



## RSA CARBON LIMITED »»

### Practical solutions for personal carbon trading

Until now there have been some major barriers to the practical implementation of the personal carbon trading (PCT) concept. One of these has been exactly how to introduce, implement and manage PCT schemes that work in a simple way so people actually want to use them. How to capture, update and make available the energy use and emissions data a scheme relies on without putting the burden for doing so on individuals.

The Royal Society for the encouragement of Arts, Manufactures and Commerce (RSA) and Atos Origin have been exploring possibilities and solutions, to bring together the elements needed for a successful scheme: individual commitment, implementation via a national fuel retailer, automated data capture and automated account updating and trading via a web-portal.

By the end of a six-month pilot scheme, we were able to show how to overcome the technical implementation barriers to PCT schemes, and how the PCT concept might best be suited to local communities and organisations rather than being implemented by central government.

Just as importantly, we offer a brief snapshot of a possible PCT future in which a scheme is the basis for an entire network of personal, social and retail decisions that encourage people to live healthier and more responsible lives in numerous spheres of activity.

# ALMOST HALF OF ALL UK CARBON EMISSIONS RELATE TO BEHAVIOURAL DECISIONS BY INDIVIDUALS

## A FORCE FOR SOCIAL PROGRESS

For over 250 years the RSA has been a cradle of enlightenment thinking and a force for social progress. It is multi-disciplinary, politically independent and combines cutting-edge research and policy development with practical action.

The RSA Carbon*Limited* project is founded on the premise that climate change is one of the greatest barriers to social progress and can only be solved by the involvement of people working together.

Launched by David Milliband when he was Minister for the Environment, Carbon*Limited* is an Action Research initiative that explores the role of the citizen in addressing climate change. It was established in 2006 as a three-year programme to analyse the effectiveness, feasibility and public acceptability of the PCT concept.

## COLLABORATIVE INVESTIGATION

Since January 2007 Atos Origin has been working with the RSA to investigate different technology options for PCT schemes. A key operating principle was that the scheme must make innovative use of existing technology infrastructure where possible to be cost-effective.

We looked at options to capture energy in the home and early research indicated that both electricity and gas usage would probably be captured by providers. We therefore decided to focus our attention on the more challenging area of personal vehicle use – more challenging because people often buy fuel from different brand service stations. Five options for capturing fuel purchases were assessed:

- » A new standalone 'carbon card'
- » An existing loyalty card such as Nectar or Clubcard
- » Fuel card
- » Pre-pay financial card
- » Credit card.

Each option was discussed and explored with relevant stakeholders such as banks, retailers, energy businesses and non-governmental organisations. The objective was to understand how existing schemes operated and how they could support a scheme to capture the carbon implications of energy purchases.

The exercise included:

- » Defining the end-to-end business process of how transactions are currently captured and processed
- » Identifying the information captured and how this could be used to support a potential PCT scheme
- » Identifying the technology capable of supporting a PCT pilot to further our understanding of the issues and encourage discussion.

## OUR PCT PILOT

We wanted to work with partners who operated a national fuel retailer network and a loyalty card that was already in circulation. We were very pleased to have a supportive and positive response from BP and the Loyalty Management Group, who operate Nectar.

Atos Worldline (an Atos Origin company) already works with fuel retailers to process over 218 million transactions a year, so our capability, interfaces, security and reliability were 'a given', requiring no further proof. And the great advantage of a loyalty card such as Nectar is that it details individual purchases within an overall transaction – so fuel purchasing could be isolated from other service station products.

The involvement of both businesses was also crucial to scheme success as it helped to achieve the principle of using existing technology for cost-effectiveness.

## HOW IT WORKED

The six-month pilot was open to the general public, advertised in national newspapers, and went live in June 2008 with 100 volunteers.

Participants registered for the scheme by entering their Nectar card details on the CarbonDAQ web-portal. They then received notional carbon credits to cover their emissions.

Each time a volunteer bought fuel at any BP petrol station and offered their Nectar card, fuel purchasing data (amount and grade) was automatically captured from the transaction. The data was then sent to the volunteer's 'carbon account' and converted into equivalent CO<sub>2</sub> emissions. In other words, a fuel purchase was converted to a carbon purchase, which was then debited from a scheme volunteer's notional carbon credits. The entire process was automatically and seamlessly accomplished for every fuel and loyalty card transaction, without any input from the volunteer.

## EASY AND ACCURATE

Automatic account updating satisfied what we believe is a core requirement for a successful PCT scheme – it removes the burden from scheme volunteers to remember, and find the time, to update their own account. Not only does technology therefore make it easier for people to get involved in PCT schemes, but it also removes the potential for human error or forgetfulness, ensuring an account always presents an accurate picture of actual fuel purchases and carbon credits.

In our scheme, volunteers could review their carbon usage via their online account and at their convenience. Those using less credit than they were allocated could trade the surplus with people using more, for virtual currency. In this way, the pilot simulated incentives to encourage volunteers to reduce the emissions for which they are directly responsible, with car use merely representing one category (others including home heating and lighting).

