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Community currencies: A new tool for sustainable consumptions?

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**Community Currencies: A New Tool for
Sustainable Consumption?**

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Abstract

Sustainable consumption is gaining currency as a new environmental policy objective, but there is a limit to the changes in consumption behaviour which individuals can make within current socio-economic frameworks. The 'new economics' literature argues that sustainable consumption is characterised by five factors: localisation, reducing ecological footprints, community-building, collective action, and building new social institutions. These form a set of indicators for evaluation of initiatives and policies. Community currencies have been put forward as a new tool to promote sustainable consumption, but until now there has been no appraisal of their ability to deliver this goal. Three different community currency types are described and their effectiveness and potential in enabling more sustainable consumption patterns is assessed against this set of indicators. The currencies examined are: Local Exchange Trading Schemes (LETS) which aims to rebuild local economies through cashless exchange; Time Banks promote volunteering, civic engagement and mutual self-help by rewarding unpaid work in the community; and the previously unresearched NU-card, a 'green loyalty point' currency which incentivises sustainable consumption. The findings of this preliminary analysis indicate that while they all represent nascent social institutions based on different sets of values to the mainstream, each model of community currency successfully achieves some, but not all, of the criteria for sustainable consumption. However, the currencies are complementary and between them each of the indicators is met. The policy and research implications of the study are discussed.

Keywords: sustainable consumption, community currencies, institutions, environmental governance, economic systems, localisation

1. INTRODUCTION

Sustainable consumption is gaining currency as an environmental policy objective, requiring widespread changes in behaviour at all levels of society to reduce the environmental impacts of consumption (DEFRA, 2003). While new international environmental governance institutions are growing upwards from state to global scale to tackle system-wide environmental issues, there is an increasing focus upon smaller-scale governance and citizen action at various sub-national levels, from local government to grassroots community groups and individuals (DEFRA, 2005; HM GOVERNMENT, 2005; SEYFANG, 2003a). New tools are needed to develop and enact these agendas within communities; this paper examines one such initiative, namely community currencies, and assesses its potential role in promoting sustainable consumption.

There is a growing policy emphasis on the role of motivated individuals to exercise consumer sovereignty and transform markets through the minutiae of daily purchasing decisions. However a sociological analysis of consumption suggests that the scope of individuals and groups to change their behaviour is limited by existing social infrastructure and institutions – systems of provision – which ‘lock in’ consumers into particular patterns of consumption (LEVETT ET AL, 2003; MANIATES, 2003; SANNE, 2002). ‘Systems of provision’ are vertical commodity chains (comprising production, marketing, distribution, retail and consumption in social and cultural context) which mediate between and link ‘a particular pattern of production with a particular pattern of consumption’ (FINE AND LEOPOLD, 1993:4). Within the ‘new economics’ literature, sustainable consumption is understood to require fundamental changes in lifestyles, economic and social systems to seek increases in quality of life rather than material consumption (JACKSON, 2004). It therefore demands a deeper understanding of the systems of provision which mediate consumption patterns, in order to transform these elements of social infrastructure at a fundamental level (VAN VLIET ET AL, 2005; SOUTHERTON ET AL, 2004).

Community currencies – local exchange systems using new types of money - have been widely advocated within this literature as a means of achieving these goals, and of articulating an alternative social infrastructure which enables and incentivises particular types of exchange relationships and consumption patterns (DOUTHWAITE, 1996; ROBERTSON, 1999; BOYLE, 2003; LIETAER, 2001; EKINS, 1986). While previous research has examined the role of community currencies as providers of informal employment for the socially excluded (SEYFANG 2001c, 2004c; WILLIAMS et al, 2001), as community-building tools (WILLIAMS, 1996; SEYFANG, 2004b), as grassroots responses to globalisation (PACIONE, 1999; TIBBETT, 1997) and as alternative economic spaces (NORTH, 2006; LEE, 1999; LEYSHON et al, 2003), their environmental implications have rarely been investigated (SEYFANG, 2001a is one exception). This paper addresses that gap in the literature by presenting the first review of community currencies as tools for achieving sustainable consumption, so opening up a new avenue of inquiry. It thereby makes a timely and original contribution to the debate on environmental governance by discussing the role and potential of community currencies to develop new institutions which enable individuals and groups to change their behaviour patterns.

