be able to receive a level of free allowances (based on their risk of carbon leakage and efficiency) that reflects their output, including recent increases. This is important to encouraging repowering and scale-up of existing assets if this can be economically managed and avoid market distortions. This said, an increase in free allowances should be in line with existing principles behind free allocation policy, and also follow the verification of investment into increased production.

19.2 To ensure that low carbon investment is encouraged, the Authority should consider implementing a requirement for both new and incumbent installations to provide a decarbonisation strategy. This will make sure that the UK ETS is not designed in a way that hampers decarbonisation efforts, contrary to its purpose. This proposal is also discussed in **8.2**.

21) Do you agree with this proposed amendment? (Y/N) Please explain your answer.

21.1 In part. By diverging from the EU ETS to establish UK-specific benchmarks, there is a risk that the UK ETS bases efficiency on a smaller number of installations which could exclude existing best practices from across the globe.

21.2 The UK ETS suffers from being a small market in comparison to the EU ETS. There are fewer market participants, which not only has consequences for liquidity, but also means that efficiency benchmarks are based on a smaller number of installations. This has two potential consequences: 1) that the top 10% most efficient installations (and therefore the firms upon which an efficiency benchmark is based) are so few, due to limited size of a given sector, that individual firms gain a significant a competitive advantage over others, and 2) there are fewer installations to base a 'best-practice' efficiency benchmark on, meaning the benchmark may be less ambitious and not reflect best-available-technologies on the *global* market.

21.3 Businesses across the sectors have also been calling for more linkage between the UK and EU ETS to alleviate the burden of complying with two increasingly different systems. With this in mind, the Authority should look to pursue linkage where possible. As mentioned above, this would also support liquidity.

21.4 This said, some proposals being put forward in this consultation would put the UK ETS ahead of the EU Scheme, and are very welcome. However, because the UK ETS affects both international businesses as well as the global approach to carbon pricing, it is important that UK-specific ETS policy be considered within the wider international context. Whilst there may be valid scientific grounds for the ETS to diverge from other international carbon markets, such as the EU ETS (in areas such as the establishment of a tighter cap on overall emissions allowances), it is important the UK's evolving framework provides as much compatibility with other major global frameworks as possible. Maintaining interoperability between new UK regulation and European and global regulatory initiatives and technical criteria will be important to ensure a high take-up of the UK's evolving (and more ambitious) carbon pricing requirements. With this in mind, the UK should continue to use diplomatic opportunities, such as active engagement in the G7 and G20, to advocate for greater ambition in global carbon pricing systems.

21.5 There is a strong case to make a UK-specific carbon leakage list, which could better reflect the makeup of UK ETS participants and their relative share of the market. This is important to free allocation policy, as it may affect how the Authority allocates free allowances sector-by-sector.

23) Should minimal or one-off electricity exports be excluded from the electricity generator classification? (Y/N) Please explain your answer.

12.1 No. If electricity generators are exporting/selling small amounts of surplus power they should be treated in the same way as other electricity exports/sales to ensure that the Scheme maintains its integrity and fairness, and continues to encourage decarbonisation of all emitting activities, regardless of how size.

CHAPTER 3: UNALLOCATED FREE ALLOWANCES AND FLEXIBLE SHARE

29) Do you agree that, should the industry cap be reset to a level that would fall below free allocation in 2024 and 2025, a portion of unallocated allowances and/or flexible share should be

used, as currently legislated, to mitigate against the application of a cross-sectoral correction factor? (Y/N) Please explain your answer.

29.1 In part. It is important that levels of free allocation decline in line with the overall cap to ensure that the UK ETS in its entirety transitions to alignment with net zero. With this in mind, as far as is possible, the Authority should seek to reduce the level of free allowances in line with the reduction in the overall cap. The cap reduction should therefore be accompanied by a proportional reduction in free allowances.

29.2 Unallocated allowances represent an unexpected overachievement of the Scheme and its participants as the available allowances within a specified year were not needed by market participants. If allowances did not need to be allocated, emissions were lower than otherwise expected. The Authority should therefore carefully consider how it intends to spend this saving, and whether it is possible to retain this benefit, especially as the overall cap reduces.

29.3 This said, Aldersgate Group members from across the sectors have highlighted that should the industry cap fall below free allocation and a CSCF be applied, the carbon price they pay would increase as their level of effective subsidy, via free allowances, reduces. This additional cost cannot be recovered in the market as prices in many contracts for 2024 have already been agreed upon, factoring in current levels of expected free allowances for that period (and therefore an anticipated carbon price that cannot be renegotiated or recovered). This could represent a significant cost for many businesses. Using surplus allowances to mitigate against this could therefore be an effective way to support businesses during the transition.

29.4 Mitigating carbon leakage and supporting the competitiveness of UK ETS participants is paramount, as to avoid unintended consequences such as increasing the UK's consumption emissions should emitting activities be offshored to locations with weaker environmental performance, and their goods imported into the UK. Therefore, temporary and targeted relief from the reallocation of unallocated allowances could be beneficial. It is vital, however, that the reallocation of unallocated allowances does not take the overall level of allowances in the Scheme above the newly defined net zero aligned cap. The Authority could also consider making temporary support, in the form of receiving unallocated allowances for free, conditional on submitting a comprehensive plan to decarbonise. This will help to ensure that businesses are well on their way to achieving decarbonisation, which would mitigate the need to submit as many emissions allowances.

30) Do you agree that a portion of unallocated allowances and/or flexible share should be auctioned to smooth the transition to the net zero cap? (Y/N) Please explain your answer.

30.1 In part. Unallocated allowances could be used to smooth the transition to a net zero aligned UK ETS and maximise the ability of UK ETS participants to effectively respond to a more ambitious carbon price signal. This could be done most effectively by using surplus allowances to mitigate the application of a CSCF in the early years of the ETS.

30.2 As mentioned in **Question 29**, unallocated allowances represent moments of overachievement within the Scheme, and should not be 'spent' without clear need, or in a way that takes the overall level of allowances in a given Phase above the newly defined net zero aligned cap. Any auctioning of unallocated allowances should be carefully considered to make sure that the entirety of the UK ETS is set on a net zero aligned trajectory (which includes the way in which participants are affected by overall changes to the Scheme). However, to avoid unintended consequences, such as carbon leakage or the offshoring of UK-based activities, temporary support may be necessary to increase the ability of firms to participate in the Scheme in the years immediately following changes made in 2024. As mentioned in **Question 1,** while abatement opportunities are not available, this is paramount to ensure that participants unable to decarbonise are not unfairly penalised by high prices.

31) Do you agree we should consider auctioning a portion of unallocated allowances and/or flexible share before 2024 to support market liquidity? (Y/N) Please explain your answer.

31.1 No. The best way to support liquidity in the UK ETS is by linking the Scheme with the EU ETS and/or other carbon markets. This is the most direct way of increasing the number of market participants.

31.2 It also increases the number or installations from which an efficiency benchmark is created, meaning that UK free allocation policy would be based on the best performing firms across the world, not just in the UK. Where the UK is already leading on efficiency, this means that best-performing firms would also receive a greater reward comparatively to global competitors.

31.3 Unallocated allowances should not be used to support liquidity as this risks the integrity of the Scheme, and also undermines the investment signal sent by announcements of available allowances by suggesting that their number could change unpredictably in the future in moments unrelated to market shocks.

31.4 As stated in **29.2**, unallocated allowances represent an unexpected overachievement of the Scheme and its participants, and they should therefore be reserved for smoothening the transition to the net zero aligned cap and mitigating the temporary impacts of sudden and extreme levels of market instability that significantly hamper the ability of firms to participate in the ETS, or drastically affect their competitiveness.

32) Do you agree that a portion of unallocated allowances and/or flexible share should be retained for market stability purposes? (Y/N) Please explain your answer.

32.1 Only in specific ways/under specific conditions, for example if unallocated allowances support market stability by mitigating the CSCF or feed into a CCM (please see **Question 37**) to provide an effective price collar that provides *some* protection against extreme price fluctuation.

32.2 Rather than supporting liquidity, which would be better served by greater linkage with the EU ETS and/or other carbon pricing Schemes (as discussed in **31.1-31.2**), unallocated allowances could be used to support market stability through inclusion in a Cost Containment Mechanism (rather than a separate pot of allowances) or to mitigate the CSCF.

