



# 'Green Credit' for Green Purposes

## Changing the Cash : Credit Ratio of the Money Supply to Ameliorate Climate Change

A Response to the Inquiry of the Treasury Select Committee  
into Climate Change and the Stern Review

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### Executive Summary

1. This submission undertakes a systemic analysis of money and public funding whilst proposing 'green credit' as a new economic instrument. It identifies 'state money', 'Government money' or 'cash' as not-interest bearing (NIB) and 'credit' as interest-bearing 'bank money'. We illustrate the parallels between the exponential growth of CO<sub>2</sub> emissions, the national debt and credit as part of the money supply as a whole. Long-term parallels illustrate how global warming cannot be curbed without curbing the growth of lending at interest. For exponential growth is unlimited and an indicator for unsustainable, unnatural and cancerous growth.
  2. Using the public statistics of the Bank of England<sup>1</sup>, the submission identifies the cash : credit ratio as a measure for changing the direction of current trends. An increase in the Government share of the money supply could fund environmental activities, lower personal, corporate and governmental indebtedness and allow Westminster to leverage budgetary control over the City.
  3. As formulated in [Early Day Motion 408](#)<sup>2</sup>, the submitters recommend adding public or 'green credit' to available policy means so that a maximum of activities to ameliorate global warming can be funded by Government. So far, there has always been enough money for war, but never enough for the environment. Green credit would increase the Government's budget and fuel the level of environmental activities at the speed required by climate change. As an ethical and green measure, the cash : credit ratio would indicate the balance between spending money for the common good and making money out of money through interest.
  4. In relation to the Stern review, the submitters invite the Committee to consider evaluating *3D Metrics*' prototype software for complex systems. Having proved rather successful for financial forecasting over daily and weekly intervals, this software has the capability of multi-scale modelling while handling multi-dimensional parameters and multi-variant data.
  5. Since this '3dM' software is independent of scale, it can handle short and long time intervals. As it is also independent of application, it can process data from financial, monetary and economic sources as well as climate change. Thus it is likely to prove more effective for future modelling and monitoring than the PAGE system used for the Stern report.
  6. In conclusion, this submission finds environmental taxation as unsuitable as borrowing to raise revenue. With a view to social impact and changing behaviour, our recommendation is the use of money not as a 'green stick' but as a 'green carrot': by using green credit, energy efficient buildings, a carbon neutral transport system and the use of renewable energies can become commonplace at the speed that is desirable and necessary.
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# Scenarios for Measures of Climate Change

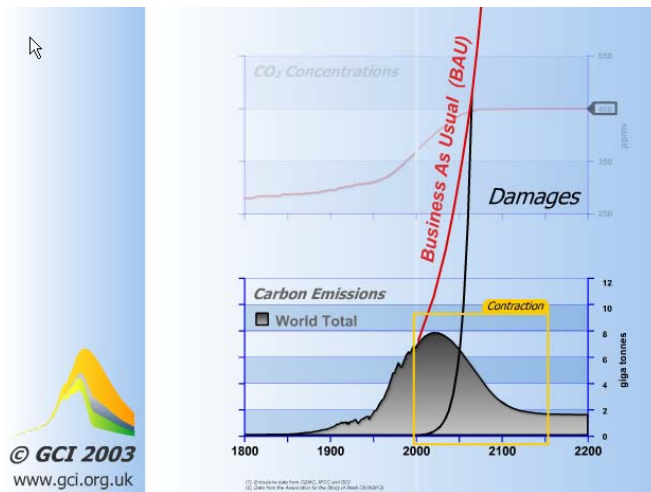
## The Global Commons Institute – London

7. In the graph below, the logo of the *Global Commons Institute* shows the exponential rise of emissions in giga tonnes of carbon since 1800. For the USA, China, India, the Rest of the World and the Rest of OECD the logo shows the past growth – and the limits that need to be achieved by 2200, if we want our planet to provide life for future generations.

## Contraction & Convergence – A Global Framework

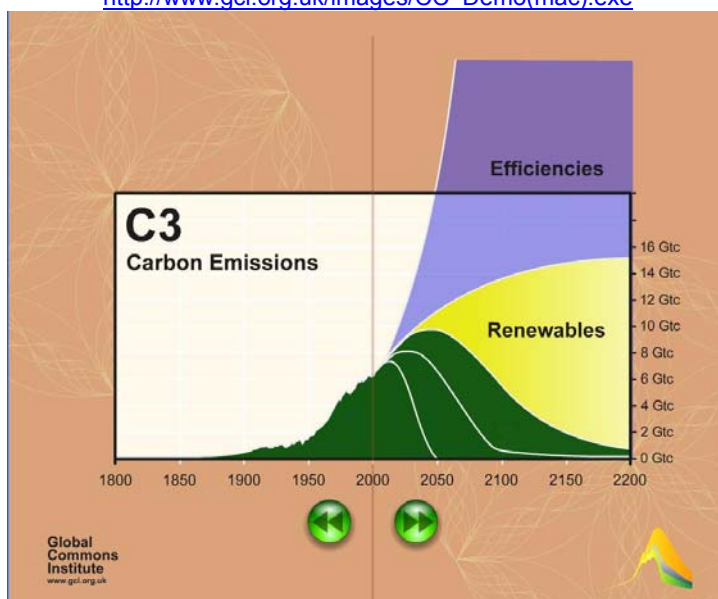
8. Within the internationally widely supported framework called *Contraction & Convergence*, the North and West of our globe have to contract their emissions so that, together with the South and the East, we can converge towards sustainable levels.