It achieves this by first setting out the rationale for the new economics model of sustainable consumption, and the role within that for community currencies. From the new economics theory, a multi-criteria qualitative evaluation tool is developed to assess the effectiveness of initiatives at achieving sustainable consumption. In a preliminary comparative analysis, this is applied to three distinct types of community currency (Local Exchange Trading Schemes (LETS), time banks, and the previously unresearched Nu Spaarpas green savings scheme) which are described and evaluated according to the criteria outlined. Finally, the findings of this analysis suggest possible ways forward for community-based sustainable consumption, and these are discussed, together with appropriate policy recommendations.

2. SUSTAINABLE CONSUMPTION AND THE NEW ECONOMICS

Responsibility for environmental decision-making in its widest sense is shifting from central government to new sets of actors and institutions, at a range of scales (ADGER et al, 2003; JASANOFF and MARTELLO, 2004). Over the last 15 years, 'sustainable consumption' has become a core issue on the international environmental agenda (UNCED, 1992; OECD, 2002), and in 2003, the UK Government announced its strategy for sustainable consumption and production – which it defines as “continuous economic and social progress that respects the limits of the Earth’s ecosystems, and meets the needs and aspirations of everyone for a better quality of life, now and for future generations to come” (DEFRA, 2003:10). In practice, this emphasises decoupling economic growth from environmental degradation, to be achieved through a range of market-based measures, and calling on informed and motivated citizens to use their consumer sovereignty to transform markets by demanding improved environmental and social aspects of production and product design (ibid).

Critics of this approach point to a number of significant factors which they claim limit the effectiveness and scope of such a strategy. These are: that it relies upon market signalling, which in turn is based upon pricing regimes which systematically externalise social and environmental costs and benefits; that it fails to consolidate (in policy) improvements made over time, leaving them vulnerable to changes in consumer attention and concern; that it makes only consumer markets available to transformation, while significant consumption from producer industries, and institutional consumption through the public sector are immune to sustainable consumerism; that it neglects the social meanings and context of consumption which compete for influence with environmental motivation; that it affords the right to influence the market solely on those able to participate in that market; that it pits individuals against globally powerful corporations in an inequitable struggle; and most significantly, that it fails to see the social infrastructure and institutions which constrain choice to that available within current systems of provision (MANIATES, 2003; SANNE, 2002; SEYFANG, 2004a, 2005; SOUTHERTON et al, 2004; LEVETT et al, 2003; HOLDSWORTH, 2003; BURGESS et al, 2003).

Given that current systems of provision prevent significant changes in consumption patterns, what can be done to overcome this limitation? Alternative systems of provision, with associated social and economic institutions and infrastructure, require a foundation in alternative values, development goals, motivations and definitions of wealth (LEYSHON et al, 2004). Advocates draw out the political economy of, and richer sociological meanings attached to consumption and point to collective institutions as the source of potential change (MANIATES, 2003; FINE AND LEOPOLD, 1993). Such an alternative theoretical approach to environmental governance and sustainable consumption is proposed by a broad body of thought known collectively as the 'new economics' (EKINS, 1986; HENDERSON, 1995; DALY and COBB, 1990).