32.3 The Authority should carefully consider how this would impact the incentive to decarbonise in the years immediately following the implementation of a net zero aligned cap, as it will need to be strong enough early on to inspire change and investment that will enable ETS participants to comply with the cap as it continues to decrease (without temporary support from unallocated allowances).

32.4 With this in mind, the Authority should also consider the extent to which an instrument is established that provides a specified and consistent level of unallocated allowances to mitigate instability. If a set level of unallocated allowances are *always* reallocated, the Authority risk undermining moments of overachievement in the Scheme as described in **31.4.** If possible, the Authority should reserve the ability to reallocate allowances on a case by case basis, to support extreme moments of stress or instability in the Scheme.

CHAPTER 4: A CALL FOR EVIDENCE ON FUTURE MARKETS POLICY

36) Do you agree that these are the right objectives for markets policy as the UK ETS matures? (Y/N) Please explain your answer.

36.1 Yes, although the Authority should be minded to ensure that efforts to support liquidity do not come via a rigid mechanism (such as reallocating a set percentage of unallocated allowances from previous years). Instead, flexible interventions to support market participants should be undertaken on a case by case basis in moments of extreme instability. This will ensure that in moments of stability, unallocated allowances or other forms of support are not being provided unnecessarily, which could potentially undermine the effectiveness of the scheme (and risk the trajectory towards cost-effective decarbonisation in future years, should ambition not be sufficiently high at times when participants are in a healthy position to respond to an ambitious carbon price signal).

37) On what timescale should we look to withdraw the ARP: as soon as possible; as part of the introduction of a potential wider markets policies package; alongside the introduction of the net zero consistent cap; or another timescale? If another timescale, what timescale? Why that timescale?

37.1 The ARP should not be withdrawn. Although the price of emissions allowances has been steadily rising well above the level set by the ARP, a carbon price floor is a good way of signalling to investors and participants that the cost of emissions allowances will continue to steadily increase (and that the Authority intend for emitting GHGs to become more costly over time).

37.2 By providing a robust minimum price, the ARP can also continue to ensure that the UK ETS is less vulnerable to price fluctuations and/or a sudden decrease in the price of allowances.

37.3 Rather than withdrawing the ARP, the Authority should retain it, and look to ensure that it increases over time to provide an effective 'floor'. This will not affect price discovery as the mechanism provides an appropriate minimum price that corrects supply imbalances in the occasion that allowance supplies fluctuate following an extreme price drop.

37.4 This practice is common in other carbon markets, for example, minimum carbon prices in Canada, the Netherlands and Norway are set to reach CAN$170/t,[5] €125/t[6] and €200/t[7] respectively by 2030.

37.5 In keeping with this, the CCM should also be more clearly outlined to provide an effective mitigation mechanism against extreme price spikes. This will provide ETS participants with more confidence on the role of the CCM and what the conditions for government intervention are. In recent months this has been unclear, with the CCM being triggered but no government intervention following.

37.6 By providing robust fluctuation controls, the Authority can create a 'collar' on the carbon price that allows for price discovery and market based decarbonisation where it most affordable, while providing confidence against the effects of extreme price fluctuations in either direction.

38) Should the ARP be replaced by another mechanism? (Y/N) If so, what type of mechanism should replace it and why?

38.1 No. As stated in **Question 37**, the ARP should not be withdrawn. Replacing the ARP with another mechanism would likely place an unnecessary administrative burden across the Authority, and would require Scheme participants to understand how they are affected by a new Scheme instrument.

39) Do the thresholds for triggering the CCM remain fit for purpose? (Y/N) If not, how should they be amended?

39.1 The most important factor of the CCM is a clear outline for which threshold will not just trigger the CCM but trigger intervention. The confidence in the mechanism has been undermined in recent months as it has not always initiated intervention as suggested by its definition. The Authority should therefore restate the CCM and the conditions for government intervention (in the form of releasing allowances), so that it is clear when a CCM would be triggered.

[5] https://blogs.imf.org/2021/06/18/a-proposal-to-scale-up-global-carbon-pricing/ [accessed 16/06/2022]

[6] https://www.oecd-ilibrary.org/docserver/6813bf38-en.pdf?expires=1655388411&id=id&accname=guest&checksum=01193544A9770C5FCA93F88B021788AE [accessed 16/06/2022]

[7] https://bellona.org/news/ccs/2021-02-norway-proposes-e200-per-ton-co2-tax-by-2030 [accessed 16/06/2022]

CHAPTER 5: AVIATION

48) Do you agree that if there are minimal risks of carbon leakage and competitiveness risks associated with carbon leakage from the UK ETS for the aviation sector, free allocation should be withdrawn or phased-out? (Y/N) Please expand on your answer and give evidence where possible.

48.1 Yes. With minimal risk of carbon leakage free allowances should be phased out as early as is practically possible. This is vital to ensure that the polluter pays principle is upheld and to establish fairness across the Scheme by applying a similar rationale to free allowances as is used in the power sector.

48.2 This can also help to accelerate sluggish decarbonisation in the aviation sector, which currently receives the majority of its emissions allowances for free, and therefore faces a weak incentive to invest in sustainable aviation fuels, low carbon innovation, or the development of more efficient routes.

48.3 This is a sentiment that has been echoed by progressive members of the aviation sector, such as those referenced in the consultation document, noting that no aircraft operators have been offshored since the inclusion of aviation in the EU ETS, and that to achieve Paris Agreement and domestic CO2 targets, carbon pricing must create an effective market-based policy signal that reflects the actual societal cost of carbon intensive consumption, based on the 'polluter pays' principle.

49) Are there any other reasons for maintaining free allocation in the UK ETS? (Y/N) Please expand on your answer and give evidence where possible.

49.1 As the methodology for free allocation policy is open for consultation, the Authority should consider the possibility of using free allowances to support social objectives, such as regional development and Levelling Up. For example, should inclusion in the ETS negatively affect regional routes (from airlines deciding to scale back less profitable routes to compensate for carbon prices), there could be an argument for the use of free allowances to support continued use of regional flights, or better still, the hypothecation of revenues from the UK ETS to support lower carbon forms of domestic transport, such as rail travel, as the UK looks to minimise high carbon domestic transport.

49.2 This could set a precedent for using ETS revenues or the auction of surplus allowances for social purposes in the future, should the Authority look to expand the Scheme to sectors that could have a more immediate impact on less able to pay consumers. For example, expanding the ETS to road transport and buildings on a fuel supplied/consumed basis would drive decarbonisation in these sectors, but could add costs to consumer bills/fuel costs, which should be carefully managed during a cost of living and energy crisis. By establishing a precedent for the hypothecation of revenues or sale of allowances to fund social objectives (such as the Climate Social Fund being proposed by the EU as part of their ETS reforms), the Authority could support vulnerable households over the transitional period for any additional costs they face following the inclusion of a new sector, making it easier to expand the ETS.

50) Please provide views on the three proposed options for aviation free allocation, as well as how the trajectory should be set, such as a linear or weighted approach?

50.1 The Authority should pursue early phase-out of allowances by 2026. This is twice amount of time given to ETS participants when the EU ETS was first created, and 2 years longer than those due to be affected by the revised cap. As stated in **Question 48**, the Authority should accelerate ambitious efforts to decarbonise aviation to compensate for slow movement in the sector.

56) How can we ensure free allocation entitlements, including in a transition to full auctioning, are proportionate and equitable for all UK ETS aircraft operators?

56.1 An immediate priority for the Authority should be implementing changes that prevent airlines from receiving more free allowances than their total verified emissions. This is a flaw in the system that has allowed some airlines to profit from a Scheme designed to incentivise decarbonisation, while not paying the carbon price for any of their CO2 emissions. In total, the aviation industry received 4.4 million free allowances, but was only required to submit 3.4 million allowances, meaning an effective subsidy worth around £74 million was given to the industry, based on the average carbon price in 2021 (on top of paying nothing for its emissions).[8]

56.2 The Authority could consider implementing a maximum cap on free allowances that reduces during the phase-out of free allocation for the sector. This would be based on a percentage of a given airline's overall emissions, benchmarked on efficiency to ensure that even during the phase-pout of free allowances, adopters of low carbon fuels and technologies are rewarded.

