



## CHAPTER 5

# THE GREAT TURNING: IS IT THE ESSENTIAL ADVENTURE OF OUR TIME?

R. Kok, V. Vasseur and J. de Viron<sup>1</sup>

## 5.1. INTRODUCTION

The societal shift from an industrial growth society to a life-sustaining civilization is called the Great Turning. The Great Turning is a concept introduced by Joanna Macy, David Korten, Barbara Marx Hubbard and other visionaries.<sup>2</sup> Today the concept has become more rewarding as a conceptual framework.

We would like to use a longer quotation, as Joanna Macey (2009) explains the turning in a magnificent way.

“*The Great Turning is a name for the essential adventure of our time: the shift from an industrial growth society to a life-sustaining civilization. The ecological and social crises we face are inflamed by an economic system dependent on accelerating growth. This self-destructive political economy sets its goals and measures its performance in terms of ever-increasing corporate profits – in other words by how fast materials can be extracted from Earth and turned into consumer products, weapons, and waste.*

*A revolution is underway because people are realizing that our needs can be met without destroying our world. We have the technical knowledge, the communication tools, and material resources to grow enough food, ensure clean air and water, and meet rational energy needs. Future generations, if there is a livable world for them, will look back at the epochal transition we are making to a life-sustaining society. And they may well call this the time of the Great Turning. It is happening now. Whether or not it is recognized by corporate-controlled media, the Great Turning is a reality. Although we cannot know yet if it will take hold in time for humans and other complex life forms to survive, we can know that it is under way. And it is gaining momentum, through the actions of countless individuals and groups around the world. To see this as the larger context of our lives clears our vision and summons our courage.’*

So, the Great Turning is a name for the transition from an industrial growth society to a life-sustaining civilization. It identifies a shift from a self-destroying political economy to one that is in harmony with Earth and that is enduring for the future. It unites and includes all actions being taken to honour and preserve life on Earth.”

- <sup>1</sup> We would like to thank all our interviewees and survey respondents for their time and valuable inputs. We would also like to thank the editor of this book and the anonymous reviewers for their constructive comments and suggestions. The authors are much obliged to the DuurzaamDoor project and the Province of Limburg for their financial support.
- <sup>2</sup> Macy, J. (2009); <https://www.ecoliteracy.org/article/great-turning> accessed 15.05.2017.

It is the essential adventure of our time and our common understanding is growing; we need to change our way of thinking and behaving on this finite planet. According to Jan Rotmans et al. (2014) a change is underway in the Netherlands and abroad.<sup>3</sup> A change of perspective on all matters, both big and small. On a local scale, this includes producing our own food and generating our own energy. Change on a global scale could for instance include decreasing the pace of deforestation. We need to change the way we deal with people from developing countries. We should see them as potential important change agents who can teach us once more what a healthy relationship towards nature and each other is. Undoubtedly, these big and small issues are intertwined. After all, life is about relationships: *Life is relationship, without relationship there is no life, living* as the Indian philosopher Jiddu Krishnamurti (1975) says.<sup>4</sup>

In order to explain 'the Great Turning' phenomenon in more detail, this chapter presents an innovative project using locally produced sustainable energy as a means of exchange. The work of Bernard Lietaer and Ken Wilber is used to further explain our reasons for addressing this topic, including our methodology and resource needs. For instance, we need to understand the relationship between regional cultural orientations, development of new business models and individual orientations (man and worldview, personal leadership).

We will start with the important relationship between money and sustainability, an often-overlooked link in modern times. This relationship must be understood to make progress

in the Circular Economy. Our key message of the chapter is threefold:

1. There is a Great Turning underway. It is necessary.
2. We need an ecosystem of exchange media. Without this it is impossible to implement a Circular Economy. We need to develop other exchange mechanisms than only the Euro, Yen or Dollar.
3. In Maastricht we experimented with an alternative to a money monoculture. Our most important results are described later.

## 5.2. MONEY AND SUSTAINABILITY

Lietaer et al. (2012) argue in *Money and Sustainability – the Missing Link* that our economy will face perpetual problems if it depends on only one central currency, namely the Euro in Europe.<sup>5</sup>

According to Bernard Lietaer et al. (2012) the global monetary system is a monoculture in which the same type of exchange medium is put into circulation. Currencies have been created through bank debt; a monoculture that tends to spawn a brittle and unsustainable system. The structural solution needed to give sustainability a chance, albeit totally unorthodox in current times, is to diversify the available exchange media and the agents that create them. For this reason, Bernard Lietaer et al. (2012) explain that in times of monetary monoculture, there is a need for a *monetary ecosystem*.

### *The Fiat Currency Paradigm*

The 'official storyline' of money is that governments, like any household or organisation, must raise money to pay for their activities. This is done either through

3 Rotmans, J., M.J. Van der Linden, H. Toxopeus, S. Verbruggen (2014); *Verandering van tijdperk, Nederland kantelt.* Aeneas, Boxtel. [Change of an era. The Netherlands at tilting point.]

4 Krishnamurti, J. (1975); Retrieved from: [www.krishnamurtibookstore.com/product-p/9781888004595.htm](http://www.krishnamurtibookstore.com/product-p/9781888004595.htm) accessed 03.08.2017.

5 Lietaer, B., C. Arnsperger, S. Goerner and S. Brunnhuber (2012); *Money and Sustainability, the missing link.* Report from the Club of Rome [www.triarchypress.com](http://www.triarchypress.com) accessed 10.04.2017.

debt (by issuing bonds) or by generating income (through taxation). In this story, banks simply act as intermediaries, collecting deposits and lending parts of that money to creditworthy institutions and individuals, including governments (Lietaer et al., 2012).

