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Money, Consciousness and Values for Social Change: Real Experiences

Swiss impact currency: improving impactful currency systems for a sustainable economy in Switzerland

Christophe PLACE ▪ Antonin CALDERON ▪ Fabien CORDEIRO

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Haute École de Gestion de Genève ▪ Geneva ▪ Switzerland

Corresponding author: cp@christopheplace.com

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ABSTRACT

Switzerland has not only the oldest and biggest modern complementary currency in the world, the WIR created in 1934 with a transaction volume equivalent of CHF 1.5 billion Swiss francs representing 3.5% of Swiss franc currency circulation in 2008, but also the second cross-border complementary currency in the world, the Léman created in September 2015 in a Franco-Swiss conurbation with 80'000 units in circulation at par with Swiss franc and euro among a network of 350 organizations and 1'300 users in November 2016. Moreover, with about 44 social currencies, 14 complementary currencies, Switzerland, counts among reference case studies in the virtual, social and complementary currency systems domain. Nevertheless, some questions remain: (1) What is the historical, cultural, political and economical context of this innovation laboratory? (2) What is the relevant legislation to support such monetary innovation? (3) What are the genuine utility and impact of these currencies? To contribute to these research questions, a literature review and a research survey will allow us not only to overview the Swiss and the Greater Geneva currency systems, but also evaluate the interest of using complementary and virtual currency systems for a sustainable economy.

KEYWORDS

Switzerland, swiss, cross-border, WIR, Léman.

AUTHORS

Christophe PLACE: professor of sustainable development innovation at VŠE Prague School of Economics FBA, International University in Geneva, and University of Applied Sciences and Arts Western Switzerland.

Antonin CALDERON: promotion and development pole supervisor at the Social and Solidarity Economy Chamber in Geneva, and Master of Science in socio-economy from the University of Geneva.

Fabien CORDEIRO: committee member at the Léman Currency Association, and Bachelor of Science in business administration from the Geneva Business School of Administration.

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INTRODUCTION

Currency is universal, links among people at the mercy of debt cancellation by using it, and archaic, not primitive but inherent to every society (SERVET, 2001). Social and complementary currency¹ is an inherent monetary and social innovation which aims to improve sustainable impacts². Mutual credit, such as Local Exchange Trading System or time-based currency, and issued currency, such as pledge currency and loyalty reward, are both fiat currency systems based on fiduciary duties and rights among stakeholders. Beyond microcredit and digital blockchain cryptocurrency, which became nowadays a worldwide issue, some successful social technologies aim to validate and improve sustainable impacts fulfillment.

As a theoretical and conceptual framework, the implementation of monetary innovation in a social innovation network aims to improve economic, social, environmental and anthropologic impacts between businesses and consumers. Indeed, the perceived added value proposition in the eye of stakeholders is linked with this impact validation and design improvement, which makes monetary innovation an intrinsic social innovation (PLACE, 2015):

- Economic impact: activate value co-creation between stakeholders and thus increase local sustainable production and consumption turnover which aims to economic integration and development
- Environmental impact: motivate eco-friendly behaviour and local consumption which lead to resource and energy exploitation reduction like ecological footprint
- Social impact: strengthen community empowerment through trust and solidarity of users to reach a better well-being

Continuous improvement management and service design concept of these successful innovations are essential. Consequently, the improvement of currency design and impact assessment are needed for these monetary innovations for social innovation and can become a model among sustainable development tools.

As a background, Switzerland is known abroad, not only for its Swiss made quality with cheese, chocolate, watches, and private banking, but also for its historical stable economic, monetary, and direct democracy voting systems throughout seven centuries. After two contextualisation parts on Switzerland and Greater Geneva, we will first overview the Swiss currency systems and its relevant legislation and then study a Swiss-French cross-border currency and its challenges. Our objective through this national and local study is to not only reveal some reference case studies but also analyse the interest of using such tools to reach sustainable development goals. Our hypotheses are that Switzerland is a European and world laboratory for monetary innovation. Our research questions are: (1) What is the historical, cultural, political and economical context of this innovation laboratory? (2) What is the relevant legislation to support such monetary innovation? (3) What are the genuine utility and impact of these currencies? Our research methodology is based on a literature review and a survey of 12 questions sent, between December 2016 and March 2017 to 59 Swiss currency systems and 7 Greater Geneva currency systems in English, German, French, and Italian.

¹ Also called virtual, local, impact, sustainable, and innovative currency.

² Indeed, social innovation defines enterprises, organisations and entrepreneurs, sometimes brought together in a network called social and solidarity economy chamber, which integrates sustainable development in its management system, service design and business model for sustainable consumption and production. Monetary innovation defines the tools of valuation, expression, measure and exchange of wealth in order to develop a business-to-business and business-to-consumer economic network, to co-create value between stakeholders, and motivate eco-friendly behaviours of citizens, among others objectives. Systemic and sustainable approach is related to continuous improvement, sustainable management and corporate social responsibility with the integration of economic, social, environmental and anthropologic dimensions. For example, eco-friendly behavior is a behavior which reduce the ecological footprint or environmental impact.

1 SWISS CURRENCY SYSTEMS OVERVIEW

1.1 OVERVIEW OF SWITZERLAND

For a more detailed historical, cultural, political and economical context of Switzerland, please see annexe 1.

The national currency, or conventional money, named Swiss francs with CHF as a currency code and Fr. or SFr. as a currency sign abbreviation, is the legal tender not only in both Switzerland and Liechtenstein, but also in the Italian exclave Campione d'Italia, whereas the two complementary currencies, entitled WIR Euro and WIR Franc with CHE and CHW as a currency code, are only used in Switzerland. The Swiss National Bank issues banknotes and the federal mint Swissmint issues coins. With its three official language, such as German spoken by 63.5% of the population, French spoken by 22.5%, and Italian spoken by 8.1, and its fourth national language, Romansh spoken by 0.5% of the population in 2013, this is the only currency which use four languages on its banknotes, whereas Latin is used for language-neutral inscriptions on the coins with Helvetia as the national personification just like the Latinate CH stand for *Confoederatio Helvetica*.³ Swiss banknotes symbols are mostly inspired from the Swiss folklore, the Alpine culture and Swiss people (FEDERAL STATISTICAL OFFICE, 2016).