58) How do we ensure that GHG emissions from SAF are accounted for appropriately with respect to aircraft operators' UK ETS obligations?

58.1 As the consultation recognises, cultivation and transportation emissions aren't always reflected or even captured in the production of SAFs, and even under current UNFCCC rules for the accounting of biogenic fuels/feedstocks, many countries are not legally required to report LULUCF emissions arising from cultivation, meaning imported biofuels could have a carbon intensity that has not been accurately accounted for on any carbon ledger.

58.2 However, this is not as great a priority for SAFs as it is for woody biomass derived feedstocks. A significant priority though, is capturing the non-CO2 GHG impacts of SAFs, such as air quality impacts from NOx and Sox emissions in various aviation fuels. This will be particularly important if replacing jet fuel results in a reduction of carbon, but an increase in these other pollutants. The Authority should consider including these within the ETS, recognising however, that a robust monitoring, reporting and verification framework is in place, to ensure that emissions are captured accurately, thereby maintaining the integrity of the Scheme.

59) Should emissions reductions delivered through SAF supplied to comply with the proposed SAF mandate contribute towards reductions in UK ETS obligations for aircraft operators? (Y/N)

59.1 No as this would amount to a double counting of emissions reductions across Schemes. It's vital that amendments to the UK ETS (as well as free allocation policy in the event that a CBAM is introduced) does not result in the double counting of activities undertaken to meet different obligations.

61) Do you agree that we should continue to ensure that UK ETS rules keep pace with the latest SAF sustainability criteria? This would include reflecting the latest amendments to the RTFO sustainability criteria. (Y/N) Please explain your answer.

61.1 Yes. At a minimum the UK ETS should carry the same level of ambition as other policy mechanisms. This will ensure that the Scheme remains a powerful incentive to decarbonise that reflects the latest developments in sustainable fuels and technological development (i.e. applies criteria based on what is practicable for ETS participants).

61.2 Alignment between different policy mechanisms can also help to maintain uniform reporting and verification and reduce the administrative burden for businesses that have to comply with

[8] https://www.transportenvironment.org/wp-content/uploads/2022/06/UK-ETS-Briefing.pdf [accessed 16/06/2022]

several different Schemes (especially as many aviation companies also have to comply with other regimes abroad).

62) Should we consider capturing aviation's non-CO2 impacts in the UK ETS? (Y/N) Please explain your answer

62.1 Yes. It is important that UK ETS look beyond CO2 to fully capture the broad gambit of GHGs that are leading to global temperature increases. This will be particularly important in the aviation sector where the combustion of fuels releases methane and NOx, among other gases with a high global warming potential and/or negative impact on air quality. Even with sustainable aviation fuels, NOx emissions could be significant, and therefore necessary to capture in the emissions Trading Scheme, to ensure that emissions beyond CO2 are increasingly reduced.

62.2 Crucially, it will be essential to include non-CO2 GHGs as the use of biomass-derived aviation fuels increases, as this will be an important way of monitoring impacts on air quality and residual emissions (or GHG emissions that have not been absorbed during the growth-phase of a given biomass feedstock, rendering it carbon positive, as opposed to neutral/renewable).

62.3 This would also create a greater sense of fairness and uniformity across the UK ETS as the Authority continues/looks to include non-CO2 impacts in other sectors.

67) Do you agree that flights from the UK to Switzerland should be included in the UK ETS from January 2023? (Y/N) Please expand on your answer and give evidence where possible.

67.1 Yes. Operators in both the UK and Switzerland have previously complied with an Emissions Trading Scheme for their flights between the UK and Switzerland via the EU ETS. This offers the UK an easy opportunity to expand the ETS (and thus its ambition and market size) beyond territorial flights with a good idea of how businesses will be impacted.

68) Do you agree that this aviation activity should be subject to the same free allocation rules and review outcomes as the rest of the aviation sector in the UK ETS? (Y/N) Please expand on your answer and give evidence where possible.

68.1 Yes. As discussed in **Question 48**, aviation is not at risk of carbon leakage, so just like the rest of the aviation sector, free allowances should be phased out to adequately encourage decarbonisation and enforce the polluter pays principle.

69) Do you agree that we should not adjust the current UK ETS cap to account for the inclusion of UK to Switzerland flights? (Y/N) Please expand on your answer and give evidence where possible.

69.1 Yes, especially if the cap on emissions was not adjusted upon leaving the EU ETS to account for the fact that UK's notional share of emissions to the EU ETS included flights between the UK and Switzerland.

71) What areas of co-operation between the UK ETS and other emissions trading schemes, such as the EU ETS, do you think should be prioritised for aviation?

71.1 The Authority should seek to create greater linkage between the EU and UK ETS. This would support greater liquidity through the establishment of a large carbon market, and for operators in the aviation sector in particular, reduce the administrative burden of participating in several international carbon pricing systems.

CHAPTER 6: EXPANDING UK ETS COVERAGE WITHIN COVERED SECTORS

74) Do you agree with the inclusion of CO2 venting from upstream oil and gas in the UK ETS, and with the approach outlined above regarding MRV, meter installation, point of obligation, and timings? (Y/N) Please provide evidence to support your answer where possible.

74.1 Yes. To encourage cost effective decarbonisation at pace, the UK ETS should seek to cover as great a portion of emissions as possible without creating undesirable outcomes for producers and/or consumers in the form of carbon leakage or significant cost increases on consumer goods and/or fuels during a cost of living crisis.

74.2 Extending the scope of the ETS is simplest in sectors already covered by the Scheme, as the majority of these participants' emissions are covered by the Scheme and they have a good understanding of how to comply with the UK ETS and what its effects on their operation will be.

74.3 Venting is a carbon intensive activity that contributes to global temperature increases and should therefore be disincentivised through the application of mechanisms such as the UK ETS as means of simply driving a more sustainable economy.

74.4 Inclusion of venting and flaring can also help to ensure the UK ETS is comprehensive and robust, while also supporting liquidity (albeit in a minor way) by increasing the number of activities covered by the Scheme.

79) What other traded sectors, if any, vent CO2? What are the likely number of installations and scale of emissions? Should these proposals be applied to these sectors? Please provide evidence to support your answer.

79.1 Inclusion of vented CO2 should be applied uniformly across all sectors undertaking the practice, which includes the oil & gas, water services, landfill and chemicals sectors. Doing so can improve liquidity by increasing the number of ETS participants while also driving decarbonisation across a greater portion of the economy.

93) Do you agree with the Proposal that the UK ETS be expanded to allow for the transportation of CO2 through other forms of non-pipeline transport (i.e. shipping, rail and road)? (Y/N) Please explain your answer.

93.1 Yes. 50% of the UK's industrial emissions arise from dispersed sites (located more than 25km from an industrial cluster). In comparison to emitters based in the clusters, these sites have and will continue to have significantly less access to CO2 transport and storage pipelines due to their physical locations. This may be due to close proximity to an Area of Natural Beauty (AONB) or because of the uneconomic cost involved in laying down hundred of miles of pipelines for just one site.

93.2 In order to support their decarbonisation, it is essential that the Authority do all it can to support alternative forms of CO2 (and H2) transportation and storage, such as tube trailer transportation and rail and sea freight.

93.3 Increasing support for CO2 and H2 transport and storage solutions by means other than pipeline would also increase the number of industrial emitters that are eligible for the CCS business model in its current form.

95) What mitigation strategies, if any, do you believe should be applied in relation to CO2 emissions associated with all forms of CO2 transport for CCUS (eg. emissions produced by a cargo ship or those associated with the operation of pipelines)? For example, a mitigation

strategy might include the requirement for a chosen means of transport to adhere to emissions standards, net proportion of emissions delivered criteria (after deduction of emissions from transportation) or similar sustainability criteria.

95.1 The Authority could consider implementing requirements for CO2 (and H2) transport and storage operations to show a transport decarbonisation plan to qualify for government support (such as the CCS business model). This could include a mandate to either have a transition plan in place, or more specifically to meet a minimum percentage of low carbon transport options across its fleet.

95.2 This could also support the Government's other policy priorities such as transport decarbonisation, by increasing the demand for low carbon transport.

96) Do you agree with the proposal that we implement sustainability criteria for solid, liquid and gaseous biomass for installations? (Y/N) Please explain your answer.