However, since 1971, when fiat currency became universal, this story became complete fiction. Fiat currency is money created out of thin air, for instance when commercial banks do not always offer ensure new loans that are backed by savings. The Fiat Currency Paradigm is an alternative interpretation with the primary purpose of taxation being the creation of demand for a currency (e.g. Euro) that otherwise has no intrinsic value (Lietaer et al., 2012). *And here it comes: it's only the obligation of paying taxes in the chosen currency that gives this currency its value!* Therefore, any currency could have the role of the Euro were it to be taxed.

Sovereign government can attribute value to anything by requiring it in the form of tax payments. There are taxes on income, food, inheritance, fuel, alcohol, cigarettes, the barber etc. etc.

The question therefore arises: 'why not pay taxes in sustainable energy or by delivering healthcare?' Governments could thus determine the kinds of sustainable or unsustainable efforts its citizens must make to obtain the chosen currency. Although this interpretation has impressive academic backing - and it makes a lot of common sense - it is being ignored by the 'official storytellers'. In their storyline, governments are completely powerless in the face of an all-powerful, self-regulating, and anonymous 'financial market'. In the Fiat Currency Paradigm, given the nature of a currency, governments could conceivably choose to give value to other currencies, promoting sustainable development,

in parallel to bank-debt money (Lietaer et al., 2012). To meet the challenges of the 21<sup>st</sup> Century governments will be required to do this, as the need for monetary alternatives<sup>6</sup> has been felt during past financial crises (for instance the 2008 financial and monetary crisis). Past and future financial crises were and will be highly destructive for mankind and nature alike. Michel & Hudon (2015) argue that there is a need to move away from conventional monetary systems as they have been shown to be unsustainable due to ever-growing economic disparities and depletion of natural resources. It is said that the scarcity of natural resources on which current society depends, global climate change, and the associated geopolitical and social tensions are expected to worsen economic disruptions. A monetary monoculture is therefore not compatible with sustainability. What may be more difficult to perceive is to assess how some mechanisms that are built into our current monetary system shape collective and individual conduct, even when there is no crisis. On the positive side, modern money can be credited by triggering scientific and entrepreneurial innovation without any historical precedent.

However, Bernard Lietaer et al. (2012) also pinpoint other mechanisms that prove to be directly incompatible with sustainability. These mechanisms are:

- *Amplification of boom and bust cycles:* Banks withhold or provide funding to the same countries or sectors at the same time, thus amplifying the business cycle towards boom or bust. Such amplification is detrimental to everyone, including the banking sector itself. In the worst-case scenario, we would revert to where we were during the 'height' of the banking crisis: when banks stopped trusting each other.

6 Michel, A., M. Hudon (2015); *Community Currencies and Sustainable Development: A Systematic Review, Ecological Economics*, vol. 116, pp.160-171.

- *Short-term thinking*: the 'Discounted cash flow' method is a standard practice in every investment evaluation. As bank-debt money carries interest, discounting all future income or costs inevitably tends to lead to short-term thinking.
- *Compulsory growth*: The process of compound interest or 'interest on interest' imposes exponential growth on the economy. Yet exponential growth is, by definition, unsustainable (or rather: impossible) in a finite world.
- *Concentration of wealth*: the middle class is disappearing worldwide at an alarming rate. It is the main bearer or 'pillar' of democracy and the real economy. Most wealth is flowing to the top, increasing the rate of poverty at the bottom. Such inequalities are generating a broad range of societal problems (e.g. crime) as well as being detrimental to economic growth. Aside from the economic issue, the very survival of democracy may also be at stake.
- *Devaluation of social capital*: Social capital is built on mutual trust and results in collaborative action. Although this type of capital has always been difficult to measure, measurements have been made. Past results have revealed a tendency for social capital to be eroded, particularly in industrialised countries. Recent scientific studies demonstrate that money tends to promote non-collaborative and selfish behaviours, which are surely not compatible with long-term sustainability.

Far from being a behaviourally passive and neutral medium of exchange, as is generally assumed, conventional money deeply shapes a range of behavioural patterns. These patterns are incompatible with sustainability. The continual imposition of a monopoly on this type of currency has a direct negative effect on the future of humanity on our planet.

### 5.3. THE NEED FOR A MONETARY ECOSYSTEM

Lietaer (2015) argues that there is a need for a monetary ecosystem.<sup>7</sup> This means, amongst other things, complementary currencies existing alongside the conventional monetary system. Those currencies would provide structural stability by increasing the economic system's resilience and efficiency. Strengthening local exchange and promoting local economies directly fosters responsible purchasing behaviours and encourages local employment (Lietaer, 2015). Thomas Greco (2013) defined three main problems related to money: money is inequitably distributed, centrally controlled, and has a growth imperative within itself.<sup>8</sup> Bernard Lietaer (2017a) argues that money circulates in a complex flow network.<sup>9</sup> Furthermore, he argues that Gross Domestic Product (GDP) is the sum of all the transactions using the currency. The monetary system is becoming increasingly separate from the economy's productive capacity, with approximately 95% of monetary value now being in the financial sector. This results in instability: the tail wags the dog, so to speak. The current economic model also has catastrophic ecological consequences and is inefficient (Collins, Schuster, and Greenham, 2013).<sup>10</sup>

7 Lietaer, B. (2015); Bernard Lietaer on monetary ecosystems, Ecuador, Greece and Bitcoin, [www.youtube.com/watch?v=dlx6tC5p9I4](http://www.youtube.com/watch?v=dlx6tC5p9I4), accessed 10.10.2017.

