



All-Party Parliamentary Group on Heritage Rail

Steaming Ahead?

***Heritage railways, coal and the future of
steam locomotives in the United Kingdom***

July 2019



Image of steam
(Ffestiniog Railway)

All-party Parliamentary Group on Heritage Rail

Foreword



*Rt Hon Nicky Morgan MP,
Chairman of the All-Party Parliamentary Group on Heritage Rail*

This is the third inquiry carried out by the Group, and has been on an accelerated timescale, due to the imminence of strategic plans and legislation relating to climate change. We started at the beginning of the year, and I am grateful to colleagues and witnesses that we have been able to report within just seven months on what is a technical subject but one with wide ranging policy and social implications.

I am grateful to all those who gave evidence and to the enthusiastic band of heritage railway volunteers who follow, and participate in our proceedings. I am grateful too to the members of the group who have joined in the evidence sessions and have been able to elicit the key challenges to enable us to understand the issues fully and to formulate our conclusions and recommendations.

The result is fairly clear. The United Kingdom, its regional economies, its tourism industry and the future skills base of the mainline rail sector need their heritage railways, and the core requirement for most of the railways is the steam locomotive, which in turn require good quality coal. The best type of coal for these locomotives is that mined in Britain and these mines do not have a medium or long term future, so how do we ensure the future of this thriving and important sector?

Concerns about climate change have rightly led to moves to reduce the burning of fossil fuel, but the intention of Government was not to stop people enjoying the experience of seeing and riding behind a working steam locomotive. In this classic case of the law of unintended consequences, we need to find a way to enable heritage railways to continue steaming into the future. We intend to pursue this with the Government departments and ministers involved over the next few months.

8 July 2019

List of members participating and their railway interests:

Rt Hon Nicky Morgan MP, Chairman (*Great Central Railway*)
Martin Vickers MP, Treasurer (*Cleethorpes Coast Light Railway*)
Liz Saville-Roberts MP (*Ffestiniog, Welsh Highland, Snowdon Mountain, Bala Lake, and Fairbourne railways*)
Mark Garnier MP (*Severn Valley Railway*)
Philip Dunne MP (*Severn Valley Railway*)
Bill Grant MP (*Scottish Industrial Railway Centre*)
Nigel Mills MP (*Midland Railway Centre, Butterley*)
James Frith MP (*East Lancs Railway*)
Lord Faulkner of Worcester, Vice Chairman (*Heritage Railway Association President*)
Rt Hon the Lord Grocott, Vice Chairman (*Telford Steam Railway*)
Rt Hon the Lord Shutt of Greetland OBE, Vice Chairman
Lord Snape (former career railwayman)
Lord Berkeley OBE (former Chairman, Rail Freight Group)

Clerk: Chris Austin OBE (*West Somerset Railway*)

Executive Summary

- a) Heritage Railways are worth around £400m to the British economy and are an important source of employment and skills training, particularly in rural areas. They bring big benefits in terms of social cohesion, and encourage active lifestyles for older people while being an invaluable source of life skills for younger ones.
- b) Steam trains are an essential part of the 'heritage offer' and are the principal attraction for visitors.
- c) There is no practical alternative to the use of coal for steam locomotives on Britain's heritage railways.
- d) The economics of heritage railway operation are fragile and they are not well placed to absorb a significant increase in the price of coal. Such an increase would result in redundancies amongst paid staff, a restriction in operations, and possibly a smaller sector.
- e) The Minister's confirmation that there is no intention to prevent coal burning for steam locomotives is welcome, but needs to be written into the Government's strategy and any subsequent legislation. Its value is undermined if other aspects of the policy prevent future supplies or increase their cost dramatically.
- f) Heritage railways (and other heritage users of coal) will struggle to find alternative sources of supply if the closure of British opencast sites is as rapid as forecast. It would help the railways in the short and medium term if planning permissions were granted for the new mining schemes in the planning system to extend the period coal will be available from UK sites.
- g) However, regardless of the outcome of current planning applications for extending the areas of opencast mining, Government needs to hold open discussions now with the heritage sector and suppliers to identify a longer term sustainable approach to 'heritage' coal supply.
- h) A variety of measures are already used successfully to improve steam locomotive efficiency and to mitigate emissions and these are encouraged by the fact that they also reduce the costs of operation. This 'virtuous circle' will tend to drive lower emissions.
- i) Further mitigation or efforts to rebalance carbon emissions through tree planting may also be possible on some railways, perhaps offset by a voluntary 'green levy' on passenger tickets.
- j) It may be possible for heritage railways to secure a better price for their coal from existing suppliers by having a co-ordinated approach to purchasing.