The new economics is an environmental philosophical and political movement founded on a belief that economics cannot be divorced from its foundations in environmental and social contexts, and that sustainability requires a realigning of development priorities away from the primary goal of economic growth (JACKSON, 2004). Although its traditions go back much further (LUTZ, 1999), the UK's New Economics Foundation (a self-styled 'think-and-do-tank') was founded in 1986 to promote these ideas in research and policy (EKINS, 1986). It proposes that environmental wealth, and the value of the labour of social reproduction which sustains communities and families, must be recognised, accounted for, and protected in order to strengthen inclusive, resilient communities and so support the market economy which rests upon this bedrock; this requires a redefinition of 'work' to value the unpaid work in society alongside formal employment, and a recognition that the realm of economic activity is not as commodified as has generally been presumed (ROBERTSON, 1999; GIBSON-GRAHAM, 1996; LEYSHON et al, 2003; WILLIAMS, 2005). It also stresses the benefits of

decentralised social and economic organisation and local self-reliance in order to protect local environments and economies from the negative impacts of globalisation (JACOBS, 1984; SCHUMACHER, 1993), proposing an 'evolution from today's international economy to an ecologically sustainable, decentralizing, multi-level one-world economic system' (ROBERTSON, 1999:6) or what is known today as the 'new localism' (FILKIN ET. AL., 2000). It is an equity-based understanding of environmental governance, drawing on 'ecological footprinting' indicators. These define and visualise environmental injustice in terms of the inequitable distribution of 'ecological space' (the footprint of resources and pollution-absorbing capacity) taken up by individuals, cities and countries; this inequity requires a reduction in the scale of material consumption among the affluent advanced economies (WACKERNAGEL AND REES, 1996). It calls for a new 'ecological citizenship' of humanity as a whole, one which expands across borders (as does environmental change) and which recognises the political implications of private decisions and so defines everyday activities of consumption as potentially citizenly work (DOBSON, 2003).

A new economics strategy for sustainable consumption would therefore embody the following five priorities:

- *Localisation*: strengthening local economies can occur through increasing the economic multiplier (the number of times money changes hands before leaving an area), which in turn occurs as a by-product of import-substitution or local provisioning.
- *Reducing Ecological Footprints*: cutting material consumption and waste levels can be achieved by through recycling, changing consumption patterns to cut demand, sharing facilities and resources, etc.
- *Community-building*: sustainable communities are robust, resilient, inclusive and diverse. Overcoming social exclusion, nurturing social capital, and developing active citizenship within participative communities are key aspects of this (REF).
- *Collective action*: this covers both acting collectively to influence decisions and deliver services, and also addressing questions of institutional consumption.
- *Building new social institutions*: creating new social and economic institutions – alternative systems of provision - which are based upon different conceptions of wealth, progress, value, etc, and through these allow people to behave as ecological citizens.

This set of indicators form the basis of a multi-criteria evaluation tool for sustainable consumption. This new evaluation tool is applied in a preliminary way in this paper to community currencies, a set of initiatives put forward by proponents of the new economics which are claimed to promote sustainable consumption. Before considering the initiatives to be evaluated, the rationale for community currencies will first be reviewed.

3. COMMUNITY CURRENCIES: A TOOL FOR SUSTAINABLE CONSUMPTION?

The new economics approach to sustainable consumption requires the development of new tools to put into practice the goals outlined above. One initiative which has been proposed is 'community currencies', the generic term for a wealth of contemporary alternative exchange systems which exist alongside mainstream money, and which have been springing up in developed and developing countries since the 1990s as a response to social, economic and environmental needs. The key to understanding the role and function of community currencies is to view all money systems as socially constructed infrastructure: the design of exchange mechanisms builds in particular purposes and characteristics to each type of money, which in turn promotes particular types of behaviour. Lietaer states "Money matters.

The way money is created and administered in a given society makes a deep impression on values and relationships within that society. More specifically, the *type* of currency used in a society encourages – or discourages – specific emotions or behaviour patterns” (LIETAER, 2001: 4). Mainstream money is a system which prioritises a narrowly defined range of economic activities, in isolation from social and environmental contexts, and so inhibits sustainable consumption. Therefore new systems of exchange need to be invented, specifically designed to serve different ends by taking a ‘whole systems’ approach to the economy-society-environment context of economic activity. While these may be less efficient from a purely economic viewpoint, they are actually *more* rational when one incorporates environmental and social factors into the equations (GRECO, 1994; BOYLE, 2002; SEYFANG, 2000; LIETAER, 2001). DODD (1994) proposes that the five essential characteristics of monetary networks are: accountancy, regulation, reflexivity, sociality and spatiality; a study by LEE ET. AL. (2004) maps out a range of community currencies against these criteria and finds that the alternative monetary networks each have those characteristics to different degrees and in different forms, and furthermore they differ from the mainstream monetary network in each of the five dimensions.