8 Greco, T. H. J. (2013a); Interview with Thomas H. Greco Jr. - Writer, consultant and networker: School of Business and Economics. Also Greco, T. H. J. (2013b). Taking moneyless exchange to scale: measuring and maintaining the health of a credit clearing system. *International Journal of Community Currency Research*, vol. 17, pp. 19-25.

9 Lietaer, B. (2017a); Bernard Lietaer Talks About Money & Sustainability & Cryptocurrencies. Bitcoin Wednesday, Amsterdam. [www.youtube.com/watch?v=JUDCaKy3L34](http://www.youtube.com/watch?v=JUDCaKy3L34), accessed 10.10.2017.

10 Collins, J. R., Schuster, L., & Greenham, T. (2013). *Energising money: An introduction to energy currencies and accounting*. nef, 78.

Indeed, money has a growth imperative although growth is limited on a finite planet (Greco, 2013). Thomas Greco (2013) argues that there needs to be a shift from a focus on increased consumption and output to improvements in quality of life. *From a focus on quantitative growth to a focus on qualitative growth.*

The fact that there is a monetary monoculture is one of the reasons why our economy is so unstable (Lietaer, 2011).<sup>11</sup> A monoculture has the benefit of being efficient. However, such a culture does not provide resilience. The paradox of growth in the conventional economic system is that it is 'uneconomic' as its costs outweigh the benefits, namely: climate change, ocean acidification, energy shortages and so on (Collins et al., 2013).

*To conclude:* there is a growing demand for other ways of doing business, ways that take caring for nature and humanity into account. If today's society does not transform how it uses money, no life-sustaining civilization is possible. The next section provides a short overview of energy consumption in the residential sector and describes nine systems on which an energy-backed currency could be based. Some examples are given to provide a better understanding of how energy-backed currencies could be implemented.

#### 5.4. RESIDENTIAL SECTOR AND NINE WAYS TO AN ENERGY-BACKED CURRENCY

In Europe, the residential sector is responsible for approximately one third of energy consumption and for approximately 16% of total carbon dioxide (CO<sub>2</sub>) emissions. According to the EIA (2016), households in Europe accounted for 21% of the world's total

residential energy consumption in 2012. Despite a 19% increase in energy efficiency in the household sector in EU-27 countries over the 1990-2008 period, final household electricity consumption increased by 13% over the same period. There are many factors that explain this upward trend, such as the increase in the number of households, greater demand for comfort, and an increase in electrical home appliances (Eurostat, 2013). Households can minimise their energy consumption by, for example, increasing the energy efficiency of their appliances or by undertaking energy saving activities. Another method, which is often overlooked, is the exchange of energy.

Lietaer et al. (2012) promote the development of an ecosystem of currencies, which may include energy-backed currencies. The principal idea is as follows: 'Why not pay (in part) for goods and services using an energy currency?' You can use this currency to make transactions, for instance buying bread at your local bakery, or paying your local taxes. This currency is not only backed by trust - like the Euro - but also by locally-generated renewable energy, which helps the greater sustainable transition in the Netherlands and abroad. As the aim here is to strengthen local communities, help people meet their basic needs, and vitalise their local economy, it is important that local municipalities join the currencies. Lietaer et al. (2012) mention nine systems to create an ecosystem of currencies. These systems are described below and were used as a starting point for our DuurzaamDoor project in Maastricht. Four public and five private systems are offered for an ecosystem of currencies with varying benefits. Not all nine systems need to be implemented for the benefits to become apparent. Each country, region, city or community can decide individually which kind of system it wishes to implement.

<sup>11</sup> Lietaer, B. (2011). *Bernard Lietaer: Money diversity, Poptech.*

Together with other designs already in operation, each smart combination of new exchange media offers an appropriate monetary ecosystem the chance to emerge. However, some of these systems will ultimately fail. As in nature, the strongest and most successful types will spread spontaneously. A lot can be learned from these new concepts, including appropriate governance systems for the different types of currencies and the role of participants. Lietaer et al. (2012) present four public examples:

- *Torekes*: this is a neighbourhood-based initiative promoting social and environmental behaviour to encourage volunteering. It increases social cohesion in economically vulnerable neighbourhoods. The project has been running since 2010 in the city of Ghent, Belgium.
- *Biwa Kippu*: this is a proposal for Japan's Biwa Prefecture to fund labour for the ecological restoration and maintenance of Lake Biwa, the oldest and largest lake in Japan. The project could be either obligatory or voluntary for households in the area.
- *Civics*: this proposal empowers a region or city to fund civic activities without 'harming' their (Euro) budgets. These activities could provide labour for educational, social and/or ecological projects. This system could also be partially compulsory.
- *ECOs*: this is a national or Europe-wide system funding critical components of large-scale ecological projects, such as climate adaptation and prevention projects. ECOs are an interest-free currency issued by governments. Governments then require businesses to provide a contribution proportionate to their total sales, payable only in ECOs. This proposal is the most controversial of the nine mentioned in the book, as it could be viewed as a new

type of corporate tax on the largest corporations. Such an initiative may require governments to 'declare war' on the runaway climate change or on other ecological issues such as deforestation.

The five private systems, started by both NGOs and enterprises, are:

- *Doraland*: a system proposed for Lithuania. The purpose of this system is to create a 'Learning Country' in which everybody can volunteer to learn and/or teach, and be rewarded in Doras. Doras is a currency, the purpose of which is to help people realise their dreams. This system would best be implemented by an NGO.
- *Wellness Tokens*: an NGO initiative working in cooperation with preventive health care providers. They deal with issues before health problems arise, taking a prevention stance. Wellness Tokens encourage and reward healthy behaviours and, in doing so, reduce medical expenses for society in the long term.
- *Natural Savings*: a financial savings product backed fully by living trees. This would offer a savings currency with inflation protection superior to that of any national currency. It would simultaneously provide an incentive to reforest areas, thereby creating long term carbon sinks. It also works well for micro-savings.
- *C3*: a Business-to-Business (B2B) system that reduces unemployment. This system provides working capital to small and medium-sized enterprises (SMEs). The network's clearing currency can be converted into conventional money and would be backed fully by high-quality invoices. Banks and the insurance industry both play critical and profitable roles in this system.