Background – Defining the Issues

1. The Group's first report in 2013 established the economic importance of heritage railways and the beneficial role they play in providing active volunteering opportunities, skills training and apprenticeships and social cohesion.
2. For most heritage railways steam locomotives are the focus of interest. Apart from their nostalgic appeal, they are the principal attraction for visitors and a key resource in terms of the educational value of the railways. They attract skills training and apprenticeships and underpin the economic value of the railways to the local community.
3. Over the last 40 years, the principal demand for coal nationally has been from the electricity supply industry as well as from industries such as steel making, cement and other uses such as food production, together with a substantial but diminishing domestic market. These markets (other than power) have supported opencast production of high quality coal in Great Britain and a distribution network which has worked well in terms of the comparatively modest supplies needed by steam railways.
4. The ending of coal fired power generation by 2025 and the restrictions on domestic coal burning proposed in the Government's consultation on Clean Air Strategy change that, and threaten both supply and the distribution network. The number of applications for new surface mines or extensions to existing ones have declined. However, the producers have indicated there are a number of projects currently in the planning system which will maintain supplies of coal to UK markets, and these are under determination by local planning authorities or called in by Government. Costs will be higher for alternative sources of supply and distribution, in a sector where already margins are thin and railways rely very heavily on volunteer support. Whilst heritage railways are not included in the proposals to restrict coal burning, there is a concern amongst railways and other steam attractions that an affordable supply, given the very tight margins they already operate under, may no longer be available once the policy has been implemented.

Inquiry Remit

5. To establish the facts around the use of coal on heritage railways, in terms of quantities consumed and emissions.
6. To review the prospects for future coal supplies in the light of Government policy and plans for future electricity supply in the United Kingdom.
7. To assess the consequences for heritage railways of the Government's emerging policy on domestic and other fuel burning.
8. To consider the evidence from railways of the effect of changes in coal supply and to consider both mitigation measures and alternative fuel supplies.
9. To report by July 20th with recommendations.

Economic Significance

10. In the Group's earlier report (2013) on The Value of Heritage Railways, their economic importance was clearly identified, particularly in the context of tourism, local employment, skills training and apprenticeships. They have also supported regeneration in towns like Ramsbottom (Greater Manchester), Blaenau Ffestiniog (Gwynedd) and Loughborough (Leicestershire).
11. Heritage Railways welcome 13m visitors a year, of whom 9.6m are train passengers. They employ some 4,000 people (full time equivalent posts) and 22,000 volunteers. Direct earnings are £130m annually and the railways generate some £400m for the national economy. They are growing businesses too, with paid employment up by around 1,500 over a 20 year period.
12. The scale of the heritage railway network is much greater than generally appreciated. There are a total of 158 operational heritage railways in the United Kingdom which in total run over 562 miles, roughly the equivalent of the distance from London Euston to Mallaig on the national network. They operate 460 stations, the same number as that managed by Northern Rail.
13. The railways were Britain's gift to the world in the nineteenth century and many overseas railways were planned and built by British engineers, while there was a strong export market for locomotives. The world speed record for steam locomotives is still held by *Mallard*, in the National Railway Museum in

York. The locomotive *Flying Scotsman*, also owned by the NRM is an international icon that is used to attract overseas visitors to Britain and heritage railways also host many visitors from overseas.

Environmental Benefits

14. As this study is about mitigating the environmental effects of burning coal, it is worth reflecting on the other environmental benefits associated with heritage railways and tramways.