Alternative money systems are not new; efforts to reform, replace and redesign money have a long and rich history around the world as a tool to support local economies in times of recession (when conventional money is worthless or in short supply), and it is only in recent decades that the notion of having an exclusive national currency became the norm (SEYFANG, 2000; TIBBETT, 1997; DOUTHWAITE, 1996; BOYLE, 2002). In recent times they have emerged in both developed and developing countries as community responses to the economic, social and environmental pressures of globalisation and economic restructuring, and the social embeddedness of economic relations has become a more significant objective (SEYFANG, 2001b). For example, community currencies have arisen in Mexico, Uruguay, Senegal, Thailand, Japan (DEMEULENAERE, 2004), and in Argentina, alternative money systems traded in barter markets and conceived as a ‘solidarity economy’ by local environmentalists became real lifelines for much of the population during the national economic crisis in 2001-2 (PEARSON, 2003).

5. EXAMINING COMMUNITY CURRENCIES

This section reviews experience with three distinct types of community currency, each designed for a different purpose. It considers their characteristics and potential in terms of the five indicators of sustainable consumption defined above. The three community currencies discussed are: Local Exchange Trading Schemes (LETS) which aims to rebuild local economies; Time Banks which promote civic engagement and mutual self-help; and NU-Spaarpas, a ‘green savings’ currency which incentivises environmental lifestyle changes. Within the constraints of this paper, the findings (summarised in Table 1) are necessarily generalised and preliminary, offering an overview of the different models, but they lay the foundation for a new mode of analysis of community currencies.

5.1 A Green Local Economy: Local Exchange Trading Schemes (LETS)

The most common type of community currency in the UK is LETS, Local Exchange Trading Schemes. A LETS is a virtual currency to enable members to exchange goods and services without using cash, using local credits instead. Members of a LETS list their ‘wants’ and ‘offers’ in a local directory then contact each other and arrange their trades, recording credits and debits with the system accountant. No interest is charged or paid, so there is no incentive to hoard credits, and exchange becomes the primary objective (LANG, 1994; CROALL, 1997). Most LETS are small, voluntary organisations run by local activists, but they have increasingly been championed (and sometimes funded) by local authorities under the aegis of Local Agenda 21 as a tool for local economic renewal, community building and environmental sustainability. LETS was first established in the UK in 1985, and has since

grown to about 300 schemes in operation at present, with an estimated 22,000 people involved and an annual turnover equivalent of £1.4million (WILLIAMS et al, 2001).

The *localisation* impacts of LETS are evident in its design: this local money system was designed as a response to global restructuring, specifically to provide an abundant medium of exchange for a community to trade amongst itself, which circulates locally and cannot leave the area – so boosting the local multiplier (DOUTHWAITE, 1996). Research has shown that LETS deliver small, but significant, economic benefits to members, providing new opportunities for informal employment and gaining skills, and enabling *localised* economic activity to take place that would not otherwise have occurred, and prompting some import-substitution (WILLIAMS et al, 2001; SEYFANG, 2001c). Some LETS have evolved to issue local currency notes, enabling the currency to spread further in the area – even through local businesses in some areas. There is some evidence that LETS can help people to *reduce their environmental footprint*. They promote local suppliers of food and other goods, reducing ‘food miles’ and the hidden costs of international transport associated with the conventional economy; they promote shared resources among members of a community, and so cut individual consumption, for example lift-sharing, hiring equipment and facilities; and they encourage recycling of goods, as members find a market for their unwanted items (SEYFANG, 2001a). The *social and community-building* impacts of LETS are very significant, as are intended to build community and create ‘convivial’ economies, embedded in local social relations. Research has found that they build social networks, generate friendships and boost personal confidence, in addition to being socially inclusive: they offer interest-free credit to financially excluded groups (WILLIAMS et al, 2001; SEYFANG, 2001c). Despite this strong community-building ethos, LETS is an individualistic tool, and does not presently appear to have any potential to influence *collective or institutional consumption*. Finally, LETS is constituted as a complementary money system, and attempts to *redefine the institutions* of exchange in the following ways: some LETS operate on a principle of increased wage equality (though this is not a requirement); the medium of exchange is abundant rather than scarce; and the money is locally bounded (NORTH, 2006; LEE ET AL, 2004).