C3s are working today in Uruguay and Brazil. Uruguay accepts C3s in payment of all taxes.

- **TRC:** the Trade Reference Currency is a global B2B currency proposal. This currency would make it profitable for multinational companies to think long-term, thereby resolving the conflict between short-term financial corporate priorities and long-term environmental and social needs. It would be a crash and inflation-proof global currency. It is backed fully by a basket of commodities and services relevant to the global economy. The TRC would be a global currency distinct from any existing national currency, thereby reducing the risk of geopolitical tensions around monetary zones of influence.

### 5.5. CASE: THE DUURZAAMDOOR PROJECT IN MAASTRICHT

The sections below describe experiences with a project in the city of Maastricht, the Netherlands. It shows what is possible during the Great Turning and what could be encountered while making progress. In our view, it is important to find out what works and what doesn't. The project started in Maastricht in September 2016 and will run until December 2017. The project is part of a Dutch national knowledge programme 'DuurzaamDoor' and is called 'Locally-produced sustainable energy as value-creator'.

Introducing a new currency requires (local) governments to participate and collect taxes in this new currency. According to Lietaer et al. (2012), this gives the currency a legal status and could thus increase demand for the currency. Governments could issue Energy Money (e.g. Local Ms) and tax most of it again from their residents, which increases acceptance levels

amongst users. In this system, a local 'eBay' may arise in which the local currency could be exchanged for Euros and vice versa. This contributes to the system's flexibility: it offers people the opportunity to work for more Local Ms than they need and exchange them for Euros to pay for goods and services outside Maastricht for everyday life. The involvement of a healthcare provider creates an opportunity to exchange energy for healthcare and vice versa.

The goals of the DuurzaamDoor project are fourfold:

1. to explore and develop a local example of developing sustainably-generated energy as a currency;
2. to raise awareness among stakeholders of the concept of locally-produced sustainable energy as a value-creator. This includes exploring the options of using and/or producing sustainable energy in the Maastricht community;
3. to construct valuable business cases; and
4. to derive lessons learned in Maastricht for future projects and create an (inter) regional framework for cooperation. A Multi Criteria Analysis (MCA) was conducted as part of the project in order to achieve the first two goals.

Two of the main challenges facing society in the 21<sup>st</sup> Century are the transition towards sustainable energy generation and consumption, and global economic instabilities (Kok, 2017).<sup>12</sup> The central research question of the MCA was, therefore: 'how can the dual problem of a slow sustainable energy transition and the negative local effects of global financial instability be tackled in Maastricht, with a focus on energy as a means of value exchange?'. According to Joséphine de Viron et al. (2017), the MCA is a tool to compare different options based on prior-defined criteria.<sup>13</sup>

<sup>12</sup> Kok, R. (2017); *Locally produced sustainable energy as a means of value creation. In de tussentijd. [In the Interim] Venlo, NL*  
<sup>13</sup> Viron, J. de, L. Missaire, D. Vangenechten, Z. Turcot, Z. (2017); *Energy as a means of value creation. ICIS Maastricht.*

Using this tool provides a rational and transparent decision on the best option(s). The main role of an MCA is to help decision-makers process an abundance of information in the most consistent way possible (Dodgson et al., 2009).<sup>14</sup> MCA's aim is to rank the different options, make the decision-making process as transparent as possible and obtain stakeholder approval for implementing a solution (De Ridder et al., 2007).<sup>15</sup> During the above-mentioned study, three 'systems' were developed using academic literature and group discussion:

- a token based system, both including and excluding 'taxation' by the municipality of Maastricht;
- a peer-to-peer exchange system for sustainable energy;
- a microgrid to exchange energy (for instance in a local district of households).

One of the conclusions of the MCA is that the token-based option in which the municipality is an active participant achieves the highest score. According to Joséphine de Viron et al. (2017), local tokens may operate in a legal grey area. As there is no definite legal framework prohibiting or framing the implementation of such a system, stakeholders could arrange this as they choose. The Airbnb and Uber cases faced similar legal conditions. Their new business models took governments and the legal community by surprise. The same authors state that it is possible that national policymakers would adapt the legal framework to prohibit the system if it became too big in terms of value, or would impose taxes to get their share of the pie. They mention four basic conditions:

- the system should be circular, it must flow throughout the local economy;

- the system should, to some extent, make the local economy resilient to (external) shocks;
- the system should be backed by clean energy;
- the system should stimulate the (local) use and (local) generation of sustainable energy.

According to Joséphine de Viron et al. (2017), shops as well as citizens in their role as consumers would have an incentive to pay (part of) their local taxes in tokens. In turn, the municipality can reinsert the tokens in the system, enhancing the flow and circulation of tokens in the local economy. Moreover, the way in which the municipality chooses to reinsert the tokens into the local economy can provide additional benefits. The municipality could for example subsidise social and cultural organisations with tokens instead of Euros, or provide tokens to marginalised groups as part of poverty alleviation programmes.