Swiss citizens refused the adhesion to Economic and Monetary Union of the European Union, the conservation of its central bank's gold reserve, and the universal basic income system. Indeed, here are some federal popular initiatives, presented at the Federal Chancellery of Switzerland between 1891 and 2016, linked with the monetary policy of the Swiss Confederation (FEDERAL CHANCELLERY, 2016):

³ Indeed, in 2013, languages of Switzerland were German, 63.5% of Swiss German and Standard German in the east, north and center German region, or *Deutschschweiz* in German, such as bilingual cantons of Fribourg, Bern and Valais; French, 22.5% of Swiss French and Arpitan dialects in the west French part, or *la Romandie* in French; Italian, 8.1% of Swiss Italian and Lombard dialects in the south Italian part, or *Svizzera italiana* in Italian; Romansch, 0.5% in the east trilingual Romansh-speaking native canton of Graubünden, or *Grischun* in Romansh.

Board 1: list of Swiss federal popular initiatives

Swiss federal popular initiative	Voting date Participation rate	People result Result rate	Cantonal result Result rate
European Union adhesion negotiation: what people decide! ⁴	06.06.1997 35.44%	No 74.10%	No 26/26
Yes to Europe! ⁵	04.03.2001 55.79%	No 76.80%	No 26/26
Swiss National Bank gold reserves surplus for the National Pension Fund payment ⁶	22.09.2002 45.17%	No 52.20%	No 20/6
Swiss National Bank profits for the National Pension Fund payment	24.09.2006 48.75%	No 58.30%	No 23/6
Save the Swiss gold (gold initiative) ⁷	30.11.2014 48.70%	No 77.30%	No 26/26
For a basic income ⁸	05.06.2016 46.40%	No 76.90%	No 26/26
For a sustainable economy based on efficient management of resources (green economy initiative) ⁹	25.09.2016 42.2%	No 63.6%	No 25/26
For a money away from crisis: Swiss National Bank money issue only (full money initiative) ¹⁰	-	-	-

Source: FEDERAL CHANCELLERY, 2016

According to the Federal Law on the Swiss National Bank and the Federal Law on monetary unit and payment means: the Swiss National Bank, as an independent central bank, is administered under the surveillance of the Swiss Confederation, Swiss franc is the only legal currency on the territory and coins and banknotes issue is the exclusive privilege of the Swiss Confederation (SWISS CONFEDERATION, 1999). Financial intermediaries are under strict rules in relation with currency issue according to the anti-money laundering law, or *loi sur le blanchiment d'argent* in French, from the Federal Commission Order of banks in terms of anti-money laundering measures, or *Ordonnance de la Commission Fédérale des banques en matière de lutte contre le blanchiment d'argent* in French (SWISS CONFEDERATION, 1997). Security and traceability control of currencies is such an important issue in Switzerland that, thanks to the Bitcoin case, the Swiss Financial Market Supervisory Authority FINMA, or *Autorité fédérale de surveillance des marchés financier* in French, ruled on the virtual currency legislation (FINMA, 2014; SWISS CONFEDERATION, 2014; ES KOMMT DARAUF AN, 2014):

- Non-convertible currency, virtual currency for virtual currency, are legal as for social game, such as in game currency like video game currency.
- Semi-convertible currency, swiss franc in virtual currency only, are legal as for loyalty voucher, such as store currency like Migros Cumulus, Supercard Coop or Reka cheque, a tourism voucher.

⁴ Bilateral treaties I between the Swiss Confederation and the European Union signed the 21st of June 1999.

⁵ Bilateral treaties II between the Swiss Confederation and the European Union signed the 26th of October 2004.

⁶ Retirement and Survivor Insurance, or *Assurance-Vieillesse et Survivants* in French, is the main social security system in Switzerland.

⁷ Swiss National Bank gold reserve is inalienable, should be stock in Switzerland, should represent 20% of the national asset. In 1992, Switzerland join the International Monetary Fund and withdraw from its 40% minimum gold cover for Swiss Franc. In 1999, with the new federal constitution the gold cover for Swiss Franc is dissolved. From 2'590 tons of gold reserve in the Swiss National Bank in 2000, 1'300 tons have been sold till 2005 for 21.1 milliard Swiss Franc for the cantons and the National Pension Fund, and 250 tons in 2008 (SWISS NATIONAL BANK, 2014).

⁸ 2'500 CHF per adult and 625 CHF per child as a monthly basic income was proposed. Unconditional basic income or universal basic income or basic income guarantee should not be confused with living wage.

⁹ This federal popular initiative was not directly linked with monetary policy but with green and circular economy that would be indirectly in favour of community and complementary currency systems implementation.

¹⁰ The full money initiative has been deposed the 01.12.2015 with 110'955 valid signatures, to force commercial bank to only issue money from its savers, investors and the Swiss National Bank to avoid the commercial bank money creation system and its privilege, also called full-reserve banking or 100% reserve banking as a monetary reform (SWISS SOVEREIGN MONEY INITIATIVE, 2016).

- Convertible currency, virtual currency in Swiss franc and Swiss franc in virtual currency, are legal as for currency market, such as internet currency like Bitcoin.
“The use of bitcoins as a means of paying for goods and services in Switzerland is not regulated; in other words, no special licence is required.” (FINMA, 2014).

Indeed, payment method for goods and services is not regulated in Switzerland and therefore legal and Swiss law contains no specific provisions on virtual currencies, though depending on conversion scheme and business model, some activities are subject to regulations:

- Financial intermediary for virtual currency peer-to-peer trade, exchange or brokers platform.
“The purchase and sale of bitcoins on a commercial basis is subject to Switzerland’s Anti-Money Laundering Act. The same applies to the operation of trading platforms which are used to transfer money or bitcoins from a platform’s users to other users.” (FINMA, 2014).
- Full-banking license for virtual currency fiat money deposit on a commercial basis.
“Some commercial activities involving bitcoins require a banking licence. This is generally the case when an organisation, as part of its business activities, accepts money on a commercial basis from clients and keeps it in its own accounts. The same applies to providers who accept bitcoins from clients and administer bitcoin holdings for clients.” (FINMA, 2014).