96.1 Yes. As a minimum, comprehensive sustainability criteria should be applied to the use of biomass in the UK.

96.2 Beyond this, the Authority should amend the UK ETS to remove the zero-rating from biomass, as many biomass feedstocks are not carbon neutral and/or renewable, with many resulting in carbon debts upon combustion that will not be repaid in Paris-compliant timescales.

96.3 For more information on accurately accounting for the true GHG intensity of biomass, please see **Question 101.**

Impacts on the environment and air quality:

96.4 Some forms of biomass can have an extremely damaging impact on the environment. For example, planting monoculture energy crops damages soil quality, natural flood defences, animal and plant biodiversity, and vital ecosystem services such as water filtration and carbon sequestration.[9] The latter is particularly important within the context of the UK ETS as the Scheme is designed to reduce emissions, and should not incentivise behaviour which damages natural carbon sinks. In addition, measures under the UK ETS need to be coherent with the UK's wider climate and environmental targets, including under the Environment Act, which is why the impacts of biomass on environment and air quality should not be discounted.

96.5 The combustion of biomass also leads to the significant release of air pollutants, posing a serious risk to air quality. The majority of the particulate matter (PM) in wood smoke falls within the PM2.5 category deemed a serious public health risk. Under current plans for the role of biomass in net zero, the Air Quality Expert Group estimate that the total contribution of biomass to UK PM2.5 emissions will increase from 25% in 2012 to 31% in 2030.[10] This directly contradicts the government's aim within the Environment Act 'to reduce the annual average level of [PM2.5] in ambient air'.[11]

96.6 Prior to combustion, there are also air quality-related risks associated with the production of bioenergy feedstocks, with wood pellet mills shown to release unsafe air pollution that has, at times, violated plant permits. [12]

96.7 Many biomass feedstocks also originate from countries that do not accurately capture the emissions associated with a given feedstock or monitor its environmental impact. Ensuring that robust sustainability criteria are applied in the UK ETS will help to prevent the import of these most damaging feedstocks.

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[9] Chatham House (Feb 2017) *The Impacts of the Demand for Woody Biomass for Power and Heat on Climate and Forests* [accessed 07/06/2021]

[10] Air Quality Expert Group (2017) *The Potential Air Quality Impacts from Biomass Combustion* [accessed 09/06/2021]

[11] Environment, Food and Rural Affairs Committee (Feb 2021) *Air Quality and coronavirus: a glimpse of a different future or business as usual* [accessed 09/06/2021]

[12] BBC (Feb 2021) *UK-owned pellet plant in US fined $2.5m over air quality breaches* **Error! Hyperlink reference not valid.** [accessed 07/06/2021]

Unaccounted biomass emissions:

96.8 At present, emissions from burning biomass are undercounted due to an absence of robust national and international carbon accounting mechanisms. Biomass fuels are considered carbon neutral under the assumption that the emissions released upon combustion will be sequestered by biomass regrowth. However, it can take decades [13] for new trees/biomass growth to sequester this carbon, leading to a 'carbon debt' that is not repaid for in timescales that are compatible with the Paris Agreement.[14]

96.9 Reporting and accounting rules for biomass under the UNFCCC and Kyoto Protocol currently assume that emissions associated with land use, land use change and forestry (LULUCF) are accounted for in the land use sector of the country in which they are produced.[15] Consequently, biomass emissions at the site of combustion are not included in the carbon ledger of the country where combustion occurs. However, under the Kyoto Protocol, emissions reporting on certain LULUCF activities has been optional,[16] while research produced for Chatham House shows that many countries producing and exporting biomass for power generation to the UK do not accurately account for their emissions resulting from LULUCF and the processing and transportation of biomass.[17] This means biomass emissions are often absent from international carbon ledgers entirely.

96.10 In a scenario depicted by BEIS, electricity produced by burning wood from an intensively managed pine plantation in South USA, resulted in a carbon intensity of 1059kgCO2e/MWh over a 40 year time horizon. This, along with Drax's 2019 biomass stack emissions (955CO2e/MWh), is a higher carbon intensity than the coal stack emissions reported by Drax in 2019 (898khCO2e/MWh), meaning that burning wood in these scenarios releases more CO2 per unit of electricity generated than coal, and leads to an increase in atmospheric carbon that will take decades to be reabsorbed.

96.11 Even if biomass were assumed to be carbon neutral, its supply chain emissions alone are higher than the lifecycle emissions of wind and solar power per MWh over a 100-year time horizon. These emissions arise from land use change and the disturbance of soil; growing and harvesting; processing, drying, and pelleting; leakage; and finally, transporting biomass feedstocks (using one bioenergy companies' own estimates, its biomass supply chain had a carbon intensity of 124kgCO2e/MWh over a 100-year time horizon.[18] These biomass supply chain emissions alone are significantly higher than the entire carbon intensity per unit of electricity generated by renewable energy sources, such as rooftop solar PV (41kgCO2e/MWh for solar PV, 11kg for onshore wind and 12kg for offshore wind.[19]

96.12 It is crucial that robust sustainability criteria are implemented to prevent the use of biomass feedstocks that have an unclear carbon intensity or have caused damage to the environment and/or ecosystem services.

96.13 The Authority should also remove the zero-rating on biomass to accurately capture the true emissions of biomass combustion, discounting only those emissions that have verifiably been captured on carbon ledgers elsewhere, such as in the LULUCF sector of a biomass exporting country/sector.

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[13] Institute for European Environmental Policy (Aug 2011) *Securing Biomass for Energy – Developing an Environmentally Responsible Industry for the UK Now and into the Future* [accessed 06/06/2022] p.17

[14] Michael Norton et al., *Serious Mismatches Continue Between Science and Policy in Forest Bioenergy*, Global Change Biology Bioenergy 11, no. 11 (November 2019): 1256-1263 [accessed 09/06/2021]

[15] Chatham House (Feb 2017) *The Impacts of the Demand for Woody Biomass for Power and Heat on Climate and Forests* [accessed 07/06/2021] p.37

[16] Institute for European Environmental Policy (Aug 2011) *Securing Biomass for Energy – Developing an Environmentally Responsible Industry for the UK Now and into the Future* [accessed 09/06/2021] p.18

[17] Chatham House (Feb 2017) *The Impacts of the Demand for Woody Biomass for Power and Heat on Climate and Forests* [accessed 07/06/2021]

[18] Drax (2019) *Annual Report* [accessed 04/06/2021]

[19] Schlömer S. et al. (2014) *Annex III: Technology-specific cost and performance parameters*. In: Climate Change 2014: Mitigation of Climate Change. Contribution of Working Group III to the Fifth Assessment Report of the Intergovernmental Panel on Climate, Cambridge University Press, Cambridge, United Kingdom and New York, NY, USA. [accessed 09/06/2021] p.1335.

96.14 This is supported by the CCC's stipulation that biomass imports 'should only have a role if future efforts to develop [a] sustainability framework are successful (improved monitoring and transparency, closing gaps) and the UK can have confidence that all imports are both low-carbon and sustainable'.

97) Which sustainability criteria should the UK ETS apply to solid, liquid and gaseous biomass (RO, CfD etc.), and would there be any value in developing UK ETS specific criteria? Please explain your reasoning.

97.1 In light of the response given to **Question 96**, the Authority should implement sustainability criteria that prevent the use of biomass feedstocks that have a negative impact on biodiversity, ecosystem services (such as water filtration and carbon sequestration), and air quality. This could include a ban on biomass feedstocks grown in monoculture forests.

97.2 Furthermore, the release of damaging air pollutants should be regulated to protect public health, with strict controls on the most polluting feedstocks.

97.3 The lifecycle emissions of biomass should also be accounted for more accurately to ensure that the UK ETS is not incentivising the use of fuels that are carbon positive. This should include removing the zero-rating from bioenergy emissions, discounting only those emissions that installations can prove have been accounted for elsewhere, prior to combustion, as discussed in **96.8-96.13.**

98) What are your views on the proposal that for installations and combustion units which only burn biomass to be exempt from the UK ETS, operators must only use sustainable biomass?