Green locomotive in a green corridor

Wildflowers thrive along the lineside of the Swanage Railway

15. The lines themselves provide 'green corridors' along their length. Because they are fenced and access is restricted, the lines are often home to some rare flora and fauna which on the railway are protected from agri-chemicals and people who might damage or remove plants.
16. The Seaton Tramway in Devon runs alongside the River Axe, a haven for wading birds. Special trams are run to allow people to view the wildlife at close hand, which run unnoticed by the birds, while bird watchers on foot have to conceal themselves in hides on the other side of the track.



Birdwatching by Tram
(Seaton Tramway)

17. Several railways provide car free access to sensitive landscapes which would be ruined by incursion of cars. Heritage lines serve the Cairngorms, the North Yorkshire Moors National Park, the Lake District, the Peak District, Snowdonia, the Brecon Beacons, the Broads, Exmoor and Dartmoor which are all accessible by heritage railway.
18. The railways are good at preserving their built heritage as well and many have won awards for careful restoration of old station buildings in the local vernacular style.

Government Policy

19. The Government has recently announced a commitment to net zero carbon emissions by 2050, in line with the recommendation of the Advisory Committee on Climate Change. This would mean minimising greenhouse gas emissions, including CO₂ from burning coal, and offsetting those remaining by action such as tree planting. This is a change from the 80% reduction target required by the Climate Change Act, 2008.
20. The Government's clean air strategy published in January 2019, proposes measures to reduce emissions from transport, including phasing out diesel only trains by 2040. It also seeks to restrict domestic coal and wood burning

by 2022 to less polluting fuels. Government plans will result in the ending of coal fired electricity generation by 2025.

21. The result of these policies will be that washed, sized indigenous coal is unlikely to be available, and that there will be no distribution network to get imported coal from the ports to the 158 railways around the country that require it in relatively small quantities.

22. The Minister has indicated that there is no intention to restrict the burning of coal for steam locomotives, but this is not yet specifically set out in policy statements or legislation.

23. In the House of Lords debate on heritage railways and young people on 5 June 2019, the Minister, Lord Ashton, recognised the need for this, saying:

“...we are working carefully to consider how we might achieve a successful balance between enhancing environmental and public health protection and ensuring that the UK’s heritage vehicle industry—and, indeed, heritage houses that burn coal in grates—continues to thrive. My officials are meeting counterparts at Defra next week to discuss this, and Defra Ministers have previously publicly stated:

“The proposals in the consultation on domestic burning would not prevent heritage railways purchasing the fuels they need”. (*Hansard Vol 798, col 170*)

24. Imported coal suitable for burning in steam locomotives is available, principally from Russia, and also from New South Wales, but the CO₂ emissions from transporting it to Britain greatly exceed the emissions from transporting it from British opencast sites. This suggests that in environmental terms, British mined coal would reduce the overall level of carbon emissions. Coal is also available from the USA, but we heard evidence that this was unsuitable for use in British steam locomotive fireboxes, being relatively unstable and with a higher sulphur content.

Coal consumption

25. Evidence from HRA and the Heritage Fuels Alliance indicated that a total of around 35,000 tonnes a year of coal was used by heritage railways, and other coal fired applications, including steam boats, traction engines, pumping engines, steam lorries and cars and model locomotives as well as static applications such as blacksmiths’ forges and the grates of stately homes and folk museums.

26. The railway consumption is 26,000 tonnes a year, spread amongst 158 railways. Annual consumption by individual railways is small, the largest

being North Yorkshire Moors Railway at 2,500 tonnes while the Keighley & Worth Valley, for example, burned 680 tonnes a year.

27. At around £185 per tonne, coal was a significant part of the cost base of heritage railways, typically representing between 5 and 10% of operating costs.

Efficiency improvements

28. Steam railways are already being as efficient as possible and the high cost of coal means that the railways have every incentive to burn it efficiently. Mostly emissions from locomotive chimneys are white steam (water vapour), but black smoke can represent unburnt coal and is inherently inefficient and so costly.