However, despite this potential, LETS have remained small and marginal in economic terms, due to a number of internal and external factors limiting their growth: there are large ‘skills gaps’ making it difficult to access staple goods and services through LETS; they tend to operate in ‘green niches’, attracting people who agree with the principle but have little time to participate, and indirectly excluding others; and government regulations deter benefit-recipients from participating by counting LETS earnings as equivalent to cash income (SEYFANG, 2001a, c; WILLIAMS et al, 2001).

5.2 Spending Time Building Sustainable Communities: Time Banks

The second wave of community currencies in the UK is ‘time banks’, which are based on the US time dollar model developed by Edgar Cahn, and aim to rebuild supportive community networks of reciprocal self-help, particularly in deprived neighbourhoods. A time bank is a volunteering exchange, with a central broker to coordinate members activities. Everyone’s time is worth the same – one time credit per hour – regardless of the service provided. Participants earn credits by helping others, and spend credits receiving help themselves (CAHN, 2000). The first UK time bank was set up in 1998, and in 2002 there were 36 active time banks, with 2196 participants in total, and nearly 64,000 hours exchanged (SEYFANG and SMITH, 2002).

The services provided on a time bank – neighbourly support such as dog-walking, gardening, small DIY tasks etc – tend to be locally-based by definition. But there is no net *localisation* effect, as the time bank creates new local networks and opportunities for exchange, and does not substitute for imports. *Reducing environmental impact* is not necessarily a key aspect of time banking, but nevertheless it is being used to promote more sustainable

consumption and environmental governance in a variety of ways. In north London for example, residents of an inner city estate will soon be able to earn time credits for recycling their household waste, and spend them on attending training courses or refurbished computers. Another London time bank rewards members with low-energy lightbulbs. Participation in groups which make local environmental decisions could also be rewarded. As indicated above, the primary rationale for time banking is *community-building*, and the projects are successful at developing social capital and new supportive networks. They attract members of the most socially-excluded groups in society (those who normally volunteer least), and are often introduced into marginalised areas where building trust and neighbourliness is a challenge which the conventional economy cannot meet. For socially excluded individuals and communities, whose skills are accorded no value in the mainstream economy, the opportunity to be valued and rewarded for one's input into community activity and for helping neighbours, is enormously empowering.

There is also a *collective action* aspect to time banking. In addition to the 'community time bank' model, time banks can also be used as a 'co-production' tool to encourage people to become involved in the delivery of public services which require the active participation of service users in order to be successful, for example health, education, waste management, local democracy, etc (CAHN, 2000) and "co-production is a framework with the potential for institutions ... to achieve the elusive goal of fundamental and systemic change" (BURNS, 2004). By rewarding and encouraging civic engagement, time banks could invigorate active citizenship. Finally, the most significant benefit of time banking, for many participants, is the opportunity to redefine what is considered 'valuable', in other words: *creating new institutions* of wealth, value and work (SEYFANG, 2004b,c). The radical of valuing all labour (or time) equally seeks to explicitly recognise and value the unpaid time that people spend maintaining their neighbourhoods and caring for others. Thus voluntary work is rewarded and so incentivised (rather than squeezed out by the conventional economic system which accords it no value and so undermines social cohesion) thereby ensuring that vital socially reproductive work is valued and carried out (SEYFANG, 2006). Time banks represent a new infrastructure of income distribution for society, where income is not dependent upon one's value to, and activity in the formal economy, but rather upon work – broadly defined (BOYLE, 2004; SEYFANG, 2006).