1.2 CURRENCY SYSTEMS AT THE SWISS NATIONAL LEVEL

Concerning social innovation networks in Switzerland, sharing a charter of sustainable development, there are three social and solidarity economy chambers, or *APRÈS-Association pour la PRomotion de l'Économie Sociale et solidaire* in French:

- APRÈS-GE in the Geneva canton, founded in 2003. In 2015, the chamber counted 270 members and represented 11% of the job employment in the Geneva canton (APRÈS-GE, 2015)
- APRÈS-VD in the Vaud canton founded in 2009. In 2014, the chamber counted 56 collective members and 20 individual members. (APRÈS-VD, 2014)
- APRÈS-BEJUNE in the Neuchâtel, Jura and Jura Bernois canton founded in 2012. In 2016, the chamber counted 14 members (APRÈS-BEJUNE, 2016).

Regarding monetary innovation networks in Switzerland, apart from any nationalist separatist or autonomist secessionist movements or any self-containment or autarky aspirations, there are 14 issued currency systems and 44 mutual credit systems (ZART, 2013; SEL SUISSE, 2016; MATZAT, 2016):

- National currency: in 1934, the WIR, that can be defined as a private account unit based on cooperative barter services, was created by Werner ZIMMERMANN and Paul ENZ with 16 members. Henceforth, in 2008, 60'000 small and medium-sized enterprises exchanged an equivalent volume of 1'500 million Swiss francs. In 2016, 800 million of Swiss francs equivalent were exchanged according to our survey. The WIR offers additional sources of credit and liquidity at times of tight traditional bank credit, reserve credit with countercyclical effects to the overall monetary supply for macroeconomic stability, bonds between local companies to preserve a society’s economic fabric (KALINOWSKI, 2011). In December 2008, it would represent 3.5% of the 42'798 million Swiss francs of currency in circulation¹¹, and 0.23% of the 656'047 million Swiss francs of global money supply, monetary aggregate M3 (SWISS NATIONAL BANK, 2016b).
- Local currency: in 2002 was drafted and in 2005 was launched Good Network Voucher in Basel, or *Bon-Netz-Bon* in German, and 120 organizations were exchanging in 2014 thanks to this system (WALLIMANN, 2014). In 2015, in the Greater Geneva, including the Swiss cantons of Geneva and Vaud and the French departments of Haute-Savoie and Ain, was launched the first Swiss cross-

¹¹ Currency in circulation = banknotes and coins in circulation + current accounts at the Swiss National Bank + sight deposits of insurance companies and public administration, excluding Swiss Confederation, at the Swiss National Bank – banknotes and coins at banks.

border currency entitled Léman, or *Le Léman* in French, an issued currency at par with both Swiss franc and euro (MONNAIE LÉMAN, 2016).

- Local Exchange Trading System, Time banking: in the German-speaking Switzerland, or *deutsche Schweiz* in German, were launched 22 LETS for Local Exchange Trading System, or *Tauschsysteme* in German, mostly using the digital software Cyclos of Social Trade Organisation (ZART, 2013). Since 1997, in Romandy, the French-speaking Switzerland or *Suisse romande* in French, were launched 18 LETS for Local Exchange Trading System, or *SEL Systèmes d'Échanges Locaux* in French, mostly using the digital software Hamlets of Community Forge (SEL SUISSE, 2016). In 1997, in the Italian-speaking Switzerland, or *Svizzera italiana* in Italian, in the canton of Ticino, was launched 1 LETS for Local Exchange Trading System, or *Scambio di Favori* in Italian, or time-based currency, or *Banca del Tempo* in Italian (ZART, 2013). In 2008 was launched a mutual credit system called Easyswap which reached 4'000 individual users in 2012.

For the complete survey of 59 Swiss currency systems, please see annexe 2.

2 A REFERENCE CASE STUDY: LÉMAN

2.1 OVERVIEW OF THE GREATER GENEVA

For a more detailed historical, cultural, political and economical context of the Greater Geneva, please see annexe 3.

The Greater Geneva is a developed cross-border region with economic stability and financial health. On one side, the French Arve valley with its bar turning industries around a mechatronics competitiveness cluster of 280 companies, 1'200 researchers and 60'000 jobs, the French Oyonnax and Haut-Bugey valley with its plastics industries around the European plastics hub, or *Pôle Européen de Plasturgie* in French, of 600 companies and 15'600 jobs. In 2016, the unemployment rate was 7.4% in Haute-Savoie, 7.3% in Ain, in comparison with 10.0% in France and 8.3% in the World in 2015 (OBSERVATOIRE DÉPARTEMENTAL, 2016).

On the other side, Geneva, with a Gross Domestic Product of 48'400 million Swiss francs in 2015, is a center of trade and finance, 6th world financial place in 2008 with private banking and international trade, of watchmaking precision machinery with 75 companies, and a symbol of peace neutrality, humanitarian aid, and refugee welcoming, with international organization headquarters like the United Nations and the Red Cross. In 2014, 81.04% of the Geneva population spoke French, 10.84% English, 9.89% Portuguese, 7.82% Spanish, 5.32% German, reflecting the cosmopolitan atmosphere of this international city. In 2016, the unemployment rate was 5.5% in Geneva, 3.2% in Switzerland, in comparison with 8.5% in the European Union (OFFICE CANTONAL DE LA STATISTIQUE, 2016).

In 2015, the sustainable development or social innovation network of Geneva of 270 members, from which 54% receive some public subventions, financing or allowance and 76% are association, foundation or cooperative, called APRÈS-GE the social and solidarity economy chamber of Geneva, or *APRÈS-GE for Association pour la PRomotion de l'Économie Sociale et solidaire de Genève* in French, is to compare with the Geneva business network of 27'000 companies and 80 professional associations, or *Fédération des Entreprises Romandes Genève* in French. However, in 2015, with a financial volume of CHF 400 million, the social and solidarity economy chamber of Geneva represent 11% of the job employment in the Geneva canton and offer goods and services to 400'000 beneficiaries (APRÈS-GE, 2015).