Steam, not smoke
(Isle of Wight Steam Railway)

29. There are three elements in the efficient use of steam locomotives –
- a. Servicing and maintaining the locomotive to ensure efficient operation
 - b. Training in firing and driving techniques which affect the overall coal consumption
 - c. Operating procedures to maximise the use of fuel (such as running shorter trains where long ones are not required by passenger demand.)
30. Use of 'clean burn' coal is more expensive per tonne, but most railways choose it because, per train mile run, it is cheaper because of its higher calorific value and less waste (evidenced through black smoke).

31. The high temperatures in the locomotive firebox (2,000 - 2,500° F) in a well maintained steam locomotive, leads to clean combustion with the lowest emissions.
32. Better boiler lagging has improved efficiency so that around 80-90% of heat produced goes to steam production.
33. A number of new steam locomotives are under construction in Britain or have just been completed, starting with *Tornado* in 2008. Whilst based on original drawings, these engines include some modifications and are more efficient than those rebuilt from scrap condition, with associated environmental benefits.
34. The average number of passengers per train on heritage railways is 100. Fuller trains have a negligible effect on the emissions from the locomotive (up to the point at which passenger numbers require more carriages and a larger locomotive), so in general, the fuller the train, the lower the emissions per passenger mile.



***Full trains mean lower emissions per passenger kilometre
(‘Flying Scotsman’ on the Swanage Railway)***

Mitigation measures

35. Both financial and environmental considerations support the more efficient use of steam locomotives through good maintenance, proper training and operational considerations on issues such as train length. The 'virtuous circle' will tend to drive lower emissions.
36. Pre-heating of locomotive boilers with a 'warming fire' lit the day before use is widely used by many railways and this both reduces emissions from trying to raise steam too quickly, and protects boilers from damage from rapid heating and expansion.
37. Evidence was given of American practice where hot water was exchanged between a locomotive coming out of service (for example for boiler washout or maintenance) and one entering service from cold. The Durango & Silverton Railroad had a static sulphur removal plant to reduce SO₂ emissions, but this required disposal of the sulphur removed and British railways tended to avoid use of sulphurous coal, because of resulting damage to the firebox.
38. In the Netherlands, the Hoorn-Medemblick steam tram used water softeners and electric heating of water to reduce emissions from lighting up locomotives. Together with other measures, including better boiler insulation, they had achieved a 25% reduction in coal consumption.
39. Some railways may be able to offset remaining carbon emissions through tree planting. This is not practical along the lineside, where falling leaves from broadleaf trees bring adhesion problems, but larger railways will be able to find land for trees away from the running lines. North Yorkshire Moors Railway is considering this and how it might be managed through a group like the Woodland Trust, and how it might be funded, possibly through a voluntary 'green levy' on passengers.

Alternative Fuels

40. We asked witnesses if alternative fuels could be used. The evidence established that steam locomotive fireboxes were designed to burn coal and this remains the most efficient heat source to use to raise steam.
41. Oil firing has been used in the past, although the higher cost compared with coal and the unpleasant smell from the exhaust led to converting the locomotives back to coal firing.
42. Trials of wood burning have not generally proved successful, as the energy density of coal is so much higher, meaning that greater quantities of oil or wood had to be burned to raise the same quantity of steam. They do not allow a stable firebed to be maintained, with complete combustion. Palletised

wood chippings tried on the West Somerset Railway became unmanageable wet pulp in the tender when rain fell during the experiment.

43. Experimental burning of compacted coffee grounds on the Leighton Buzzard Narrow Gauge Railway has similarly not proved successful, as they disintegrated within the firebox, the draught drawing much of the material up the chimney unburnt.
44. Biomass logs have been successfully tried on the Barry Tourist Railway and the South Tynedale Railway, albeit on a small scale and on lines where loads are relatively light (STR is a narrow gauge line).
45. Coal is easy to transport, store and stow on the locomotive. Specialist and larger storage areas were required to store oil and wood, and in the case of oil, special measures were required to avoid spillage or leakage and the risk of pollution of watercourses.