However, the authors point out that these systems have clear limitations. Firstly, a neutral coordinator is required who can regulate the system by issuing tokens, and can register people and organisations that want to use this system to invest in sustainable energy infrastructure. Secondly, the different energy providers would need to work together effectively to make the system work. In the current, fiercely competitive energy landscape, this is highly unlikely. A possible solution for this problem could be to follow the Energy Notes example provided by Collins et al. (2013). In the Energy Notes system, an electricity cooperative would be the initiator and only organisation in the system. People and organisations would want to invest in renewable energy infrastructure

<sup>14</sup> Dodgson, J., M. Spackman, A. Pearman, L. Phillips (2009); *Multi-criteria analysis: a manual*. London, UK: Department for Communities and Local Government.

<sup>15</sup> Ridder, W. de, J. Turnpenny, M. Nilsson, A. Von Raggamby (2007); *A framework for tool selection and use in integrated assessment for sustainable development*. *Journal of Environmental Assessment Policy and Management*, vol. 09(04), pp.423-441.

and therefore switch to the same (ideally local) energy provider as the cooperative, thus eliminating the problem of provider cooperation stated above. De Viron et al. (2017), underline that the use of an MCA does not take into consideration that the three options could work together for better results. Indeed, it could be easier to exchange energy in a peer-to-peer barter system if the two people exchanging values were on the same microgrid. It could also be possible to have a microgrid in the energy-backed token system. This would effectively eliminate the problem of energy provider cooperation, as no external providers would need to be included in the system. Moreover, by excluding these providers, the added value would stay local and within the system. The advice is to bear in mind that the MCA examined the potential of each option to reach certain objectives, given by experts, stakeholders, and literature. They identified but did not take into consideration various pre-conditions that should be met in order for the systems to work. For the best option (the token system) to function properly, some conditions should be met. These minimum conditions are that:

- the system should be safe;
- the system should be dummy-proof and instinctive;
- 'agents of change' should be present in the system;
- the system should be embedded in and adapted to the cultural mindset;
- the system should be regulated and initiated by a party with extensive expertise such as knowledge about technicalities, legal frameworks, and the system;
- there should be a level of consciousness & leadership within the community in which the system is implemented;
- the community in which the system is

- implemented should accept change,
- change its behaviour & accept the new system (level of learning should be high);
- the system should be implemented in a community in which trust and good relationships among the possible actors are common;
- it should receive sufficient funding when necessary.

### 5.6. BLOCKCHAIN TECHNOLOGY AND SUSTAINABILITY

To implement a token-based system, blockchains may help in the development of new digital currencies. Bernard Lietaer (2017b) describes a blockchain as a digital bookkeeping mechanism.<sup>16</sup> It is a tool that records the transactions of crypto-currencies in a chronological order and is available to the public. According to Shlomo Benartzi (2017) blockchain is creating the 'Internet of Money' that allows users to make transactions freely and directly.<sup>17</sup> She states that there is no need to ask permission or pay gatekeepers to make transactions.

She also argues that Blockchain is a database and a long record of all transactions that have taken place, making it possible to operate reliably and without the need for a central point of control within a network. All blockchains are linked together in a global network and operate the system together. Benartzi argues that blockchains decentralise control, shifting society from a pyramid to a web, offering greater access to opportunities and consensus on what is valuable. Blockchains are viewed as the foundation for the evolution of financial systems and there is a global consensus about this. Blockchains enable new kinds of models that have never been seen before; models that were not possible with Internet 1.0 or offline.

<sup>16</sup> Lietaer, B. (2017b); *The Conservative Greek PensionToken*.

<sup>17</sup> Benartzi, G. (2017); *The Value Revolution: How Blockchain Will Change Money & the World*. TEDxWhiteCity.

Blockchains are the technology behind Bitcoin, a user-generated crypto-currency that allows digital money to be sent securely over the public internet directly between users, without any intermediary (Benartzi, 2017). Moreover, Bernard Lietaer in Joséphine de Viron (2017) confirmed in an interview that energy-backed currencies are a good and feasible solution in addressing problems relating to monetary systems.

*In conclusion:* de Viron et al. (2017), state that the token system involving the municipality is indeed the best option for consideration. Local conditions, however, can play a big role in the acceptability and feasibility of the different options. Although, the local token system scores highest on the criteria mentioned by citizens and stakeholders in Maastricht, these same people may be reluctant to participate in that system. This is paradoxical according to the authors. They advise introducing a peer-to-peer barter system, which is a smaller and more acceptable transition for people to adapt to and could at the same time increase trust. It could also change the cultural mindset and pave the way for the acceptance of a token system. However, the above-mentioned study did not assess the likelihood of a sustainable breakthrough. In other words: it is not clear if and how the introduction of an energy-backed currency would enhance the sustainable transition.

In Maastricht the project addressed societal and environmental problems, which are to be solved through smart use of sustainable energy. During the project we discovered that the two problems concerning this issue are 'flexibility' of labour and the 'energy poverty' of an increasing population in the Netherlands. People are finding it more difficult to obtain a good and steady job that offers them a sense of meaning, pays the bills, and provides a future. These two problems can be linked together.

## 5.7. STRATEGY DEVELOPMENT: LINKING SMART USE OF ENERGY AND LABOUR

Why not pay people partially in sustainable energy while simultaneously reducing their consumption of energy? This strategy could include employees and volunteers of various organisations. Based on the token system mentioned by de Viron et al. (2017), the tokens could also be used at a later stage for other basic goods such as healthcare and food. The tokens could also be exchanged for Euros to pay for other goods and services. As it promotes social inclusion, the DuurzaamDoor project links to the Circular Economy. It also helps the energy transition, because more clean energy can and will be generated. Energy could also be used more efficiently by paying for energy-reducing appliances at participants' homes. We aim to determine the social impact of the project, which is why we have kept the energy questions and answers (which energy provider, how to generate more energy, etc.) as simple as possible. The same holds true for technical questions, including how to implement blockchains to make payments transparent and easy to use. Dutch law states that volunteers are allowed to receive €2.50 an hour or €1,500 a year, tax free. This could also be paid, for instance, in clean energy. During a new project phase we will test how volunteers can be paid in clean energy and how their energy consumption can be reduced. The tokens earned through volunteering could be used to lease or purchase low-energy appliances, such as an A++ label washing machine.