Time banks aim to overcome the 'green niche' limitations of LETS by being based in mainstream institutions (health centres, schools, libraries), paying coordinators for development and support work, and most importantly, for brokering transactions between participants (SEYFANG, 2002), but they still face obstacles in achieving their potential. These are: large 'skills gaps' in projects which again presents a limited range of services available; short-term funding mitigates against projects which take a long time to become established (annual project costs were estimated to be £27,300 in 2002); reciprocity is slow to materialise due to reluctance of participants to ask for help; and while the unemployed are officially encouraged to participate in time banking, those in receipt of disability benefits face particular obstacles from the benefit system (SEYFANG, 2003b, 2004b,c; SEYFANG and SMITH, 2002).

5.3 Rewarding Sustainable Consumption: Nu Spaarpas

The Nu Spaarpas (NU) scheme is a 'green loyalty point' currency which has recently been piloted in the Netherlands and has been unresearched until now. This currency is designed to promote environmentally-friendly consumer behaviour, and operates like a reward card (BIBBINGS, 2004). 'Green points' are earned when city residents separate their waste for recycling, use public transport, or shop locally, for example, and they can be redeemed for public transport tickets or discounts on sustainable products - in other words, promoting sustainable consumption using carrots rather than sticks (HOLDSWORTH and BOYLE, 2004). The points circulate in a closed-loop system, and card scanners in participating shops feed data into a central set of accounts. The initiative was a partnership between local

government, local businesses, and non-governmental organisations – specifically Barataria, a sustainability consultancy organisation. NU was introduced in the city of Rotterdam in the Netherlands in May 2002, and by the pilot's end in October 2003, 10,000 households had the card, over 100 shops were participating, and 1.5 million points had been issued (VAN SAMBEEK AND KAMPERS, 2004: 77).

Given that NU is a specific-purpose monetary tool designed to promote sustainable consumption, it is unsurprising that *localisation* and *reducing environmental footprints* are key outcomes of the initiative. As well as rewarding purchases from locally-owned businesses, extra points can be earned by purchasing 'green' or 'ethical' produce (such as organic food, fairly traded goods, recycled products, rental, repairs etc) at a range of participating local stores. The points are redeemed for discounts off more sustainable consumer goods, public transport passes, or cinema tickets (in other words, spare capacity in existing provision which incurs no additional costs), or donated to charity. Thus there are incentives to change consumption behaviour when both earning and spending the points, and private businesses benefit at the same time as public goals are met. However, in contrast with the other two cases examined here, there are no specific *community-building* impacts of NU: it is an individualistic mechanism, coming into play when individuals make consumption decisions (though it is socially inclusive, as points can be earned without financial expenditure). Despite this, it does have a role to play in channelling *collective action* through the public sector. NU was founded by Rotterdam Municipal Authority and prompted by several government objectives: reducing the volume of waste entering landfill, promoting public transport use, and generally raising environmental awareness and the practice of sustainable consumption. NU therefore has a direct impact on the provision of public transport, as well as waste separation facilities. Lastly, NU *creates new institutions* of exchange. If the market effectively incentivises unsustainable consumption (by externalising social and environmental costs), then NU is a prototype system which reverses those hidden subsidies by rewarding more sustainable behaviour, simply altering the relative prices of sustainable versus unsustainable goods. It anticipates the internalisation of social and environmental costs and sends appropriate price signals, and is easily understood by a public accustomed to savings points: "the NU card scheme can present itself as a reliable channel for sustainability, and also offers low-threshold information that the consumer needs at time of purchase" (VAN SAMBEEK AND KAMPERS, 2004: 77).