98.1 Installations that only burn biomass should not be exempt from the UK ETS, and their biomass should not be automatically zero-rated. As discussed in **Question 96**, bioenergy has associated emissions far higher than renewable energy, and the assumption that biomass is a renewable fuel source often ignore carbon debts that are not compatible with the Paris Agreement's timelines for net zero emissions**.** The true emissions intensity of biomass combustion units' activities should be subject to a carbon price as with any other source of GHG emissions (discounting only those emissions that have been verifiably accounted for in the LULUCF sector or re-absorbed in Paris compliant timescales).

98.2 If the Authority does not decide to remove the automatic zero-rating of biomass, it is vital that at the very least, sustainability criteria are required from all users of biomass feedstocks. This is needed to avoid negative impacts on biodiversity as discussed in **Questions 96 and 97.**

101) Going forward, is there anything else you think we should consider regarding biomass in the UK ETS?

101.1 Relying on certain forms of biomass to meet net zero targets has the potential to lead to an overall increase in global CO2 emissions. If we continue to pursue industrial scale bioenergy under the wrongful assumption that it is always carbon neutral (and with CCS applied, carbon negative), as we approach 2050 we will be reliant on a market for forest biomass that is increasing rather than abating global CO2 emissions.

101.2 At an industrial scale, policy and investment support should be primarily directed to renewable energy production that is already proven at scale and low carbon assured, with limited application of transitional biofuels and truly carbon neutral bioenergy in sectors that are difficult to address with current technology and renewable energy supply.

101.3 In order to understand the availability of sustainable biomass and the true emissions intensity of different feedstocks, the reporting of stack emissions from the bioenergy sector could be phased in under the Streamlined Energy and Carbon Reporting (SECR) regulatory framework, which already requires other gas and electricity producers and consumers to report their scope 1, 2 and 3 emissions.

Revenue raising potential:

101.4 The Authority should consider extending the scope of the UK ETS and Carbon Price Support to the bioenergy sector, including all emissions at the point of combustion, discounting only those emissions that can be verified as having been accounted for in the LULUCF sector.

101.5 By excluding emissions from biomass-derived power generation, there are hundreds of millions of pounds in uncollected carbon taxes. For example, recent modelling by Ember[20] reveals that if Drax's supply chain emissions alone were subjected to a carbon tax, in 2019 they would have paid around £65m via the EU ETS and UK CPS. At the time, this was the value of the entire offshore wind CfD budget, which procured 5GW of energy without being fully spent. If the full lifecycle emissions of Drax's biomass were taken into account, this number increases to £204.1m, with BEIS' higher estimate generating figures as high as £556.8m.[21] This would be of significant assistance to the UK's offshore wind target of 50GW of installed capacity by 2035. Alternatively, these funds could be used to mitigate the impact of surging energy bills on UK households, or to fund greater energy security measures, such as investments in energy efficiency upgrades.

CHAPTER 7: EXPANDING THE UK ETS TO NEW SECTORS

113) Do you agree that our lead option to extend emissions trading to domestic maritime based on vessel activity is the most appropriate? (Y/N) Please explain your answer considering:

- **Whether you agree with the proposed definition of a domestic journey, and whether this creates any loopholes which need to be addressed.**
- **Whether the scheme should be applied to ship owners or ship operators.**

113.1 Yes. The lead option for extending the UK ETS to domestic maritime emissions, based on activity, is likely the most appropriate option in the short term, but could be used as a starting point to then transition to a hybrid option with greater sectoral coverage, once more is understood about how the sector is affected by inclusion in the UK ETS. For more information on transitioning to a hybrid approach please see **Question 118.**

113.2 The Authority should consider whether a threshold for including vessels at 5000GT captures enough of the sector, and consult with shipping companies to calculate the impact that including a larger number of vessels would have (especially if doing so could cover a significantly larger portion of the sector without drastically increasing the administrative burden for firms who will already be participating in the Scheme).

113.3 The proposals for including maritime emissions in the EU ETS lay out a plan for including 50% of emissions arising from vessels arriving in an EU port from abroad, or leaving an EU port for another outside the EU. This is a more ambitious proposal than that being considered by the Authority, which does not plan to include any emissions from vessels leaving to or arriving from a port outside of the UK. At minimum, the Authority should put forward plans for extending the inclusion of maritime emissions in the UK ETS to 50% of journeys of journeys between UK and international ports once more is known about the impact of ETS inclusion for the sector under the current lead option.

113.4 This is particularly important as the UK and EU's maritime interests are very closely aligned, with many vessels in the UK arriving from or departing to an EU port. UK-EU journeys are also responsible for a much larger level of maritime emissions than intra-UK journeys.

113.5 This would allow the Authority to more closely align the UK ETS with the EU ETS, and put the two Schemes in good stead to establish further linkages over time. It would also provide the UK

[20] Ember (Jun 2020) *The Burning Question: Should the UK end tax breaks on burning wood for power?* [accessed 09/06/2021] p.16

[21] ibid

with a diplomacy tool when it comes to advocating for EU (and global) adoption of aspects of the UK ETS that are more ambitious.

113.6 The UK could also engage in climate diplomacy to bring other shipping routes into the carbon pricing Scheme as has been done in the aviation sector with Swiss to UK/EU flights.

118) Do you prefer one of the alternative options? (Y/N) Please explain your answer. It would be particularly helpful to understand:

- **For the fuel supplied approach, whether MRV requirements are possible and practical within existing processes and data collection.**
- **For the hybrid approach, how the split between the two approaches would be determined, and how a mechanism to avoid 'double charging' of emissions could be designed.**

118.1 An activity basis inclusion carries the lowest risk of carbon leakage and could incentivise decarbonisation that does not depend on novel fuels or technologies (such as larger vessel operators using MRV data to plan vessel activity and improvements that lowers emissions). However, activity based inclusion does not have the broadest sectoral coverage of the options being considered by the Authority.

118.2 The fuel supplied approach carries the highest risk of carbon leakage, as vessels could simply purchase fuel from elsewhere to exempt themselves from the Scheme. Though the administrative burden for the sector would be lower, due to the point of obligation being placed on a smaller number of firms, this option would also cover a smaller portion of the sector. On these bases, this option is therefore less desirable in terms of driving quick and cost-effective emissions reductions as well as mitigating carbon leakage in the UK economy.

118.3 The hybrid approach would be a good way of including a great portion of the sector, however there is an increased risk of carbon leakage for the smaller firms covered by the Scheme of a fuel supplied basis for the reasons mentioned in the consultation document and in **113.3**. This said, should the Authority include the domestic maritime sector on an activity basis at first, it could look to extend the Scheme to other parts of the sector over time as more is understood about how firms are affected by the Scheme in practice (and as the need for emissions reduction intensifies).

118.4 Aldersgate Group members expressed that both the activity and fuel supplied bases would be workable, and that the Authority should, alongside the mitigation of carbon leakage, carefully consider which option will be least disruptive to trade flows and/or route diversions.

120) Besides carbon not being fully priced into the market, what other market failures and barriers are present and what policies would be needed to support the UK ETS in decarbonising domestic maritime? In your answer, please consider how this may change over time.

120.1 Ambition in the UK ETS needs to be matched by ambition in the support given to the sector's efforts to decarbonise. For example, timely delivery of the recently launch UK SHORE funding from the Department for Transport can help to accelerate the sector's decarbonisation journey, and in turn, will smoothen their transition to inclusion in the UK ETS.

120.2 Similarly, greater investment is needed to bring new technologies and shipping fuels to market to not only support maritime decarbonisation, but secure a first mover advantage for the sector in the UK. This would again help to support the UK ETS in decarbonising domestic maritime emissions while also providing a significant economic opportunity as other countries pursue similar targets for their shipping emissions.

120.3 In this regard, delivery and expansion of the Clean Maritime Demonstration Competition is vital, and can provide a powerful incentive for trailblazers in the sector.

120.4 This support is needed to bring to market the decarbonisation methods that will allow shipping companies to respond to the carbon price, making the Scheme more effective.

124) Do you agree with the proposed timing for when waste incineration and EfW could be introduced into the UK ETS? (Y/N)

124.1 The timing for including waste incineration in the UK ETS should be based, broadly speaking, on two things. Firstly, creating an incentive to reduce emissions in the waste sector in a timeframe that matches the urgency of the UK's need to decarbonise. And secondly, ensuring that a carbon price is introduced in a timeframe that enables the sector to effectively plan for, respond to, and comply with it.

