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By email: Julia.Stoddart@jahamaestates.com

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Dear Julia

INTERIM CARBON REPORT

Thank you for asking me to focus on the carbon sequestration values of the estate as part of our continuing study of the estate's natural capital assets more broadly.

I am pleased to enclose my interim report for your attention. It is an interim report because it is based on a strategic review of the estate's assets against technical information and data available in the public domain. With work of this nature there is always much more work that can be done and the report offers some comments on this. I am delighted that the estate has already agreed and committed to carry on with this work.

Away from the sober language of a professional report it sometimes helps to express some of the findings in a more accessible way. For example I have estimated that the estate may be sequestering well over 100,000 tonnes of carbon dioxide a year. This figure comes down to approximately 62,000 tonnes of CO₂e a year when the other greenhouse gases, Methane and Nitrous Oxide, are included How does this relate to our day to day lives?

- GFG initiated its CN30 (Carbon Neutral by 2030) project last year which recognised the need for a balanced approach in the reduction of net emissions from carbon and steel processing. The estate is already making a significant but unsung contribution to this.
- A small petrol car typically emits about 0.22kg of carbon dioxide for every mile it travels according to government figures: the estate is therefore absorbing the carbon dioxide emissions from over 280,000 miles of travel a year in small cars.
- An electric kettle uses about 0.3 kWh to boil a litre of water. Again according to government figures the average carbon dioxide produced by electricity generated in the UK was about 0.23 kg/kWh. Therefore the estate is absorbing the carbon dioxide emissions from nearly one billion boiling kettles. Against the population of the UK of about 62 million people, that's about 15 boiling kettles each.
- A little closer to home, GFG reported a carbon dioxide equivalent of 64,000 tonnes under the EU Emissions Trading Scheme for 2019. My estimate of carbon sequestration on the estate exceeds this amount by 75%, and allowing for the accuracy of the date used the figure for emissions of 64,000 tonnes is roughly balanced by the figure for net sequestration of 62,000 tonnes CO₂e a year.

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http://charlescowap.wordpress.com/ Twitter: @charlescowap Just as relevant is the approximate 10 million tonnes of carbon which is already stored in the peatland deposits on the estate, carbon which under the estate's stewardship is safely locked away from causing damage in the environment. The commitments already made under Nature Scot's Peatland Action programme are very important here, and I do strongly recommend that we should be looking at the Peatland Carbon Code and the possibilities it may offer.

These are staggering figures by any standards, and I believe that by funding this project the estate has taken a step of much wider significance in addressing the very real, pressing and practical challenge of just how a traditional rural estate like JHE can work with new concepts of natural capital as they move from the academic and policy worlds to practical application by estate managers like yourself.

As you know I have been promoting an understanding of ecosystem services and natural capital in land management for some years through my work with the rural land management and valuation professions. It has been a privilege to work with the estate and to see first-hand its commitment to the enhancement of our understanding of these concepts on the ground, and its enthusiasm to promote their importance at the heart of land management strategic decision making and operations.

Although now retired from Harper Adams University I retain an honorary title as visiting professor there and I am still involved with the rural practice surveying courses at Aberdeen and Cirencester as well as keeping in touch with my former colleagues at Harper. I am sure that the work we have embarked on here will be of great interest to these institutions as they develop the future land management curriculum and I am grateful for the openness with which the estate has encouraged me to undertake this work, enabling me to share key elements with various stakeholders as it proceeds. I am very much looking forward to our discussions about the next steps with this aspect of the work.

There are some very important wider lessons to be drawn from our work. Welcome though the enhanced public recognition of the importance of climate change is, we remain challenged to address this in positive practical terms.

I must emphasise however that so far we have only dealt with 'business as usual'. This is not an option if we are to reduce atmospheric concentrations of greenhouse gases and we will all need to go much further. It is very encouraging to see the estate's recognition of this vital point.

Through the impressively ambitious approach being taken by the estate and its willingness to share the fruits of this work I think the estate is making a major contribution to progress in this area and it has been my privilege to work with you on this, and to play my own small part in progressing your CN30 ambitions. Thank you again.

With kind regards.

Yours sincerely,

Charles Cowap

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