Of the three alternative money systems examined here, NU is the most 'mainstream', as it exists comfortably alongside conventional money in regular everyday transactions. The pilot NU project adopted a high-profile, professional marketing approach to raising public awareness of the scheme, and cost €2 million to establish and run for the trial period; there are plans to make the card scheme self-sustaining financially, through charging clients (eg government) for meeting their objectives using the scheme (VAN SAMBEEK AND KAMPERS, 2004). The main barriers to success faced during the project related to the experimental nature of the pilot, and to developing the project as it evolved – creating publicity material that successfully attracted participants, persuading retailers to take part and install the card scanners, etc.

Table 1: Evaluating Community Currencies As A Tool For Sustainable Consumption: Key Findings

Sustainable Consumption Indicator		LETS		Time Banks		NU
Localisation	👍	Economic tool, locally-bounded money to boost local multiplier, employment and self-reliance.	👎	Community self-help is primarily locally-based anyway, so no net localisation.	👍	Rewards buying from local businesses.
Reducing Ecological Footprint	👉	Some evidence of reducing resource use: sharing facilities, recycling, localisation cuts transport costs (eg food miles).	👉	Time banking concentrates on services, not material consumption. Some developments in rewarding recycling etc.	👍	Incentivises recycling, public transport, local, organic and fair trade products and energy efficiency.
Community-building	👍	Large social and community benefits, boosting social cohesion and inclusion.	👍	Very large social and community benefits: boosting social inclusion and social capital.	👎	Individualistic tool. But inclusive (not dependent upon spending money).
Collective Action	👎	Individualistic rather than collective action tool. Promoted by local government to mitigate poverty and unemployment.	👍	Promoted by central government to build capacity in voluntary sector and deliver public services. Could be basis for 'co-production' model of public service provision, and reward active citizenship.	👉	Individualistic tool, but promoted by local government. Influences public sector action in transport and waste.
New Social Institutions	👍	Some egalitarian measures eg minimising wage disparities. Capacity to value non-marketed work. Abundant medium of exchange. Localised monetary design.	👍	Central principle of valuing all types of work equally, rewarding unpaid community efforts. Reciprocity and mutuality.	👍	Points system adjusts relative prices to incentivise sustainable consumption. Anticipates internalisation of social and environmental costs and benefits.

6. CONCLUSIONS AND POLICY IMPLICATIONS

Community currencies have been put forward as a new tool to promote sustainable consumption, but until now there has been no appraisal of their ability to deliver this goal. An innovative evaluation framework was derived from the 'new economics' literature which stipulated that sustainable consumption embodies the following characteristics: localisation, reducing ecological footprints, community-building, collective action, and building new social institutions. Three different community currency types (LETS, Time Banks and NU) were described and their effectiveness and potential in enabling more sustainable consumption patterns was assessed against this set of indicators. The findings of this preliminary analysis (shown in Table 1 above) indicate that each model of community currency successfully achieves some, but not all, of the criteria for sustainable consumption. This is due to the different purposes for which each currency was designed (ie whether there were primarily economic, social or environmental objectives). For example, LETS and time banks deliver large social and community benefits, but NU is focused instead on market transactions; meanwhile NU is specifically aimed at reducing environmental footprints through incentivising recycling and public transport use, while LETS and time banks only partially achieve environmental objectives as a by-product of other goals.

However, there is one indicator of sustainable consumption which each of the community currencies delivers: they are all fledgling attempts to build new social and economic infrastructure founded upon different values to mainstream systems of provision. They create new incentives, structures and institutions within which society transacts, so re-orienting it towards new sustainability goals. Indeed, they are prized channels for the expression of values which are squeezed out of the conventional economy. To achieve this, they: provide a medium of exchange which operate alongside national currency to provide new opportunities for economic and social activity; they are place-specific, retaining roots in local communities, and they circulate within a given area and do not drain away, boosting local self-reliance; they can correct the misleading market signals offered by the conventional economy, allowing the internalisation of social and environmental costs and benefits; and finally, they recapture 'work' from the formal economy and place it at the centre of a 'whole systems' approach to the economy, valuing and rewarding the unpaid work of social reproduction and so nurturing the development of social capital, cohesive communities and active citizenship.