124.2 To meet these conditions, the Authority should look to introduce waste incineration and EfW in the UK ETS by no sooner than 2025 and no later than 2028, with an introductory period of 5 years being most appropriate in light of our cross-sectoral engagement. If opting for an earlier date for introduction, the Authority could consider introducing the sector alongside the use of free allowances to ease the transition to full inclusion. Conversely, if opting for a delayed date, the sector should be included with full auctioning, especially as waste incineration is not at risk of carbon leakage (though more robust regulatory controls on the export of waste to other countries is needed to support the ETS on this front).

124.3 Regardless of the date chosen, it is important that the Authority provide a clear and early announcement of the timing of inclusion to enable waste incinerators to plan investments into decarbonising their facilities, improving their sorting of mixed wastes of biogenic versus fossil carbon origin, and improving the resource and energy efficiency of their processes. This is as important to sending a strong signal for decarbonisation as it is to stimulating investment and enabling a smooth transition into the Scheme for the sector.

124.4 Ultimately, the aim is to move up the waste hierarchy beyond disposal to re-use, remanufacturing and repair. This will require investment in new circular infrastructure and facilities – beyond incinerators and recycling plants to remanufacturing, repair and refurbishment facilities. The Authority can aid such a shift to these earlier stages of the waste hierarchy by providing a strong sense of direction about the cost of carbon under incineration. All incinerators should have been investing in the best available technologies already. This includes mixed-waste sorting to recover recyclable materials, and hot washing to increase the scope of materials that can be recycled. However, where this has not been the case, a timeline for inclusion of 2025-2028 gives plants time to make amendments to their facilities, and also sends a signal to new plants that it will be cost-effective to invest in the most effective technologies and processes. In this sense, an early signal followed by sufficient time to plan and carry out investments in lower carbon plants represents a valuable investment opportunity.

124.5 Stakeholders in the sector have commented that by providing the signal that waste incinerators will face a carbon price, they will make improvements and investments to avoid paying the carbon price through decarbonising their activities. Generally speaking, some stakeholders have remarked that a minimum of 5 years is needed before introduction to allow for planning and permitting approval of new and improved sites, then their construction, and lastly, further time to negotiate contracts with customers that factor in a carbon price.

<u>The timing of other policies:</u>

124.6 It is important that the Authority also consider the timing of other policies when introducing waste incineration to the UK ETS to ensure that all regulatory and policy support is coordinated across the waste sector. This is primarily to avoid unintended outcomes, and to ensure that Government's waste strategy does not rely too heavily on carbon pricing to drive change along the waste hierarchy. In order to transform the sector, a suite of policies will be needed alongside carbon pricing. Please see **Question 144** for a complete list of policy needs concomitant to inclusion of waste in the UK ETS.

126) Do you agree that the UK ETS should be expanded to include waste incineration and EfW? (Y/N) Please outline your reasoning, including alternative options for decarbonisation of the sector outside of the UK ETS.

126.1 Yes, however the Authority needs to consider how different forms of residual waste should be treated, and, as discussed in **Question 144,** what additional policy support is needed to assist the UK ETS in incentivising decarbonisation and movement higher up the waste hierarchy.

126.2 Residual waste is broadly made up of biogenic waste (such as food and organic materials) and fossil waste (materials of a fossil carbon origin, such as plastic bottles or nylon textiles). In landfill, biogenic waste decays and releases harmful GHGs, and is therefore more suitable for incineration where energy and/or heat can be recovered. Conversely, wastes of a fossil carbon origin may, if unavoidable, be more suitable for landfilling, rather than incineration, due to the fact that they do not decay like biogenic waste, but will release GHGs when incinerated. Given this the Aldersgate Group is pleased to see the Authority acknowledge the differences between biogenic and fossil wastes.

126.3 The landfill tax has been successful in diverting waste from landfill on a cost basis. Qualitative analysis from HM Revenues & Customs has demonstrated that the Landfill Tax has been the driver for the fall in demand for landfill –the 700% increase of the tax between 1998 and 2014 contributed to both a 65% fall in total waste to landfill by 2014, and a doubling of tax revenue. The Landfill Tax Escalator was also seen as a primary driver for significant levels of investment right across the waste supply chain. As the standard rate of the escalator increased, opportunities from alternative treatments to waste became more viable and profitable.

126.4 However, the landfill tax has created a greater incentive to incinerate fossil wastes. While inclusion in the UK ETS will help to address the market distortion that has resulted from only one residual waste stream facing a carbon price (especially as difference between the carbon price and landfill tax closes), there may still be too great an incentive to incinerate fossil carbon.

126.5 The Authority should consider whether an incineration tax or specific carbon price support (to match the landfill tax) alongside inclusion in the ETS would be more appropriate. This could help to create cost parity between landfill and incineration to ensure that residual waste is directed to the most environmentally and climate friendly destination, rather than the least costly one despite the impact on emissions and/or air quality.

126.6 The Authority should also consider whether it is appropriate to exclude biogenic waste emissions from the ETS, especially while it remains highly likely that the combustion of biogenic materials will also include some fossil carbon content until mixed waste sorting practices improve. This said, the Governments that make up the ETS Authority should accelerate the implementation of their respective bans on biodegradable waste to landfill, as this will ensure that applying a carbon price to emissions arising from the combustion of biogenic materials does not incentivise the redirection of biogenic waste to landfill (where, as established in **126.2**, it is less suitable than in EfW).

126.7 This said, the primary goal before this should be the reduction of residual waste in the first place through policies that shift waste up the waste hierarchy through repair, remanufacture and reuse. Beyond utilising waste and minimising harmful disposal, a truly circular economy means transforming production methods and consumption behaviours.

127) Do you agree that all types of waste incinerators should be included in the UK ETS? (Y/N) If you believe certain incineration activities should be exempt, e.g. incineration of hazardous or certain healthcare waste, please provide details and specify which waste stream.

127.1 To drive cost-effective decarbonisation across waste incineration activities, all incinerators should be included other than those required by law to burn wastes such as hazardous or healthcare products. Conversations with Aldersgate Group members did not return any major concerns about excluding this small portion of waste incinerators who have no choice but to burn these waste products by law.

127.2 The Authority should however consider whether the 20MWTh threshold for inclusion captures a significant enough portion of waste incinerators, as if not, it may be an inappropriate threshold that should be lowered to broaden inclusion. The Authority should also look to understand how this threshold could affect future investment into new plants, and whether there is any risk of system gaming through the construction of multiple plants below this threshold rather than a single installation.

128) Do you believe ATT should be included in the UK ETS? (Y/N) What challenges could arise as a result of including ATT, if any, that are different to conventional waste incineration plants?

128.1 Yes. Advanced Thermal Treatment is a source of emissions arising from the treatment of residual waste, and should therefore be included alongside other forms of waste treatment to ensure that the lowest carbon options for waste treatment continue to be pursued.

128.2 It is important to avoid any market distortions that would arise from a divergence in the approach to pricing waste sector emissions.

135) How would the application of an ETS to waste incineration and EfW impact stakeholders (including operators of waste incinerators, operators of EfW plants, LAs, consumers, customers)?

126.1 It is likely that increased costs for waste incinerators will be passed on to their customers – largely local authorities and councils – which will directly raise costs for their constituents, potentially in the form of higher taxes or through the reduction of local services (as LAs look to balance their budgets). As mentioned in **Question 49 and 147**, the Authority should consider the viability of creating an instrument similar the EU's proposed Climate Action Social Fund to support households and consumers should their costs increase (especially on the backdrop of the cost of living crisis faced by many households). Similarly, hypothecation of revenues from the ETS could help to recycle the funds raised to support households, or to fund innovation trials to improve the ability of ETS participants to positively respond to the carbon price.

136) Could the introduction of a carbon price incentivise waste operators and/or LAs to improve their operations or processes to reduce fossil waste being incinerated? (Y/N) Please outline your reasoning in as much detail as possible and provide evidence to support your views.

136.1 Yes. Placing a price on every tonne of GHGs emitted by a waste incinerator's combustion of fossil waste, would incentivise investment into mixed waste sorting to remove fossil waste from the waste stream (which would then improve recycling rates through greater material recovery), leaving only or a greater proportion of biogenic waste for incineration. As detailed above, the introduction of the Landfill tax and the tax escalator have achieved similar outcomes in transforming waste treatment and the waste sector.