This is also a way to make more people aware of the Circular Economy and make it a common practice. Although Maastricht could be a starting point to implement an ecosystem of currencies, we are not restricted to this region. We aim to work on a token-based system in any region under the right conditions: a municipality

in favour of sustainable energy that embraces 'out the box' solutions to today's societal problems, a community that wants to work with us and an organisation open to this approach. De Viron et al. (2017) took a systems approach: how could such a system work and what would it look like? However, during the final part of our project we are looking for positive change within organisations and their staff. What would work quickest, what is the easiest way and involves the least effort? We need to use this approach due to the highly complex nature of the issue.

*In conclusion:* we will base our approach to the final part of our project on two insights that emerged during inspirational group meetings and from the results of the de Viron et al. study (2017):

- volunteers should be compensated for their social contribution through the offer of locally-generated clean energy and energy-consumption reduction in their household. This energy could be generated in partnership with their NGO or as a contribution from the community (citizens and/or organisations). These reductions will be enabled, for instance, by buying/leasing energy-reducing appliances (e.g. washing machines) and home insulation;
- employees could receive partial payment for their work in sustainable energy; energy produced, for instance, by their employers/company. Their home could also be insulated and other energy-reducing actions could be taken.

We have based our approach on the four above-mentioned private systems (Torekes, Biwa Kippu, Civics and ECOs). We have not yet taken a decision on which one to implement. As stated in the introduction to this book, the Circular Economy is a multidisciplinary human endeavour. Indeed, the Circular economy combines ecological, economic, technological,

institutional, psychological, biological, social, and cultural aspects.

Despite the potential and clear benefits of a Circular Economy for most of us, the transition process does not seem to be easy. Many factors hinder entrepreneurs and other actors from enjoying the positive benefits. The Circular Economy requires collaboration within chains and networks, which is why we are seeking collaborative action that deepens and broadens options for entrepreneurs and other active people. As stated in the introduction, this is relevant since we seek to increase people's capacity to act. We cannot continue to be trapped in a state of apathy, because the problems are perceived as being too large to overcome.

## 5.8. ALL QUADRANTS, ALL LEVELS, AGAIN

To have a positive impact on the world we need to understand ourselves and our environment (natural and manmade). We need a (inner) compass and a good map. As mentioned in the introduction (chapter one), the AQAL model combines collective and individual aspects with inner and outer aspects. Inner and individual aspects refer to a person's personality, their personal value orientation, and/or their convictions. The outer and collective aspects refer to culture, shared values, and collective identity. These vary by nation, region, and domain. As described in the introduction, outer and individual aspects refer to a person's economic and social behaviours and activities. Collective and outer aspects are expressed in institutional structures, regulations, and other forms of collective systems. Ken Wilbers' model enables the relevant factors to be combined in an interdisciplinary approach. This is promising for developing future action plans. A transformation can only take place when the four quadrants are interlinked in a dynamic and not static way. Our working hypothesis is that the 'higher' one is in each quadrant

(development), the higher one will be in the other interlinked quadrants. For instance, working towards an 'integral self' will provoke an integral culture and worldview and vice versa. The inner is the outer and vice versa. The authentic self (I) and the authentic combined selves (WE, IT, ITS) are intertwined.

### 5.9. DUURZAAMDOOR & ALL QUADRANTS, ALL LEVELS

The partners of the DuurzaamDoor project have a high intrinsic motivation. They work hard to get things going. They show leadership, make others enthusiastic and convince others to join. This is the 'I' of the project. We are aiming for the 2<sup>nd</sup> tier (integral self), where we acknowledge that everything is connected. This is the part of the population known as 'cultural creatives' (Ray & Anderson, 2008).<sup>18</sup>

120

*Cultural Creatives are people who are deeply spiritual without being dogmatically religious, and who enjoy technology and economic prosperity but not at the cost of the environment or community. They understand the world holistically and are deeply committed to non-ideological politics that emphasize practical solutions. Thus, they represent a dramatic departure from the traditional value system of religious fundamentalists and the modernist worldview of much of the scientific and business community. Not since the Enlightenment, when the modernist worldview began to emerge, has there been such a profound realignment in fundamental human values. Cultural Creatives are the emerging wisdom culture.<sup>19</sup>*

The challenge also lies at the individual level where behavioural change needs to take place. There is a need for a radical reduction in individual energy use, through lower consumption, improved lifestyles, and a shift towards renewable energy (Collins, et al., 2013). The 'IT' of the project receives a lot of attention; the subsidies provided by the Province of Limburg for the DuurzaamDoor project include strict rules on what is required and what needs to be accomplished. To name a few: organising two public meetings, reporting on lessons learned and describing the business model. Also enabling exchange between healthcare and energy production places a significant focus on this quadrant. It is very important to use quiet time ('meditation') during the project to keep societal chaos at bay, remain sensitive to synchronicity and to get things done easily. It is very hard not to fall into the trap of working faster and faster - business as usual in our current culture. According to Wilber in MacDonald (2000), meditation will also help in becoming a Cultural Creative; it aids both the 'I' and the tasks that need to be accomplished. 'ITS' get its place in the project by determining where the resistance in the dominant system lies: legal, financial, institutional, etc. Questions include: 'is it legal to pay people in clean energy and if so, to what extent?' Rules are made to keep current society stable, not for abrupt and swift changes or flexibility in the system. The attitude 'This is how we do things', prevails. We aim to change the informational state of communities: value communities/integral commons. Positive change can happen here.