2.2 LÉMAN, A CROSS-BORDER CURRENCY

For the complete survey of 7 Greater Geneva currency systems, please see annexe 4.

After the first world known cross-border currency, named Kékfrank, between Hungary, Austria and Croatia, launched in spring 2010, a second new cross-border currency, Léman, was born between Switzerland and France in autumn 2013, in the Genevan basin: the Greater Geneva, or *Grand Genève* in French for *franco-valdo-genevois* region. Indeed, Kékfrank, name of a famous red wine called blue franc, was created the 7th of May 2010 in the 57'000 inhabitants city of Sopron in the western border of Hungary, 60 km from Wien, by an European Cooperative Society, based on the Latin *Societas Cooperativa Europae*, gathering Hungarian, Austrian and Croatian individuals and legal entities for a total of 150 members. In 2011, only 13% of those who know Kékfrank use it, and 13% of them use it on a monthly regular basis. In 2013, about HUF 10 million equivalent of Kékfrank are in circulation among the network of 650 acceptors, with a conversion fee of 0.25%, plus valued added tax, with the Hungarian forint, for a minimum of 500 HUF conversion (SZALAY, 2011; SÁRDI *et alii*, 2013).

In 2010, after a first impetus of Christophe DUNAND, secretary of APRÈS-GE, Tim ANDERSON, founder of Community Currency, Danièle WARYNSKI, lecturer at the University of Applied Sciences and Arts of Western Switzerland, and Camille BIERENS de HAAN, founder of EcoAttitude, some workshop about complementary currency took place in Geneva: Christophe PLACE at the United Nations Women's Guild in 2010, Bernard LIETAER at the United Nations Environment Programme in 2011, Thomas GRECO at the Palace of Nations during the Human Rights Council's Social Forum in 2012, followed by Patrick VIVERET, Pedro PAEZ, John ROGERS and Frédéric BOSQUÉ in 2013. Thanks to this first impulse, APRÈS-GE decided, by a unanimous General Assembly vote, the 29th of May 2013, to cooperate with the complementary currency creation process. Thus, the Greater Geneva Currency pre-project group for a collective co-creation, or *Monnaie Grand Genève* in French¹², was created the 27th of September 2013 (APRÈS-GE, 2014; MONNAIE GRAND GENÈVE, 2014). Since June 2010, on the French part of the Greater Geneva, the Eco was created and launched the 13th of September 2012¹³ in the Annemasse urban conglomeration by *Aide Technique Bénévole*, reached 70 service providers in 2016 and partly integrated the Léman project (MONNAIE COMPLÉMENTAIRE LOCALE CITOYENNE, 2016).

The 2nd of February 2014, the SASFERA association was created and the 8th of July 2015, this same association was dissolved to transfer the fund for the creation of two Léman currency association, or *association Monnaie Léman* in French:

- Swiss Léman currency, or *Monnaie Léman Suisse* in French, based in Geneva for the Swiss part.
- France Léman currency, or *Monnaie Léman France* in French, based in Annemasse for the French part.

The 18th of September 2015, the Léman, also entitled Lemã or *Le Léman* in French, was launched at the Alternatiba Léman festival, thanks to a business to business to consumer system, collective and voluntary co-creation, and open and participatory governance in the cross-border Genevan region with an objective of 500 users and 100 businesses in a year to strengthen the network and encourage local economy for a regional sustainable development (MONNAIE LÉMAN, 2016).

¹² Also called Greater Geneva: a solidarity currency, or *Grand Genève : une monnaie solidaire* or *franc genevois* or *alpoj* in French. With the idea of a future creation of a Greater Geneva Currency Creation Association, or *Association pour la Création de la Monnaie Grand Genève* in French.

¹³ The 13th, 14th and 15th of September 2012, during the Fair-trade and solidarity entrepreneurs exhibition, or *Salon des auto-entrepreneurs solidaires du Commerce Equitable* in French, with a special discount of 20% using the Eco-Annemasse during this exhibition to increase the purchasing power. Firstly, used in the business network of the Haute-Savoie Organic Purchase Group, or *Groupe d'Achat Bio de Haute-Savoie* in French, and the Haute-Savoie Responsible Consumption, or *Cellule Verte Eco Conso 74* in French, the Eco, at par with euro, have a +10% enter conversion rate for producer and consumer and a -20% exit conversion rate for producer (ECO DU BON SENS, 2016).

Here are the three main study results concerning the Greater Geneva currency pre-project:

- Favorable opinion on the implementation thanks to a qualitative survey of 14 stakeholders where perceived benefits outweigh the perceived costs. Its main salient attribute is to be an accelerator of wealth and an innovation with high added value (NGINAMAU, 2013).
- Value proposition not fully in line with expressed needs and concept perception: perception correlation on local exchange notion and consumption stimulation, but perception divergence on participative governance and social and solidarity economy objective according to 15 potential users (CHERVAZ, 2014)
- High potential of creating new transaction flow: one-third of the transaction volume of 13 members of APRÈS-GE could be made with actors respecting social and solidarity economy values showing a high potential for the flow dynamization of this network, whereas one-third of their transaction are already made with partners respecting these same values¹⁴ (CALDERON, 2015).

Here are the two main study results concerning the Léman currency project:

- Only 10.2% use the Léman currency from a sample of 98 persons¹⁵, and for them, the business network increase and the currency image communication with a label are the priority strategic approach. For those who never used the Léman currency, the priority strategic approach are the promotion, communication, and advertisement of the Léman currency and the financial advantages to incentivize exchange, thanks to promotional discount (CORDEIRO, 2016).
- 75% of 16 businesses are favorable to the implementation of a micro-audit service for sustainable management support which can justify a 200 CHF yearly membership even if impacts are low at the moment (CORDEIRO, 2016)