Costs

46. Compared with coal, the costs of alternative fuels to provide the same heat output are –
 - a. Electricity – three times the price
 - b. Oil – four times the price
 - c. Wood – four times the price
 - d. LPG – five times the price
47. Coal costs vary and have risen substantially over the last ten years. At a mid range average of £165 per tonne, they are less than smokeless fuels – ovoids are £200 per tonne, but low sulphur ovoids are around £500-600 per tonne.
48. Few heritage railways are conventionally profitable and almost all make extensive use of volunteers to provide services. Whilst most can cover their direct operating costs from fares and other trading income (catering and retail), most rely on donations and special fund-raising appeals to underpin this with funds for capital investment, and for infrastructure renewal. Railways operating more than 15 route miles indicate a need for up to £0.5m pa to be raised in this way.
49. Pricing is fairly inelastic, so that any significant increase in the price of coal will require cost savings elsewhere, through reductions in the numbers of paid staff and reductions in the levels of service provided or the days of operation.

Passenger reaction

50. The group heard evidence from the railways that steam was the principal attraction in the 'heritage experience' offered by the railways.
51. One railway identified its market as '5% enthusiasts, 95% families', and all expect steam to be part of the package.
52. Fine scenery was important for lines using electric traction such as the Snaefell Mountain Tramway or mainly diesel operated such as the Snowdon Mountain Railway, but generally steam was the feature that drove passenger numbers.
53. For most railways steam was an essential part of their business plans for the future.



Steam is the main attraction
(Severn Valley Railway)

54. Examples were given of ridership falling to 30% of its previous level when diesel locomotives were substituted for an advertised steam service on a regular basis.

55. During the period of dry weather in the summer of 2018 when steam was replaced by diesel on some lines to minimise the risk of lineside fires, HRA advised that one railway reported a loss of £200,000 in revenue.
56. In educational terms, the steam locomotive is an essential part of the learning experience of young people in relation to the industrial revolution, and incorporates many elements of STEM learning in a readily recognisable way.
57. The environmental effect of using steam engines does not appear to be a major concern to today's visitors, but it is recognised that this may change in the future as a result of schools programmes to make young people more aware of environmental issues, and the growing concern many younger people have over harmful emissions.

Coal Supply and Distribution Network

58. 90% of coal for British heritage railways currently comes from four British opencast sites. Railways in general require lump sized coal typically sized in the range 50 – 150mm), and this is and always was a sized clean cobble that was produced and supplied to domestic customers for use in the heating of homes. The smaller fractions <50mm are typically used for various industrial applications.

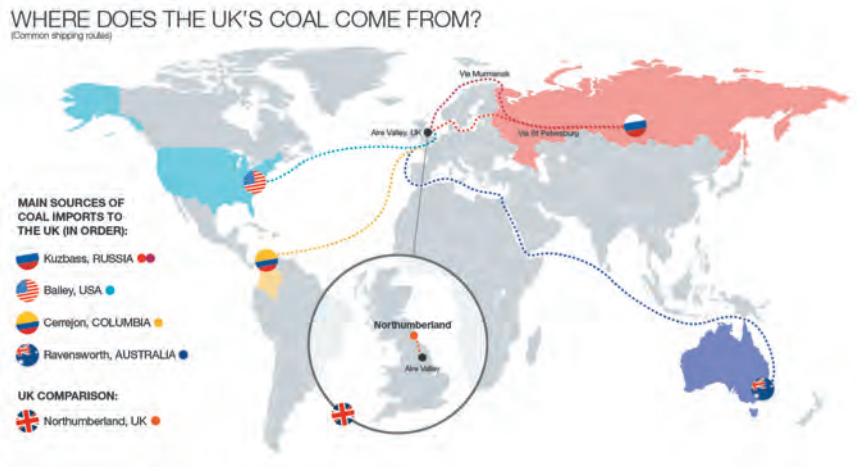


The requirement is for 'sized clean cobbles'

59. Lump coal degrades quickly when shipped over long distances, and after initial washing, further screening is required before it is supplied to heritage railway customers.