How and why we change the collective through this project is the 'We' of the project. We change our inner and outer worlds. We challenge others to barter, do things differently and be creative. We (the partners) are change agents and, through our connection with others, we

change the culture. With the project, we aim for an integral or holistic worldview. During the project, we are sensitive to the roles we are assigned to play. Partners can be 'active' in all four quadrants, while some partners will have a certain preference (by nature, nurture or by representing a special interest or organisation). All are welcome, because we also encounter this outside the project boundaries. We learn by connecting the four quadrants explicitly.

What do others say (implicitly) about the model provided by Ken Wilber in MacDonald (2000) regarding the energy transition?<sup>20</sup> Gorissen, Spira, Meynaerts, Valkering & Frantzeskaki (2017) define a sustainability transition as 'a radical transformation towards a sustainable society, as a response to a number of persistent problems confronting contemporary modern societies.'<sup>21</sup> The authors state that those transformations happen in the structure, culture and practices of current society and can be derived from either self-examination or in response to external pressures for change. These are all elements that can be interpreted using the *all Quadrants, all Levels* model. Gorissen et al. (2016) add that transitions happen faster when they are contextual and when there is cooperation, because they are a local response to global sustainability issues. Rotmans stated during a seminar lecture given at Maastricht University that an energy transition is characterised by a shift from a centralised energy system to a decentralised one, from fossil fuels to renewables, and from top-down to bottom-up (de Viron, 2017).

Rotmans affirms that the transition takes place

in the physical infrastructure, mental structure (culture) and practices. He also stresses that the cultural shift is the most difficult one to achieve. He states that a transition is a power shift in which fossil fuels are the regime that has the power, but the niches (renewables) want to attain that power. There is a shift from a paradigm in which demand is lower than capacity to a paradigm in which energy consumption is dependent and limited by energy generation capacity (Sgouridis, 2014). Sgouris Sgouridis (2014) argues that the two options for a sustainable energy transition are self-regulating market mechanisms and government intervention.<sup>22</sup> The Circular Economy is not only the transformation of production based on nature's principles, but also a transformation of cultural identity and a transformation of institutional systems. Leadership (inner and outer) and personal beliefs are key factors. It is about making the Great Turning...

### 5.10. TELL ME... WHY

On the one hand, in business-related activities, it is now normal to ask *Why* and then go on to ask *How and What* (Sinek, 2009).<sup>23</sup> Why do we do the things we do? And can we do things differently? Can we do the right things in an ecological and social smart way? The personal and the collective also seem to have overlapped according to Wilber in MacDonald (2000). According to Bohm (Storoy, 2014), the collective consciousness of mankind is extremely significant; this collective consciousness is truly one and indivisible. The responsibility of each human is to contribute

20 Macdonald, C. (2000); A Review of Ken Wilbers' A Theory of Everything: An Integral Vision for Business, Politics, Science, and Spirituality, in: *Integralis: Journal of Integral Consciousness, Culture, and Science*, Vol. 1, No. 0. [www.wisdompage.com/toerev.html](http://www.wisdompage.com/toerev.html), accessed 15.05.2017.

21 Gorissen, L., F. Spira, E. Meynaerts, P. Valkering, N. Frantzeskaki. (2017); Moving towards systemic change? Investigating acceleration dynamics of urban sustainability transitions in the Belgian City of Genk. *Journal of Cleaner Production*. Vol 30 pp.1-15.

22 Sgouridis, S. (2014); Defusing the Energy Trap: The Potential of Energy-Denominated Currencies to Facilitate a Sustainable Energy Transition. *Frontiers in Energy Research*, 2(8). [doi.org/10.3389/fenrg.2014.00008](https://doi.org/10.3389/fenrg.2014.00008) \

23 Sinek, S.(2009); Retrieved from: [www.youtube.com/watch?v=u4ZzJKF\\_VuA](https://www.youtube.com/watch?v=u4ZzJKF_VuA), accessed 15.08.2017.

“I do not know if you have noticed that there is understanding when the mind is very quiet, even for a second; there is the flash of understanding when the verbalization of thought is not. Just experiment with it and you will see for yourself that you have the flash of understanding, that extraordinary rapidity of insight, when the mind is very still, when thought is absent, when the mind is not burdened with its own noise. So, the understanding of anything - of a modern picture, of a child, of your wife, of your neighbor, or the understanding of truth, which is in all things - can only come when the mind is very still. ... So, the mind that is chattering, that is verbalizing, cannot understand truth - truth in relationship, not an abstract truth. There is no abstract truth. But truth is very subtle. Like a thief in the night, it comes darkly, not when you are prepared to receive it.”<sup>25</sup>

toward building this consciousness of mankind. ‘There’s nothing else to do, there is no other way out. That is absolutely what has to be done and nothing else can work.’<sup>24</sup>

On the other hand, we see the importance of creativity and art. In almost no other human endeavour, besides science and meditation, is there the opportunity to change direction in such a fundamental way as in creative arts. When artists are in the moment they bring art from ‘somewhere’ into this world. Humans need silent moments to be creative; they need to be silent to create a sustainable world.

Furthermore, Bernard Lietaer et al. (2012) state that, for the population at large, perhaps the theme of greatest importance is to understand non-linearity. Learning is needed to understand it, specifically the difference between linear and exponential growth. Today we are dealing with an increasingly non-linear world. Grasping these different dynamics is useful in understanding what is happening to us and around us, and what we can do about it. Meditation helps to understand these

dynamics and see ‘hidden’ patterns; hidden in, or to, an ‘unaware’ mind. In short: it is vital to understanding non-linearity. It gives us insights and the energy to move on. Not only insights about the greater world, but insights about ourselves - the small but important things living in us. During his long life Jiddu Krishnamurti said ‘that to learn you have to unlearn. Our social, cultural, and environmental conditioning blocks a profound understanding of what truth is.’