9. It should be obvious to every caring and thinking human being that Business As Usual can NOT go on perpetuating the exponential growth of our past behaviour, but that a limited earth demands thinking ‘limits’.



10. Curbing the exponential growth of carbon emissions means curbing the exponential growth of credit in the West that has expanded its economic thinking by calling it ‘globalization’.

[http://www.gci.org.uk/images/CC\\_Demo\(pc\).exe](http://www.gci.org.uk/images/CC_Demo(pc).exe) -  
[http://www.gci.org.uk/images/CC\\_Demo\(mac\).exe](http://www.gci.org.uk/images/CC_Demo(mac).exe)



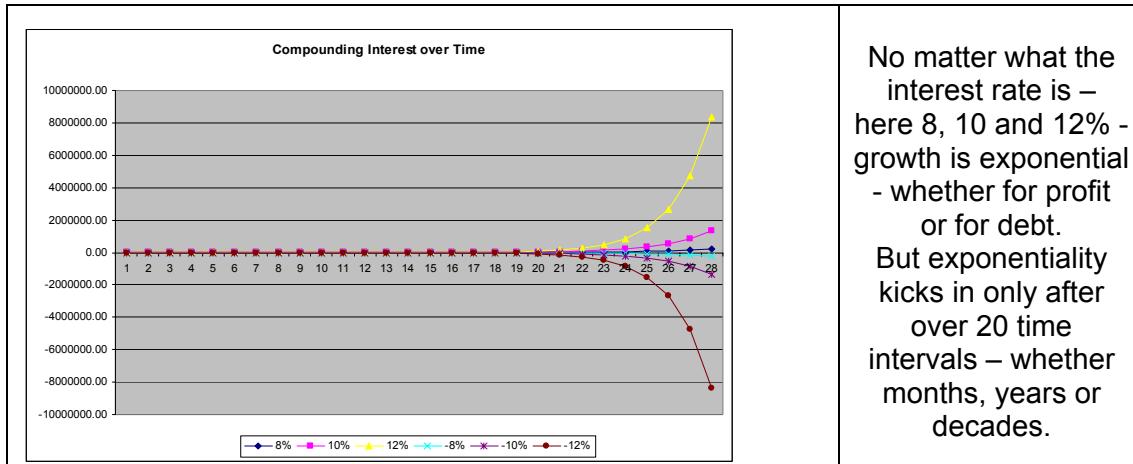
11. Curbing the exponential growth of credit means

- increasing the money supply through ‘cash’ rather than credit
- letting the Government control this growth through the demand for ‘green credit’
- using the cash : credit ratio as an ethical and green rather than economic money measure.

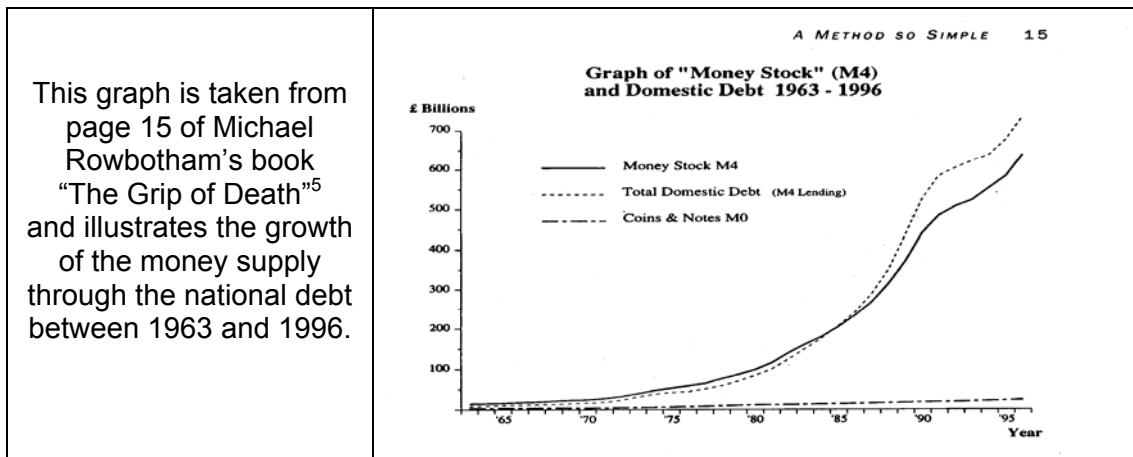
[http://www.gci.org.uk/images/Venice\\_Presentation.swf](http://www.gci.org.uk/images/Venice_Presentation.swf).