60. The suppliers predicted a future industrial requirement of 5.5m tonnes a year to be supplied after the ending of coal use for electricity supply by 2025 for a variety of industrial processes including steel making, production of cement and mobile phones.
61. They were confident that a strong case could be made to continue to allow use of coal for domestic burning on the basis of the evidence that coal produced a very small proportion of the emissions from the domestic market (under 2%), the rest being produced by wood burning.

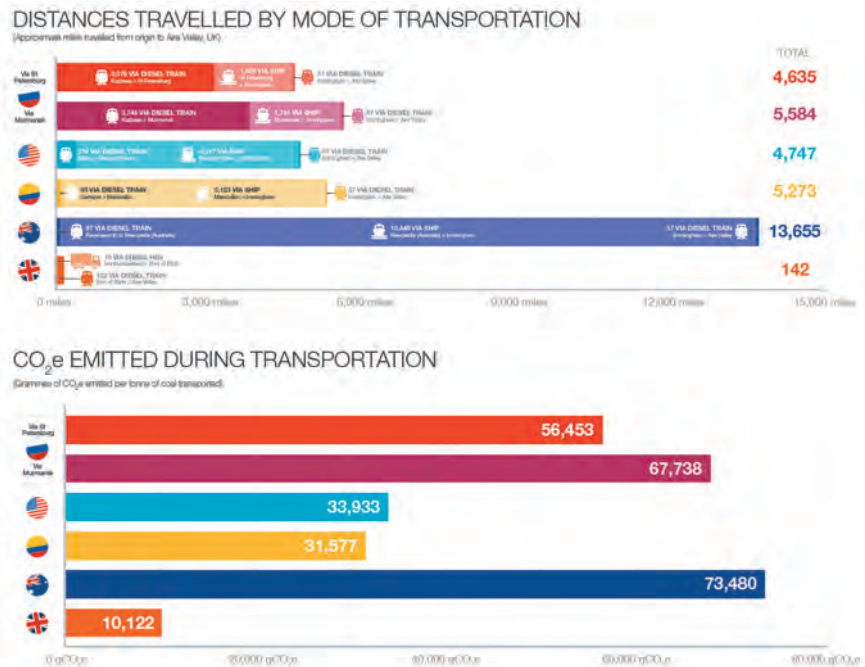
Figure 1



(Source; Banks Group)

62. They also gave evidence that the use of British mined coal had significant environmental advantages as the use of Russian coal, for example, which had similar qualities to British coal, would generate 5.5 to 7 times the level of greenhouse gas emissions from the transport of the coal to market (based on the Aire Valley) compared to transport from British mines. Coal from Australia would generate about 7 times the greenhouse gas emissions compared to UK mined coal.

Figure 2



(Source; Banks Group)

63. Coal is ‘in the ground’ in Britain, but its extraction is restricted by the remaining reserves for which consents exist and the life of UK mines. The continuing potential to use British coal is constrained by the lack of new planning permissions for new sites and extensions to replace existing sites. Existing reserves will be exhausted in 2 years and planning permissions for new sites in the planning system will be needed to continue supplies until 2024/5. New planning permissions would be required to ensure production after that based on supplying the continued industrial and other markets.
64. The timescale for the remaining British opencast supplies where planning consents exist is very short, with very limited time to make alternative arrangements for a change to imported coal. Such a change would also involve working out how the imported coal might be screened, washed and distributed to so many points of consumption. Consequently, an easement in the timescale for restrictions on domestic coal burning would allow a transition from indigenous to imported coal to be managed more effectively.

65. Apart from the ending of indigenous coal supplies, the main threat for heritage railways is the likely disappearance of the network of agents and distributors making it more difficult and expensive for the railways to procure coal.