## IMPORTANT CONCLUSIONS

Whilst the project did not (and could not) overcome or solve every potential barrier to PCT initiatives, it did reach some important conclusions and offer some practical lessons to any implementation of PCT. For example:

**Simple is best:** integrate with 'back-office' transaction functions and automate the capture process to make it as easy as possible for people to participate without having to manually input their own data.

**Find the right partners:** work with people who already have relevant expertise and can clearly see the personal, corporate and/or social responsibility benefits of their involvement in the scheme.

**Use your data:** don't just capture data, use it to build business intelligence and incentivise people to create a community driven to improve performance.

## ACHIEVEMENTS AND AIMS

The pilot scheme concluded in December 2008. The RSA is very pleased with the scheme's contribution towards a greater understanding of the value of positive persuasion when engaging citizens in climate change initiatives. The pilot has also shown that, when the right processes are in place, cost need not be a barrier to developing schemes. At the same time it generated a positive media response – including recognition from notable political leaders and others.

## IMAGINING THE FUTURE

There are any number of exciting and imaginative ways for PCT schemes to engage groups of citizens – helping local councils and public sector organisations to meet climate change legislation; businesses to grow in line with corporate responsibility, and citizens to feel that their efforts are being rewarded. Here are just three examples:

**Imagine:** A community energy model allied to a personal carbon allowance, providing a distinctly local, cohesive and creative way to improve local energy supplies. For a high carbon local authority the scheme helps to fund the costs of compliance; for a low carbon local authority, it leads to discount rewards.

**Imagine:** A PCT community in which carbon credits are used to support local environmental projects – and those people who maintain the most credits are awarded additional voting rights towards projects.

**Imagine:** A healthcare provider who awards PCT scheme members points in recognition of healthy behavioural changes. Points contribute towards business partner product purchasing such as healthy foods or sustainably sourced goods – creating an ever-widening pool of incentivised and rewarded carbon trading.

Swap 'healthcare provider' for the business of your choice and the possibilities are endless.



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**“The role of citizens in moving to a low carbon future is vital. Thanks to the technology solution provided by Atos Origin, we were able to undertake this unique trial to understand how a personal carbon trading scheme could operate in practice. We gained vital understanding about how people will interact with a PCT scheme, helping to take the debate forward.”**

**Matt Prescott**, former Director of the RSA's Carbon*Limited* project

## **BENEFITS OF WORKING WITH ATOS ORIGIN**

We are firm believers in seeking practical solutions to great ideas – making things happen in the real world. We also have a great deal of experience in processing millions of transactions and helping our customers to extract maximum benefits from the data they gather. We can:

- » Manage multiple stakeholders
- » Manage project and programme risk
- » Ensure full compliance with all legal and industry requirements
- » Offer a pay-per-transaction utility-based pricing model
- » Provide scalable solutions that grow in line with the success of a scheme
- » Deliver automated audit trails for millions of transactions, forming the basis for trend analysis and refining offers and incentives.

We work in partnership to build trust and share knowledge, and we maintain excellent communications to support people and their contribution to a project.

## **TWO CRITICAL OUTCOMES**

Greater understanding of how citizens can be engaged in the response to climate change. Innovative use of existing technology to demonstrate that there are cost-effective opportunities and solutions to explore.

## **ABOUT ATOS ORIGIN**

Atos Origin is an international information technology services company. Its business is turning client vision into results through the application of Consulting, Systems Integration and Managed Operations. The Company's annual revenue is EUR 5.5 billion and it employs 50,000 professionals in 40 countries.

Atos Origin is the Worldwide Information Technology Partner for the Olympic Games and has a client base of international blue-chip companies across all sectors. Atos Origin is quoted on the Paris Eurolist Market and trades as Atos Origin, Atos Worldline and Atos Consulting.

## **ABOUT ATOS WORLDLINE**

Atos Worldline is the European leader in electronic payments and transactions delivering innovative solutions to advance its clients' businesses. It specialises in end-to-end payment services (issuing, acquiring, payment solutions and card processing), services for financial markets as well as CRM and eServices (Internet, voice and mobile solutions). Every year Atos Worldline wins prestigious market awards in recognition of its continuous commitment to research and development of leading edge solutions. Awarded solutions cover expertise in areas such as mobile payments, secure IPTV, online CRM, paperless solutions. A 100% subsidiary of Atos Origin, Atos Worldline generates annual revenues of around EUR 800 million and employs over 4,800 people in Europe.

## **NEXT STEPS**

If you would like to know more about this solution please call +44 (0)20 7830 5444 or email [Info.WorldlineUK@atosorigin.com](mailto:Info.WorldlineUK@atosorigin.com)

A final report of the RSA Carbon*Limited* project is available from: [www.thersa.org](http://www.thersa.org)