Board 2: synthesis the Greater Geneva currency Léman studies results

Study	Results details	Methodology (sample)
NGINAMAU, 2013	Favorable opinion: perceived benefits outweigh perceived cost Salient attribute: wealth accelerator and high added value innovation	Qualitative survey (14 stakeholders)
CHERVAZ, 2014	Value proposition perception correlation: local exchange notion and consumption stimulation Value proposition perception divergence: participatory governance and social and solidarity economy objective	Qualitative survey (15 potential users)
CALDERON, 2015	Existing transaction flow: 1/3 of network transaction volume are made with partners respecting social and solidarity economy values Flow dynamization high potential: 1/3 of network transaction volume could be made with actors respecting social and solidarity economy values	Quantitative analysis (13 organizations)
CORDEIRO, 2016	10.2% use the Léman currency: 61.2% heard about the Léman and 16.7% of them used it at least one time. 61% chose business network growth, currency image communication and financial advantage with promotional discount as a strategic approach	Qualitative survey (98 potential users)
	75% favorable for micro-audit service for sustainable management implementation: to justify an eventual 200 CHF yearly membership	Qualitative survey (16 organizations)

¹⁴ One-third of economic relation, of analyzed actors, are made with partners sharing social and solidarity economy values and one-third of transactions made with actors, defending different values, could be made with actors sharing social and solidarity economy values according to a flow analysis of 13 organisations, of the social and solidarity economy chamber of Geneva, based on a survey of inter-enterprises transfer registration from 2012 to 2014 (COMMUNITY FORGE, 2014).

¹⁵ From a sample of 98 persons between 18 and 30 years old, 61.2% heard about the Léman and 16.7% of them used it at least one time.

Table 1: synthesis of the Greater Genevan currency Léman characteristics

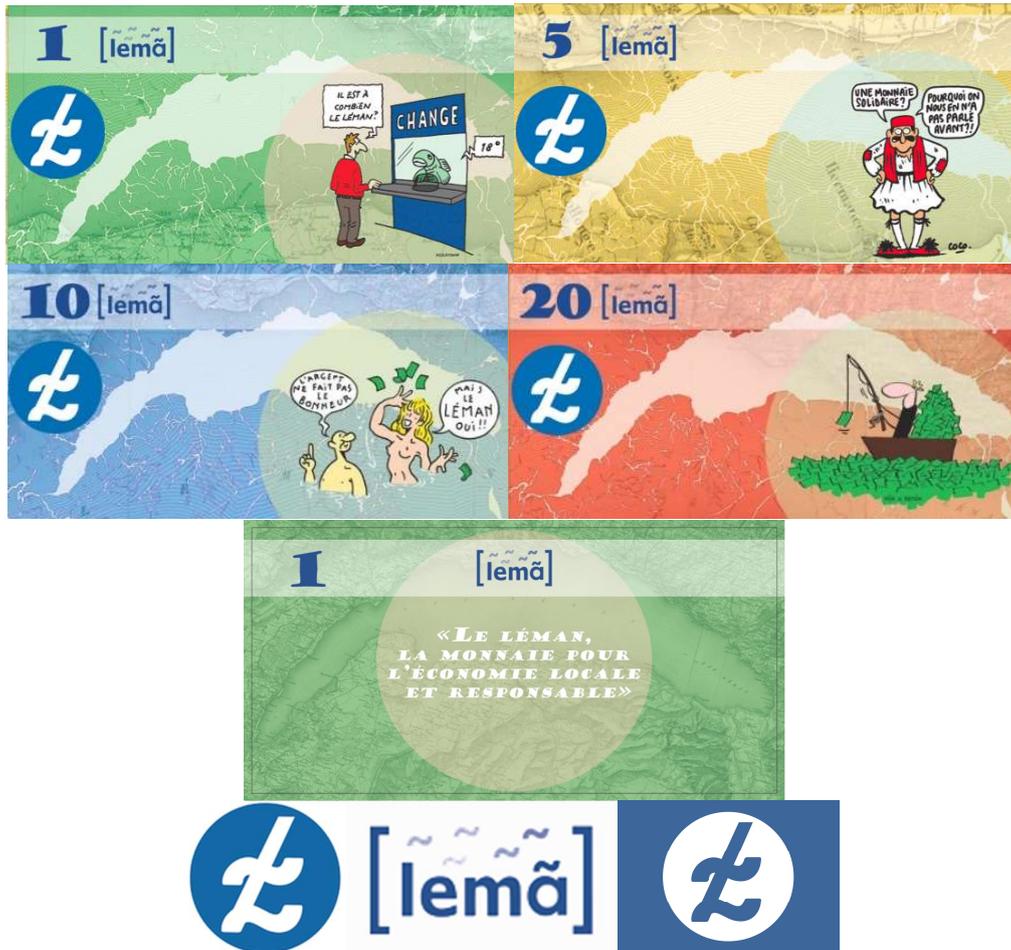
Launch date	18 th of September 2015
Geographical location	Greater Geneva conurbation, Lemanic Arc metropolis
Name	Léman, [Lemã] in phonetics, also entitled <i>Le Léman</i> or <i>Monnaie Léman</i> in French
Slogan baseline	Your currency, or <i>votre monnaie</i> in French (before: cross-border Lemanic basin local currency)
Value proposition	Local, citizen, ethical solidarity and ecology, cross-border
Ethic charter	Local, solidarity, working conditions, real economy, social-ecologically responsible, continuous improvement
Organization	Monnaie Léman Suisse (in Switzerland), Monnaie Léman France (in France)
Volunteer members	200 in November 2016, 100 in June 2016, 30 in 2013, 10 in 2011
Support	6 experts, 6 academic or research institutions
Stakeholders	Social and Solidarity Economy Chamber in Geneva (270 members), 2 city councils (Carouge, Annemasse)
System	Issued currency pledge by Swiss franc and euro (and mutual credit in the future)
Format	Physical currency with paper notes (and digital currency in the future)
Note denomination	1, 5, 10, 20
Par	1 léman is equivalent to 1 Swiss franc and equivalent to 1 euro
Conversion	1 EUR = 1 LEM = 1 CHF. EUR/CHF exchange of November 2016 equal to 1.076
Revenue model	Membership based on juridical structure and size of the organization
Units in circulation	80'000 in November 2016, 50'000 in June 2016
Business/producers	350 in November 2016, 250 in June 2016, 17 in September 2015 (officially registered)
Users/consumers	1'300 in November 2016, 800 in June 2016, 67 in September 2015 (officially registered)

External design of a monetary support, either physical or digital, is as important as the intrinsic modalities of a monetary tool. Coins, notes, cards symbols and esthetics, with a certain constant though history¹⁶, are major stakes for user appropriation and societal legitimacy. Indeed, cultural and territorial celebration are made through a tool of common values to federate communities for pride and inheritance. Consequently, the Léman currency chose the Geneva Lake, or *lac Léman* in French or *lo Lèman* in Arpitan, and the water symbol and color for their logotype and iconography.