66. Coal is distributed to 158 railways around the United Kingdom and the requirement is widely different as shown in the Table 1 below:

Table 1

Railway	Tonnes burnt per annum	Location
East Lancs	850	Lancashire
Epping & Ongar	140	Essex
Isle of Wight	250	Isle of Wight
Llangollen	590	Denbighshire
Lynton & Barnstaple	53	Devon
Nene Valley	150	Cambridgeshire
North York Moors	2500	North Yorkshire
Perrygrove	14	Gloucestershire
Romney, Hythe & Dymchurch	250	Kent
Swanage	800	Dorset
Talyllyn	95	Gwynedd
West Somerset	1100	Somerset

67. Evidence from HRA and the suppliers is that the 'heritage burn' of 35,000 tonnes per annum is too small to support a distribution system, and to establish a coordinated purchasing organisation by (for example) HRA would involve set-up costs of around £1.5m.



The coal pen at Minehead on the West Somerset Railway

(Storage space for coal is limited on most railways, with small, regular supplies required.)

68. Use of imported coal requires the use of agents abroad to ensure quality is maintained with initial washing followed by screening on arrival in Britain (because of degradation in transit) as well as arranging distribution to individual railways.
69. 'Less polluting fuels' as identified by DEFRA include ovoids which could be used for steam locomotives, but have a high sulphur content which damages fireboxes and produces sulphur dioxide emissions. Ovoids with a lower sulphur content are available but at a much higher price (see 'Costs' above.)
70. Railways are paying different prices for similar coal, with variations of up to £80 per tonne, and coordinated purchasing might benefit many railways.

Conclusions

71. Heritage railways bring big economic benefits to the communities they serve, as well as providing skilled jobs and apprenticeships in rural areas and worthwhile outputs for volunteers both young and old.
72. They bring social cohesion and have educational value for schoolchildren and students as well as their own environmental benefits.
73. Whilst most offer great scenery or an attractive seaside destination, the core of the offer to all visitors is the steam locomotive.
74. Whilst other fuels have been tried, coal is the only practical fuel for steam locomotives.
75. Emissions will be lower where locomotives are properly serviced and well fired, and their use is properly managed, with train lengths in line with demand.
76. The Government's policy, set out in its Clean Air Strategy will reduce the demand for domestic coal with the likely consequence that the mining of British coal suitable for steam locomotives will cease.
77. Advice from coal suppliers is that the 'heritage burn' of 35,000 tonnes a year is too small to sustain a mining operation along with the associated requirement for screening, washing and distribution. The range of requirements from 158 railways and thousands of other heritage road vehicles and boats makes distribution a particular difficulty.
78. Imported coal is possible for future use, but involves significantly higher levels of CO₂ emissions in transporting it to Britain than would be the case from UK sites.
79. Future coal supplies for heritage railways will be more expensive as an unintended consequence of Government policy, and may result in the curtailment of some heritage railway operations, or even line closures, as these are marginally profitable businesses, even with the extensive use of volunteer labour and generous financial support from volunteers.
80. Unlike the national network, heritage railways do not receive public subsidy, and the benefits they bring are a free good in terms of supporting a range of Government policies.

Recommendations

81. DEFRA should make clear in future environmental and strategy documents that there is no intention to prevent coal burning in steam locomotives either on heritage railways or on the main line network and this would include new build locomotives of classic design as well as existing heritage locomotives.
82. As the problems identified above arise from the unintended consequences of Government policy, the relevant Government departments (principally DEFRA, DCMS and Transport) should establish a group now with the Heritage Railway Association and the coal suppliers to explore ways to continue to supply heritage railways with suitable coal for the long term future, and how that might be funded.
83. Good practice on locomotive maintenance and management should be shared between railways and encouraged through the Heritage Railway Association.
84. Some railways should also be able to offset their carbon emissions through tree planting, associated with good maintenance and management of their steam locomotive fleet.
85. Heritage railways may be able to secure a better price for their coal through exploring joint purchases through the good offices of HRA.
86. In the short term, confidence in supply would be improved if consideration of planning applications for extending existing opencast sites could be expedited and if a longer transition period were included in Government plans.