136.2 It could also help to incentivise the application of CCS, to mitigate the carbon price through removal of CO2 at the stack. However, this is unlikely to be pursued until the cost of abating a tonne of CO2 via CCS becomes cost-effective in comparison to a carbon price alone. This is why the Authority must provide additional support for the roll out of technologies such as CCS and DACCS, beyond the incentive provided through a price on carbon. As most waste incinerators are dispersed (as opposed to located at an industrial cluster), most may find it difficult to access support from the government business model. As mentioned in **Questions 1, 93 and 147,** the Authority should therefore take steps to broaden the CCS business model, and provide support for alternative transport solutions for captured CO2 at sites where the construction of pipelines may not be possible.

136.3 As mentioned in **Question 124**, it is important that the Authority provide an early signal to those looking to invest in waste incineration plants to ensure that they opt for the lowest carbon technologies, higher quality waste sorting capabilities, and, potentially, options to install CCS once available.

141) Do you believe that government should consider phasing in ETS obligations to the sector over time? (Y/N) If yes, please outline why, how, and to what extent phasing options could be provided.

141.1 As mentioned in **Question 124**, if the Authority opt to include the sector at an earlier date, it should look to provide some free allowances to soften the transition. If opting for a later date, the Authority should look to include the sector at full auctioning to adequately apply the polluter pays principle and meet the urgency of the need to decarbonise across the UK economy.

142) Would operators of incineration/EfW plants be exposed to competitiveness impacts abroad and carbon leakage risk, in the event of being exposed to the carbon price? (Y/N) Please explain in as much detail as possible and provide evidence to support your views.

142.1 As the treatment of residual waste is carried out locally across the UK, the sector is at low risk of carbon leakage of the kind faced by industrial producers. This said, if it becomes cheaper for waste treatment companies to export waste abroad, then the UK is at risk of worsening the offshoring of its responsibility to manage it own waste.

142.2 In order to ensure effective functioning of the UK ETS, the Authority should look to establish a ban on the export of residual waste, or at the very least, strict sustainability criteria that include a proviso that any exports of waste are willingly received by the destination nation, which can also prove it has the ability to treat that waste safely and sustainably. A similar measure is currently being considered by the EU under a proposal that will see a near ban on exports of residual waste to non-OECD countries.[22]

142.3 While the total amount of plastic waste sent abroad between 2020 and 2021 declined, the UK still exported almost half a million tonnes of plastic waste.[23] The Aldersgate Group supports the recent call from the Environment Agency for a "complete ban on waste exports".[24]

144) What additional policies would be needed to support the UK ETS in decarbonising waste incineration and EfW? How would this change over time?

144.1 Beyond consumer products, there is significant opportunity for resource efficiency savings in industrial processes and across all sectors of the economy. All government departments must embed circular economy principles in their policy-making to ensure regulations, fiscal incentives and market mechanisms are aligned to support resource efficiency and capturing the maximum value of materials in use (see below).

144.2 Applying a price to the incineration of waste could result in the diversion of biogenic waste to landfill if it becomes more economical (although the carbon price would be applied to fossil carbon, it may be less costly to divert to landfill than to sort mixed wastes into different streams). If this increases the amount of biogenic waste ending up in a landfill, then emissions will rise with no form of energy or heat recovery, and thus could be seen as a perverse outcome. Therefore, ensuring that a ban on biogenic waste to landfill comes in at the same time as the ETS is applied to waste incineration is crucial. Taxation policy must be carefully crafted to ensure the lowest carbon outcome for each waste stream is incentivised.

144.3 Similarly, to support the ETS price signal, the broader resources and waste policy framework urgently needs to be reinforced. Firstly, measures first proposed in the Government's Resources and Waste Strategy of 2018 should be implemented at pace – chiefly, mandatory product standards, Extended Producer Responsibility (EPR), Deposit Return Schemes (DRS) and labelling. Secondly, Government should plug the missing policy gaps on resources and waste – introducing green public procurement criteria, investment in circular infrastructure, introducing VAT reform and other fiscal incentives for repair and resource efficient products, and growing the demand for servitisation business models. Policy focus to date in the UK has focused heavily on final treatment and disposal of waste, despite the most significant benefits to be yielded in job creation, economic benefit and emissions reductions being in the earlier stages of the waste

[22] https://www.reuters.com/business/environment/eu-eyes-tighter-waste-rules-limit-countries-shipping-trash-abroad-2021-11-17/ [accessed 06/06/2022]
[23] https://www.endsreport.com/article/1753647/will-uk-ever-able-end-its-reliance-plastic-waste-exports
[24] https://www.endsreport.com/article/1752771/ban-waste-exports-says-environment-agency-chief

hierarchy. Our members are keen to see a holistic approach from Government in which circular economy principles are integrated into all sectors of the economy, which incentivises greater coordination of the entire economic value chain – covering manufacture, supply, retail, consumption and waste.

144.4 Policies should look to improve product and infrastructure design. A cost signal to manufacturers that places a premium on products that are harder to recycle and/or disassemble than others would drive improvements in product design – where 80% of a product's environmental impact is determined. This is where EPRs can make a difference, by introducing a greater cost for product manufacturers when it comes to end of life treatment. To be effective, these schemes will need ambitious fee modulation mechanisms, an overarching aim to stimulate reuse and waste prevention, clear definitions and close monitoring of performance.

144.5 Similarly, product standards can improve resource efficiency by mandating that products meet minimum standard on how easy they are to recycle and disassemble, and how durable they are. The development of eco-design standards, labelling and lifecycle assessments should be prioritised and developed with transparency and mandatory status, with the aim of capturing a rapidly growing range of priority products. Defra's Waste Prevention Programme includes promising proposals to consider eco-design principles for the UK automotive sector and should be expanded to cover construction and other industrial sectors. Other metrics that product standards could target include raw materials extracted, critical material content, and suitability for disassembly, re-use, re-purposing and recycling.

144.6 These policy measures would reduce the pressure on Local Authorities (dealing with household waste) and waste incinerators, by placing more of the responsibility on the producers of products themselves.

144.7 A resource productivity target under the Government's long-term environmental targets would help to provide an overarching sense of direction for the waste sector.

CHAPTER 8: CALLS FOR EVIDENCE ON GREENHOUSE GAS REMOVALS AND AGRICULTURE AND LAND USE EMISSIONS

147) Do you believe the UK ETS could be an appropriate long-term market for GGRs? (Y/N) Please explain why, highlighting benefits and risks where possible.

DISCLAIMER: The Aldersgate Group's response to the call for evidence on including GGRs in the UK ETS has been written as a cover response as below. This response answers many of the questions in Chapter 8, and should be considered in relation to the entire Chapter rather than Question 147 alone.

Executive summary:

147.1 Including GGRs in the UK ETS could help to incentivise investment in carbon removal technologies such as Carbon Capture, Utilisation and Storage (CCS) and/or Direct Air Carbon Capture and Storage (DACCS), as well as nature based solutions (NBS) such as afforestation and ocean fertilisation. Inclusion would create a financial reward (through mitigated carbon costs) for using GGRs and a clear case for investment. This will rely in part on a carbon price that is higher than the cost of removals (to ensure the latter are cost effective).

147.2 There are however, several potential problems that could arise from inclusion of GGRs in the UK ETS. First and foremost, inclusion of GGRs and/or carbon removal credits could undermine efforts to decarbonise in the first instance as their costs come down (and potentially fall below the cost of mitigation). Therefore, not only does the use of GGRs need to be conditional on proving additionality over time, while they are limited, it should be directed areas where options to decarbonise don't yet exist. There is also a potential accessibility issue for other sectors that do not participate in the UK ETS but may need GGRs for their residual emissions (such as the agriculture sector). Lastly, should there be too great an incentive for abatement through NBS like

afforestation, there could be perverse outcomes such as the excessive conversion of natural habitats and agricultural land, or the planting of damaging monocultures as carbon sinks.

147.3 From an operational standpoint, the Authority will also need to understand how it will price each tonne of carbon removed for GGRs that only remove GHGs temporarily, such as some nature based solutions that absorb oxygen but may re-release it upon the decay of biological matter, in comparison to those that remove GHGs permanently.