As currency is a payment service for a community network, to increase the confidence, credibility and viability of the Léman currency, the value proposition need to answer the user needs. To design this service concept in the synergy of a participatory governance, which is the key of monetary innovation and co-creation principle, users need to be integrated in the currency modality creation process. Currently, the value proposition is based on four topics: local, citizen, ethical social and ecology, cross-border. Nevertheless, the above studies have demonstrated that participatory governance and social and solidarity economy objective were not important for users, whereas local exchange notion and consumption stimulation were important. Furthermore, users need a growth of the business network, a better currency image communication and some financial advantages, while organizations wish a sustainable management micro-audit. Public service payment, salary bonus, promotional discount, and transaction stimulation with legal technical sales representatives are essential to increase the purchase offer diversity and boost the purchase power of the user to give value to the Léman currency. Indeed, a currency has value not only when you trust it but also when you can use it to purchase basic, vital or wished goods and services (CORDEIRO, 2016).

¹⁶ Inspiration or emblem on heads or recto: mythological gods, emperor effigy, religious symbols, feudal heraldic, allegoric national personification. Accompanied by metal value hallmark, issue institution seal, motto or national maxim, and serial number against counterfeiting.

Figure 1: note denomination and currency symbol of the Greater Geneva currency Léman



Source: MONNAIE LÉMAN, 2016

Nevertheless, some strategic questions remain:

- Should Léman currency first concentrate its development in the Greater Geneva to reinforce its network diversity of purchase offer and thus its currency interest and utility, especially the French department, before dispersing in the Lemanic Arc?
- Should Léman currency integrate the other complementary currency projects in or near the Greater Geneva region, to encourage currency constellation cooperation instead of currency plurality competition?
- Should Léman currency propose a tax payment for the Greater Geneva local municipalities and both Swiss cantons and French departments, to encourage its currency value and trust for people and organizations?

For the Léman currency improvement proposition, please see annexe 5.

CONCLUSION

Switzerland is historically known for its economic and monetary health all around the world. In relation with our hypotheses and according to our results, with the oldest and biggest modern complementary currency in the world, about 58 other social and complementary currency systems around the country, and the second cross-border complementary currency in the world, Switzerland is not only a European laboratory, but also a world reference case study for monetary innovation: (1) historical stable economic, monetary, and direct democracy voting systems is in the heart of Switzerland and an ideal environment for monetary innovation, (2) Swiss legislation is favorable to monetary innovation as convertible currencies as means of paying for goods and services is not regulated, no special licence is required, and thus legal, (3) the oldest and biggest Swiss currency system has an economic utility and impact in terms of additional sources of credit and liquidity, macroeconomic stability and society's economic fabric preservation. However, our weak return rate on our survey did not allow us to deeply analyse the genuine utility and impact of these currencies, and thus the interest of using such tools to reach sustainable development goals, to finally evaluate the interest of using complementary and virtual currency systems for a sustainable economy. Further research or different methodology need to be done on this topic to fully answer our last research question and fulfill our objective beyond revealing reference case studies.

Nevertheless, Swiss currency systems, like most of the complementary currency systems, are not known to everyone, and only few people, who heard about it, really use it in a regular basis. The real challenge is to demonstrate the interest, advantages and benefits of using such a tool, as a service, in comparison with conventional money. To do so, a business plan, integrating an impact report, is not only essential to improve the value proposition to answer the client need and problematic, but also to raise the necessary fund to reach the network size and diversity goals. A clear value proposition, a strong purchase offer diversity, and a continuous impact improvement, would legitimate the currency utility, value, trust, credibility for the stakeholders of these Swiss impact currency systems as an useful tool for a sustainable economy.

In a network of sustainable consumers and producers, made of non-governmental organisations, governmental institutions and private enterprises, it is indispensable to consolidate the strategic policy of corporate social responsibility in a pragmatic piloting process of value co-creation between stakeholders and sustainable impact improvement thanks to pioneering incentive and sharing systems. In fact, the implementation of monetary innovation aimed at motivating responsible behaviour within a territory and a community becomes essential for tomorrow leaders, policy-makers and decision-makers. Complementary and virtual currency systems are a strategic, management and economic tool that can help a network of organization, and thus an organization, for its decision support, impact improvement, and extra-financial cost-benefit analysis towards a sustainable development value co-creation. Thus, we need a formal methodology to demonstrate the interest of using complementary and virtual currency systems in such a perspective beyond the business to consumer loyalty program voucher, or in store currency. Consequently, to prove that complementary and virtual currency systems, within a network of organizations, a cross-border territory and sustainable community of producers and consumers, activate wealth, stimulate exchange and improve economic, social and environmental impact for regional sustainable development we need more applied research on monetary innovation¹⁷ to design a service concept for impact improvement in order to improve its implementation usability and credibility.

¹⁷ Currency pluralism is in a process of continuous improvement, of systemic approach with cross-disciplinary fields, for standardization, rethink and renew of monetary tools, and not its unique homogenization, to improve its trust and feasibility. Monetary innovation integrates cybernetic and retroactive feedback notion to conceive a short-term tool for a long term vision, in the contrary to a planning and control approach.