All-Party Parliamentary Group on Heritage Railways***Constituencies and MPs including heritage railways and museums regularly using steam locomotives***

Amber Valley
Arfon
Ayr, Carrick and Cumnock
Barnsley East
Bexhill & Battle*
Birmingham Yardley*
Bishop Auckland
Blaydon
Boston and Skegness
Bosworth
Braintree
Brentwood and Ongar
Bridgwater & West Somerset*
Bristol West
Broadland
Buckingham
Bury North*
Carmarthenshire W & Pembrokeshire S
Central Suffolk and North Ipswich
Cheltenham*
Chichester
Cleethorpes
Clwyd South*
Copeland*
Derbyshire Dales
Dewsbury
Dover
Dwyfor Meirionydd*
East Antrim
East Hampshire*
Folkestone & Hythe *
Forest of Dean*
Harwich and North Essex
Hastings*
Henley
Inverness, Nairn, Badenoch & Strathspey*
Isle of Wight*
Keighley*

Kingswood
Leeds Central*
Lewes*
Linlithgow & East Falkirk*
Loughborough*
Louth and Horncastle
Ludlow*
Manchester Central
Mid Norfolk*
Montgomeryshire*
Newcastle-under-Lyme
Northampton South
North Cornwall*
North Devon
North Durham
North East Derbyshire
North East Somerset
North Norfolk*
North West Cambridgeshire*
North West Durham
North Wiltshire
Penrith & The Border
Preston
Richmond (Yorks)
Rushcliffe
Rutland & Melton
Scarborough & Whitby*
Sittingbourne & Sheppey
Somerton and Frome
South Dorset*
South Down
South Ribble
South West Bedfordshire*
South West Devon
Staffordshire Moorlands
Taunton Deane*
Telford
Tewkesbury*
Thirsk & Malton*
Torfaen
Totnes*
Tunbridge Wells
Tynemouth
Wantage
Wealden*
Wellingborough

Westmoreland & Lonsdale*
Wyre Forest *
Yeovil
York Central*

* Railways using significant quantities of coal are shown starred.

Total	88
Significant users of coal	36

List of Witnesses

We want to thank the following people in particular for help in putting together this report:

Darran Bown (Hargreaves Group)
Dr Thérèse Coffey MP, (DEFRA minister)
Robert Excell (ABTEM)
Andrew Forster (West Somerset Railway)
James Hervey – Bathurst CBE (Heritage Fuel Alliance)
Ralph Ingham (Keighley & Worth Valley)
Howard Johnson (North Yorkshire Moors Railway)
Julie Jones (Bluebell Railway)
Mike Kelly (East Lancs Railway)
Paul Lewin (Ffestiniog and Welsh Highland Railways)
Peter Milford (Swanage Railway)
David Morgan MBE
Jaap Nieweg (FEDECRAIL)
Steve Oates (HRA)
Barnaby Pilgrim (The Banks Group)
Chris Price (North Yorkshire Moors Railway)
Mark Smith (Heritage Railway Association)
Nigel Yaxley (Association of UK Coal Importers & Producers)

Acknowledgements

Bob Meanley (Tyseley Works and West Somerset Railway)
Tony Tompkins (Leighton Buzzard Narrow Gauge Railway)
Tom Bright (*Steam Railway* magazine, whose articles on coal have helped inform the discussion.)
Andrew P M Wright (Swanage Railway) for some of the images.



Steam train in the landscape
Swanage Railway at Corfe Castle



The Magic of Steam

Young visitors learn how it works on the Cleethorpes Coast Light Railway

The purpose of the All-Party Parliamentary Group on Heritage Rail is to brief parliamentarians about heritage railways, the contribution they make to their local and regional economies and the skills training opportunities involved. The Group has produced three reports:

- *The Value of Heritage Railways, July 2013*
- *Young People and Heritage Railways, July 2018*
- *Coal and the future of steam locomotives, July 2019*

Electronic or hard copies of this report can be obtained from the Group's secretary, Chris Austin at austinca2@googlemail.com