Furthermore, the three types of community currency are found to be complementary to each other: between them they succeed at achieving all the criteria for success, and so it might be argued that an effective sustainable consumption strategy requires a diverse range of alternative exchange mechanisms, each designed to target different areas of the development agenda. They demonstrate that the existence of plural monetary infrastructures is possible, and is effective at enabling more sustainable consumption patterns, albeit on a small scale. In so doing, they point to possible future developments which might take these principles and evolve them into something embedded within daily life for millions of people, transforming society's behaviour, either by scaling up of existing projects, or alternatively by reproducing small-scale operations at the local level, creating a web of interacting local currencies. The scale issues of community currencies are a subject for further research. These examples are suitable for local applications; other types of currency could similarly be designed for other scales of circulation and function, resulting a multi-tiered variety of currencies, each designed for their role. For example, an international currency for global trade could co-exist with national currencies suited to taxation and public spending on infrastructure, sub-national regional currencies to promote economic development, and local economic and social currencies (SEYFANG, 2000; BOYLE, 2003; ROBERTSON, 1999; LIETAER, 2001).

While the scale of these examples is presently small, they have demonstrated that they do achieve their objectives and have the potential to achieve much more if scaled up and mainstreamed. But community currencies are not a blanket cure-all for sustainability. Their individual success is dependent upon being adapted to the particular local situations, social contexts and objectives of the initiatives, and while generalised models are available, they should be fine-tuned to the location and objective they are targeted at. In addition, while the grassroots, bottom-up self-help origins of some community currencies (notably LETS) provides much enthusiasm and vitality, which may become lost if incorporated into top-down policymaking agendas, it is also possible to view the current manifestations of community currencies as experimental prototypes for future multi-currency developments. In this case, the less positive aspects of bottom-up organising (existing in a niche, volunteer burn-out, unintentional exclusion) might be mitigated by incorporating elements of a more mainstream, high-profile top-down approach. Time banks, for instance, are implemented in more of a top-down manner, and have penetrated groups in society normally considered marginal and isolated from community-building efforts, but they retain sensitivity to local situations and seek to be as locally-rooted as possible (for instance by employing time brokers already known and trusted in the locality, and by multiplying as small groups, rather than seeking to scale up).

Therefore a number of policy changes are required in order for the initiatives to overcome the barriers they currently face, for this evolution to occur as organically as possible. First, secure long-term funding is the greatest need identified to allow each of these projects to develop and grow over sustained periods, attracting broader cross-sections of members and becoming more established in society at large. Second, governments need to recognise the benefits delivered by participation in community currencies as being valuable for local economies, communities and environments. Community currencies benefit those on the margins of society – those on low incomes and outside the labour market for whatever reason; it is perverse that current state benefit regulations penalise those very groups from participating, and they need to be changed to reflect this. Third, government should embrace the possibilities offered by community currencies to deliver public services more effectively and achieve policy objectives across a range of areas – community capacity-building, poverty-alleviation, waste management, public transport provision, health and welfare - using alternative exchange systems as a tool to access places, social groups and motivations beyond the reach of the conventional economy.

The new evaluation framework used in this study offers enormous potential for further research and refinement, to aid the understanding and development of new tools for sustainable consumption. The identification of a set of indicators has highlighted precisely how some initiatives score better than others, in different areas, and allows policymakers to work with a simple checklist of factors to consider. In particular, a set of more detailed examinations of a range of case study initiatives – including community currencies - will facilitate the wider adoption of the evaluation tool in assessing progress towards sustainable consumption. A key characteristic of resilience and adaptability is diversity. The challenges facing us across the globe demand action both to mitigate, and adapt to environmental, social and economic change. Arguably, a diverse range of systems of provision, extending beyond the confines of current mainstream institutions and into increasingly self-reliant and empowered communities, will prove the best defence against external shocks. The policy challenge now is to support those fledgling initiatives seeking to build new institutions for environmental governance, and enable them to grow, thrive and propagate. Supporting alternative development goals and values alongside the familiar market infrastructure is the key to a diverse, robust economy within which sustainable consumption can be an effective process of change.

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