ANNEXES

ANNEXE 1: HISTORICAL, CULTURAL, POLITICAL AND ECONOMICAL CONTEXT OF SWITZERLAND

The Swiss Confederation, or Switzerland, is a federal republic of 26 cantons with Bern as a federal capital *de facto*, founded the 1st of August 1291 as a confederacy, with power-sharing, of the three cantons of Uri, Schwyz and Unterwalden, and expanded until 1515. Its policy of domestic plurality combined with international neutrality was recognised by the Congress of Vienna in 1815 and became a federal state the 12th of September 1848. Its government is a federal multi-party directional republic with direct and representative democracy in its federal, cantonal and municipal voting system such as elections of the Federal Assembly who can modify the constitution through mandatory referendums, optional referendums on a law with 50'000 opponents' signatures, and federal popular initiatives to modify the constitution with 100'000 citizens' signatures. This Swiss democracy, rule of the commoners, was the 8th of the world in 2016 whereas Switzerland had the 3rd largest civilian firearms arsenals in the world in 2007 (THE ECONOMIST INTELLIGENCE UNIT, 2017; SMALL ARMS SURVEY, 2007). Switzerland has no official state religion but most of the cantons, except Geneva and Neuchâtel, recognise official Catholic Church, 38% of the population, or Swiss Reformed Church, 26.0% of the population, even though 28.5% of the population are non-Christian, 5.0% of Muslim, or unaffiliated, 9.24% of theistic or ietistic, 7.04% of atheistic, 5.5% of agnostic (FEDERAL STATISTICAL OFFICE, 2016).

Whereas 56% of its electricity is generated from hydroelectricity and Swiss citizens are the keenest rail users by travelling on average 2'258 km by rail in 2007, its ecological footprint of 5.02 global hectares per capita was the 29th of the world in 2007, and in 2011, its annual carbon dioxide emissions per capita of 4.6 tonnes per capita was the 72nd of the world. In 2015, with a population density of 199 persons/km², due to a population of 8'237'100 persons for an area of 41'285 km², and a Gross Domestic Product of 645'556 million Swiss francs, its Gross Domestic Product per capita of 77'943 CHF/capita was the 2nd of the world and its inequality-adjusted Human Development Index of 0.861 was the 3rd of the world. In 2014, the federal budget of Switzerland represented 10.63% of the Gross Domestic Product but only 31.7% of the Swiss public expenditure, cantons and municipalities managing the rest. In 2011, the Swiss public debt was 52.4% of the Gross Domestic Product, below the world average of 64% in 2012. In 2014, the net international investment position, the difference between external public and private assets and debt, represented +119.6% of the Gross Domestic Product and was the 5th of the world. In 2013, 23.8% of the population was registered, permanent and non-naturalized, resident foreigners, mostly with European citizenship, 20.2% of the population, and in 2004, 8.90% of the Swiss citizens lived abroad, mostly in France, 2.37%. Even though 99% of the Swiss firms are small-and-medium-sized enterprises with fewer than 250 employees and Switzerland is famous for its alpine horn, cheese and chocolate, its Gross Domestic Product is comprised at 11.6% by the financial sector in 2003, 5.7% by the pharmaceutical industry in 2011, 2.9% by the tourism sector in 2011, and 1.5% by the luxury watchmaking industry in 2013. In 2006, only 1.3% of the population was working in the primary or agricultural sector, but they were able to subsidise more than 70% of its agriculture, in comparison with the 35% of the European Union (FEDERAL STATISTICAL OFFICE, 2016).

Before 1798, about 860 different coins were in circulation, from which 16 cities were issuing their local Swiss currencies. From 1798 to 1803, the Helvetic Republic issued the Swiss franc, equal to 6.75 grams of silver or 1.5 French francs. Between 1803 and 1850, 22 cantons and half-cantons issued their local coins, but in 1850 it only represents less than 15% of the money in circulation, as 8'000 different coins and notes were in circulation at that time. In 1850, the Federal Coinage Act introduced the Swiss franc as the monetary unit of Switzerland at par with the French franc. In 1865, the Latin Monetary Union established by Switzerland, France, Italy, and Belgium, joined by Greece in 1868 and totally disbanded in 1927, agreed on national

currencies standard value of 4.5 grams of silver or 0.290322 grams of gold. In 1930, in Basel, was founded the bank of central banks, the Bank for International Settlements. In 1936, the Swiss franc was devaluated by 30% due to the Great Depression (SWISSMINT, 2016). Nevertheless, until 1936 Swiss franc was a major freely convertible currency in the world and both Allies and Axis sold large amounts of gold, mostly stolen from the central banks reserve of occupied countries or forced labourers from which 1'665'000 persons have been compensated by EUR 4.4 billion from 2001 to 2007¹⁸, to the Swiss National Bank from 1939 to 1945 to particularly buy tungsten and oil from neutral countries in Swiss francs¹⁹ (BERGIER COMMISSION, 2002; STIFTUNG EVZ, 2006). In 1945, Switzerland joined the Bretton Woods system and 1 United States dollar worth 4.30521 Swiss francs, or 1 Swiss francs worth 0.206418 grams of gold. Even though Swiss francs was a safe-haven currency with zero inflation and a legal requirement of 40% minimum backed by gold reserves, a Federal Law on Currency and Legal Tender entered in force on the 1st of May 2000 to avoid this and the Swiss National Bank sold 1'300 tonnes of its gold reserves by 2005 reaching 20% of its assets, and then 250 tonnes in 2008, during the global financial crisis (SWISS NATIONAL BANK, 2014).

“The Swiss National Bank completed its gold selling program of 1'300 tonnes on March 30, 2005. Before these sales, Switzerland's relative position with respect to gold holdings was extreme among the G10 countries²⁰. Furthermore, the Swiss National Bank had excess capital reserves that were no longer necessary for monetary purposes. However, it was only in May 2000 that the last relics of the gold-standard were removed from the Swiss legal framework and the Swiss National Bank was in a position to start selling gold.” (SWISS NATIONAL BANK, 2005).

“The Swiss National Bank (SNB) has concluded its sale of 250 tonnes of gold – thereby adjusting the composition of its currency reserves. A total of 137 tonnes was sold between 27 September 2007 and 26 September 2008, following the sale of 113 tonnes in the period prior to 26 September 2007. [...] The sales fell within the bounds set by the second gold agreement of 8 March 2004, in which the central banks of the Eurosystem, plus the Sveriges Riksbank and the Swiss National Bank, agreed to limit their gold sales over a period of five years.” (SWISS NATIONAL BANK, 2016a)

While Russia and China, among others, was purchasing gold between 1993 and 2014, Switzerland was the country in the world who sold the most during this same period, followed by Belgium and Netherlands. Nevertheless, in 2016, with 6% of gold's share of forex reserves but 1'040 tonnes of gold reserve, the 8th of the world, Switzerland remains the highest gold reserve per capita in the world with 133.64 grams/capita, just above Lebanon with 67.40 grams/capita²¹ (WORLD GOLD COUNCIL, 2016).