### 5.11. TRANSCEND TO THE SECOND TIER

We have a lot of work to do. In both the outer and inner world. We thought we had all the time in the world. We were wrong. According to Earth Overshoot Day there is little time left.<sup>26</sup> We need to act. Business as usual is no longer a viable option if Humanity wants to remain safely on Earth.

We have been pushed to the second tier and to the Great Turning. In simple words; we need to get our act together. Not out of fear, but out of understanding. And meditation requires

<sup>24</sup> Storoy, D. (2014); Retrieved from: [www.scienceandnonduality.com/david-bohm-implicate-order-and-holomovement/](http://www.scienceandnonduality.com/david-bohm-implicate-order-and-holomovement/) accessed 07-08-2017.

<sup>25</sup> Krishnamurti, J. (1995); *The Book of Life: daily meditations with Krishnamurti*. HarperCollins Publishers, New York, NY.

<sup>26</sup> Earth Overshoot Day arrives earlier each year. Earth Overshoot Day marks the date when humanity’s demand for ecological services and resources in a given year exceeds what the Earth can regenerate in that year. We maintain a deficit by liquidating stocks of natural resources and accumulating waste. This waste is primarily carbon dioxide in the atmosphere. In 2016 Earth Overshoot Day was on 8 August. This year it is 6 days earlier, on 2 August (Earth Overshoot Day, 2017). In the rest of the year we are using up, so to speak, the Earth’s natural capital.

full understanding. According to MacDonald (2000), Wilber mentioned the importance of meditation: *'It has been shown...that meditation increases the percentage of the population who are at second tier from less than 2 percent to an astonishing 38 percent.'*

### 5.12. NEWLY ACQUIRED INSIGHTS

Writing this chapter of the book helps us to integrate the Ken Wilber model in how we think and act for our DuurzaamDoor project. It made explicit what was implicit, we must make progress on all quadrants of the model. And we need to understand ourselves so that we can move to the 2<sup>nd</sup> tier. To be authentic is to find levels of change; in our project and in working with other people. To work at this high professional level, you need a mentor or coach; a mirror. Someone who also tells who you are and where you can grow even more. During the project, we found a 'societal' gap. We are doing important work and it is now up to us to mend the gap, in this project and with its spin-offs. It requires a good 'business ship' to get the most out of this societal gap. Other newly acquired insights are:

- you need a clear vision for the future embedded in such things as other projects or programmes;
- social innovation is complex. Complex in the sense that there are no simple, straightforward answers. You search backwards and forwards for answers. You solve big and small problems in one go;
- you must aim for the long haul. Prepare for this. Get your team in order;
- you need to have the right business models (or value case) to get a project going and perhaps find new value cases;

- you need to go from theory to practice and back to theory to find new ways of dealing with the Circular Economy;
- surround yourself with intrinsically motivated people working from the right perspective;
- you need to get people from different backgrounds involved in your project. Doing modern day business means building a community of people around a common purpose;
- you need to be part of a bigger movement. The Dutch sustainable programme DuurzaamDoor opened doors for us. We needed this 'quality' stamp at the time;
- you solve common problems with a Circular Economy project, problems recognised by the general population. For us the introduction of an exchange system is a means to an end and not a goal. But to start a good functioning exchange system you need enthusiastic and local people, including a facilitating government;
- you need a point of focus. Our point of focus during the project was: 'what is needed now to transform our goals and intentions into a more sustainable society and enhance the Circular Economy?'

We discovered that it is vital to work with intrinsically motivated people, because the financial and other gains are relatively small at the start of the project. The beginning is also the moment at which trust is built, because you start to get to know each other and motives become clear. The Circular Economy is also about knowing and trusting people and sharing the revenues and values in the network. You hunt and gather together, and the revenues should be equally distributed.

### 5.13. RELEVANCE FOR EDUCATION

The relevance for education is not simply the advice to 'just start', you also need to have developed your soft and hard skills. As is known in innovation, about 25% of needs are technical and 75% are social. Acceptance of innovation and behaviour is key. The social aspects of innovation are the hardest to change. This also is the case for the Circular Economy. The project leader of the DuurzaamDoor project was not trained at university (of applied sciences) to devise a project such as in Maastricht - let alone lead it successfully. At school, he learned to work alone or sometimes in small groups towards a clear goal. He was never taught to go after the Big Hairy Audacious Goals: the wicked problems so hard to solve you can't just wildly attack them. After following meditation classes, overcoming the habit of working by himself, and after working with other intrinsically motivated people, it has now become easier for him to solve such wicked societal problems.

The authors' advice for education would be: to train in both soft and hard skills; do not rush into solutions, but give yourself time; meditate; be sensitive; find good mentors and coaches in life; and try to see 'patterns' in (your) life. Invest in personal development, the individual and inner quadrant of Ken Wilbers' model. These patterns consist of what you are doing and must do; trust your intuition on this subject. This will guide your inner growth and your sense of 'experiential'-based learning. It makes you more agile and 'smart' in a world that is changing fast and exponentially. *Paradoxically through our own being and doing!*

The Great Turning: is it the essential adventure of our time? As described in this chapter we are convinced that the easy, predictable years are over. Joanna Macy (2009) urges us all to go on an adventure towards a life-sustaining civilization; an adventure without a known outcome. We can state now that the Great Turning is indeed the essential adventure of our time!

*It won't be easy.  
But we ask you: are you in?*