Creating demand for carbon removals:

147.4 Including GGRs in the ETS could stimulate demand for carbon removal technologies that are currently expensive, such as CCS or DACCS. By including them in the market more investment in innovation could be mobilised which, together with certainty of demand from other ETS participants would, help reach economies of scale and bring their costs down. This will need to be pursued alongside the development of business models for GGRs, as announced in the Net Zero Strategy.

147.5 This requires other policy support alongside a steady and rising carbon price, such as:

147.5.1 Demonstration-led innovation funding that takes a 'learning-by-doing' approach to showcase to investors that GGRs such as DACCS are a viable option in the UK.

147.5.2 Finalising the CCS business model, ensuring that the eligibility criteria are open enough to enable participation from dispersed industrial producers (who may be ineligible due to an inability to show a viable CO2 transport and storage solution without access to pipeline infrastructure).

147.5.3 Lastly, provide a sectoral roadmap that details which sectors will have priority access to carbon removal technologies. This is essential to avoiding a scenario in which decarbonisation efforts, where they are possible, are delayed due to the availability of carbon removals. Especially in the near term, when carbon removal options are limited and expensive.

Proof of additionality:

147.6 To ensure prevention of emissions remains a priority before removals of emissions, the Authority must consider how it will incorporate proof of additionality into an ETS that includes GGRs: carbon removals must be on top of not instead of decarbonisation.

147.7 As the UK progresses to net zero, carbon removals will be vital, but crucially, some sectors will need them more than others, and with limited land, water and electricity available, it is important to ensure that GGRs are deployed to sectors that will require them most as a priority.

147.8 Alongside sectoral roadmaps as mentioned in **147.6.4**, robust monitoring mechanisms for GGRs/carbon credits is needed to not only verify the integrity of carbon removals, but to ensure that other participants in the ETS can trust the integrity and fairness of the Scheme (trusting that others are not being rewarded for impermanent removals, for example).

147.9 One consideration that the Authority should investigate is for carbon credits from GGRs included in the ETS to be priced at a percentage below 100% of the carbon price. This would mean that it remains more cost effective to decarbonise (thus avoiding the carbon price as the Scheme currently works), than it is to emit a tonne of CO2 and then capture it. This was the UK ETS can continue to incentivise cost effective decarbonisation while also reducing the need for energy, water, land and capital intensive removals processes.

Differing costs across GGR technologies and nature based solutions:

147.10 At current, engineered solutions such as DACCS and CCS are more expensive per tonne of CO2e removed from the atmosphere than Nature Based Solutions (NBS), such as afforestation. This could lead to market distortion between different forms of GGRs, should they be included in the ETS together, as the cost of removing the same amount of CO2 will vary depending on the method.

147.11 The Authority could consider what a dual market for different forms of GGR would look like, and whether it is feasible to have the two operating in conjunction.

147.12 It may be that differing costs between technologies is not an issue, so long as the most expensive form of GGR is still cheaper than the carbon price, as, at current, abating one tonne of CO2e does not have the same cost across sectors, or even within one installation.

Temporarily vs permanently stored GHGs:

147.13 Different GGRs will store carbon for a different length of time. Some permanently, others only for a limited amount of time before releasing that CO2 back into the atmosphere.

147.14 A tonne of CO2e that is only temporarily captured cannot be treated equally to a tonne of CO2 that is permanently captured. If GGRs are to be included in the ETS, this would have to be reflected to not only ensure fairness across the market, but to ensure that the UK ETS does not distort the reality of the UK's true emissions.

147.15 It may be that only engineered solutions or those that can be proven to permanently capture and store carbon are eligible for inclusion in the ETS, to ensure that the Scheme does not promote the use of impermanent carbon removals. Alternatively, the Scheme could include both options, but apply a discounted price to temporary removals.

147.16 The Authority should expedite the publication of a call for evidence asking for more information on how permanently captured and stored CO2e should be treated in comparison to temporarily stored CO2e, as little is known on the subject, and applying a price or point of liability to temporary carbon removals is likely to be a difficult and contentious process.

147.17 Most bioenergy feedstocks should not be zero rated by the ETS because they cannot demonstrate that the CO2 they release upon combustion has been permanently stored elsewhere, or recaptured within Paris compliant timescales.

Perverse outcomes from carbon removal options that are priced too low:

147.18 It is possible that the price of some GGRs being too low could have unintended consequences for nature and land use (if robust regulatory measures are not in place).

147.19 For example, if it is far cheaper to convert land to a carbon sink than it is to pursue CCS, many firms may decide to invest in afforestation. This could lead to excessive land use conversions away from natural habitats and much needed agricultural land.

147.20 This would be a particularly perverse outcome if this route is pursued instead of a viable decarbonisation option without removals.

147.21 Incentives for NBS could also lead to the planting of monocultures for carbon removals, which can have an extremely negative impact on plant and animal biodiversity and ecosystem services, such as water filtration and natural flood defences. Similar practices exist in the bioenergy sector, making many biomass feedstocks unsustainable fuel sources.

147.22 A framework for nature restoration that regulates these activities would be essential were GGRs included in the UK ETS.

Double counting of carbon credits:

147.23 The Authority will need to consult with national and regional governments and regulatory bodies to understand how inclusion of GGRs in the UK ETS would integrate with other markets for carbon credits and/or standards and quality assurance regimes such as the Woodland Carbon Code.

147.24 In particular, it will be essential to ensure that carbon credits are not double counted across markets/schemes.

Lack of access for sectors that are not covered by the UK ETS:

147.25 There is a risk that including GGRs in the UK ETS may make them inaccessible to sectors of the economy that do not participate in the Scheme. This would currently include the agricultural sector, which will rely on GGRs to abate its residual emissions in 2050.

147.26 The Authority should consider how inclusion of GGRs would affect other sectors, or look at whether broader sectoral coverage is needed if including GGRs. This would inevitably have to consider the impacts that including a sector such as agriculture would have on consumers, who may end up paying more for groceries at a time when household finances are incredibly stretched.

CHAPTER 9: OPERATIONAL AMENDMENTS TO THE UK ETS

174) Should electricity generators who have not exported measurable heat produced by means of high-efficiency cogeneration in the "relevant period", but start to do so in following scheme years, be eligible for free allocation once they can demonstrate that they meet the eligibility criteria? (Y/N) Please explain your answer.

174.1 Electricity generators exporting heat should only be eligible for free allowances in the years in which they have demonstrably exported heat, and insofar as they are deemed eligible in comparison to comparable installations based on their efficiency and/or risk of carbon leakage. Awarding free allowances on a different basis gives rise to the potential for market distortion and unfairness. It is reasonable to ask for businesses to signpost their activities in this regard.

176) Do you agree that in the case of new entrants that are classified as electricity generators and who wish to apply for a free allocation of allowances on the basis that they produce measurable heat by means of high-efficiency co-generation, they may not apply for a free allocation until the operator can provide a full calendar year of activity level data? (Y/N) Please explain your answer.

176.1 Yes. It is important that new entrants do not gain an unfair advantage over Scheme incumbents, especially due to activity levels based on low levels of data. It is reasonable and fair to ask for new entrants to participate in the scheme for a full calendar year before offering free allowances, and this will help to avoid the potential for gaming and market distortion. This should come alongside an update to the way in which historical activity levels are calculated, by using information from more recent years.

176.2 After a full calendar year, the Authority could consider the viability of offering backdated free allowances if they would have been granted that year were the installation an incumbent.

176.3 The Authority should also consult with businesses to understand the effect that a year without free allowances would have on prospective investments, especially to prevent investment leakage.

191) Do you agree with the recommendation that, instead of the deficit being added onto the next year's surrender obligation, the regulators should be empowered to issue a deficit notice to require operators/aircraft operators who fail to surrender allowances to cover any deficit? (Y/N) Please explain your answer.

191.1 Yes. By allowing an additional year for deficits to be surrendered, there is a reduced incentive for ETS participants to engage in decarbonisation activities in the nearer term. This may not only undermine the efficacy of the UK ETS, but damage the ability of ETS participants to respond to a more restrictive cap as the Scheme progresses.

191.2 As the cap is based on an overall level of emissions for the entirety of Phase 1, spanning 2021-2030, it is crucial that progress is monitored year-on-year, with sufficient incentives to guide emissions reductions on shorter timescales than the overall trading Phase. This will be particularly important as we reach the final years of a trading phase to ensure the cap is achieved.