12. Using money not as a policy-making measure but to marshal human and natural resources should be our primary commitment – not only all over the country but also in Westminster and the City.

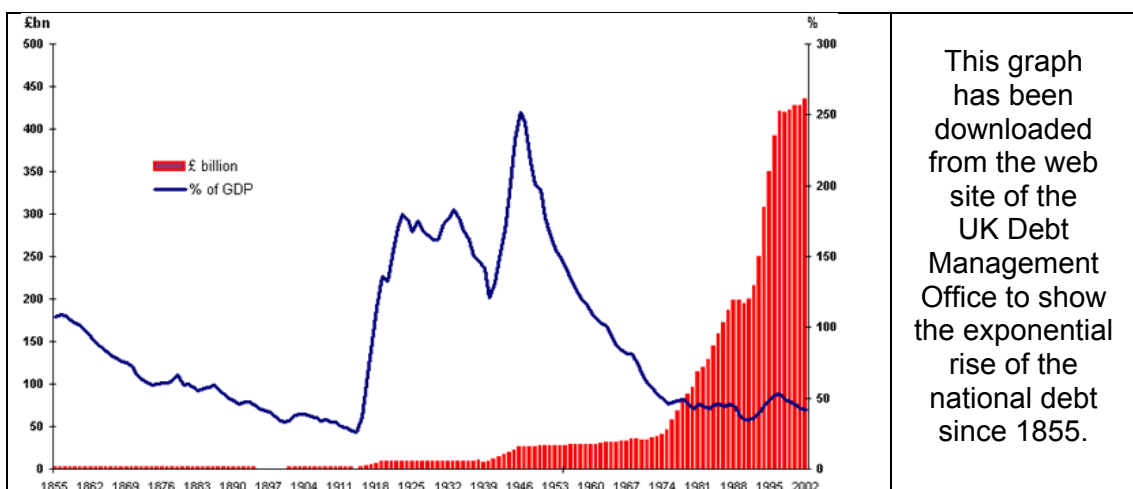
**Compounding Interest over Time – short and long-term**



**Money Stock (M4) and Domestic Debt 1963 – 1996<sup>6</sup>**



**The Exponential Rise of the National Debt: 1855 – 2002<sup>7</sup>**



Anyone who believes exponential growth can go on forever in a finite world is either a madman or an economist.

Kenneth Boulding (1910-1993), UK born economist, educator, systems scientist and interdisciplinary philosopher

## Recommendations for Action

### Green Credit for Green Purposes

13. In addition to taxation and borrowing, HM Treasury is recommended to use the not-interest bearing notes and coin measure to raise revenue and fund effective actions to protect our environment.
14. To maximise social impact, effective actions can consist of Government funded job creation besides grants to SMEs and voluntary and non-profit organisations that have 100% probability of being awarded.
15. The urgency of stopping climate change asks for innovation and growth at all levels, including money stock, policy means and money measures.

### Publishing the Cash : Credit Ratio of the Money Supply

16. In the spirit of parliamentary scrutiny and freedom of information, the Bank of England is recommended to publish
  - the total money supply
    - the cash : credit ratio in the money supply
    - the Not Interest Bearing (Nib) share in the money supply
  - the PSBR share in the credit supply
  - averaged interest of M4 and M4 lending as a guideline for Not Interest Bearing green credit limits
  - not only in monthly and quarterly but also yearly and 5-yearly intervals.

### Monitoring Budgetary Ratios between Government and City

17. In the spirit of a Labour Government, the Treasury Select Committee is recommended to monitor economic constraints for Government by monitoring the purpose of supplying, spending and making money:
  - The Government's budget (HM Treasury)
    - for spending cash or 'narrow money' into the economy
    - for Public Spending Borrowing Requirements (PSBR)
  - M4 from Monetary and Financial Institutions (MFIs)
    - for supplying the economy with credit or 'broad' money
  - M4 lending
    - from Private Non-Financial Corporations (PNFIs)
    - and Other Financial Corporations (OFCs)
    - for making money out of money through interest-bearing credit.

### Evaluating Correlations between Economics & Climate Change

18. The Treasury Select Committee is invited to investigate the advantages of new software methods that can model and monitor the economics of climate change by quantifying its parameters and ratios in new ways.
19. Such 'joined up statistics' regarding economics and climate change are likely to lead to new measures and ratios for clarity of understanding.

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