“Of the 1'040 tonnes of the Swiss National Bank's gold, more than 70% – and thereby the overwhelming proportion – is stored in Switzerland. The remaining 30% is distributed between two countries. Roughly 20% of the gold reserves are kept at the central bank of the United Kingdom, and approximately 10% at the central bank of Canada. The Swiss National Bank has been storing gold exclusively in these countries for over ten years.” (SWISS NATIONAL BANK, 2014).

¹⁸ The German Parliament passed the German Foundation Act establishing the German Foundation “Remembrance, Responsibility and Future”, whose main purpose was to establish a compensation programme for slave and forced labourers of the National Socialist regime. From 2001 to 2007, DEM 770 million were allocated to the International Organization for Migration for the German Forced Labour Compensation Programme to compensate non-Jewish victims of slave labour, forced labour and personal injury residing anywhere in the world except in the Czech Republic, Poland and the Republics of the former Soviet Union: DEM 540 million for slave and forced labour, DEM 200 million for property loss, DEM 50 million for personal injury, DEM 24 million for social programmes for Sinti and Roma, paying compensation to over 90000 slave and forced labourers and 1656 victims of personal injury (IOM, 2007).

¹⁹ For example, United States of America and Germany respectively sold a net amount of CHF 1528.7 millions and CHF 1211.6 millions of gold to the Swiss National Bank whereas the Swiss Confederation and Portugal respectively purchased a net amount of CHF 818.6 millions and CHF 451.5 millions of gold to the Swiss National Bank.

²⁰ The Group of Ten agreed to participate in the General Arrangements to Borrow to provide the International Monetary Fund with additional funds to increase its lending ability.

²¹ To compare with not only the 10'792 tonnes of gold reserve of the Eurozone, but also with 8'133.5 tonnes and 2'814 tonnes of respectively the United States of America and the International Monetary Fund.

The European sovereign debt crisis starting in the end of 2009 caused the August 2011 stock markets fall and propelled a massive overvaluation of the Swiss franc increasing its demand. In September 2011, Swiss franc was heading at par with the euro and the Swiss National Bank set a minimum exchange rate of 1.20 francs to the euro (SWISS NATIONAL BANK, 2011). In December 2014, the Swiss National Bank introduced a negative interest rate on bank deposits to support this ceiling, in vain. Thus, in January 2015, the Swiss National Bank abandoned this ceiling and the key interest rate was lowered from -0.25% to -0.75% (SWISS NATIONAL BANK, 2015b). Consequently, even if the Swiss Confederation and the Swiss National Bank somehow took measures against this strong Swiss franc, this devaluation of the euro against the Swiss franc somehow hurt Switzerland export industry and tourism. Indeed, bear in mind that in 2009, 36.2% of its exportation was medicaments, glycosides, vaccines, watches, orthopaedic appliances, and precious jewellery, and 41.2% of its exportation was to the euro zone towards Germany, Italy, France, Belgium, Spain, and the Netherlands (FEDERAL STATISTICAL OFFICE, 2016).

In 2014, Swiss franc was the 7th reserve currency around the world, but only represented 0.3% of the official foreign exchange reserves, well below the United States dollar, 63.1%, and the euro, 22.1%. In 2008, Swiss francs represented 0.95% of the total currency in circulation in the world. In 2015, 10.44% of the Gross Domestic Product were in physical currency, as CHF 67'412 million banknotes were in circulation for a Gross Domestic Product of CHF 645'556 million, with a high proportion of large denominations such as 1'000, 10.3%, and 200, 11.7% of the number of notes in circulation, indicating a store of value (SWISS NATIONAL BANK, 2015a). Currency in circulation represents 7.79% of the money supply²². Indeed, for the month of September 2016, for a total amount of 981'620 million Swiss francs of money supply, monetary aggregate M3, 76'469 million Swiss francs were in circulation²³ (SWISS NATIONAL BANK, 2016b).

“In the 1960s, the proportion of cash in circulation was double the current amount, totalling 16% of GDP. This development reflects the progress in payment technology, which has contributed to cashless payment transactions becoming more widespread and allowed companies and households to keep less cash on hand. [...] Since 2008, cash has regained its significance as a store of value. The persistently low level of interest rates is a major factor in the rise in demand for banknotes. In addition, the financial market and sovereign debt crises have helped to render cash holdings more attractive. The increased demand for small-denomination notes mainly reflects positive developments in private consumption.” (SWISS NATIONAL BANK, 2015a).

²² Or 92.21% of the money supply is digital and not physical, mostly scriptural and fiat currency created ex-nihilo through commercial bank, or *monnaie girale* in French.

²³ Currency in circulation = banknotes and coins in circulation + current accounts at the Swiss National Bank + sight deposits of insurance companies and public administration, excluding Swiss Confederation, at the Swiss National Bank – banknotes and coins at banks.

ANNEXE 2: SWISS CURRENCY SYSTEMS SURVEY

A survey of 12 questions was sent to 58 Swiss currency systems with 7 returns, as only 1 from 7 TALENT systems remain active, and here are the results according to the following criteria:

- Region: linguistic region such as Swiss for all regions, German for German-speaking part, French for French-speaking part, Italian for Italian-speaking part, Romansh for Romansh-speaking part.
- Currency name: crossed if undelivered email.
- System type: issued currency for loyalty reward or pledge backed currency, mutual credit for local exchange trading system or time banking. C: digital software Cyclos of Social Trade Organisation. H: digital software Hamlets of Community Forge.
- Units: units in circulation.
- Organizations: number of organization members such as business or producer.
- Individuals: number of individual members such as users or consumer.

Including importance opinion with 6 returns over 3 topics, with an average over 4²⁴, showing that financing and impact are more important for Swiss currency systems than dissemination, promotion and federation:

1. Crowdfunding platform to support complementary currency systems? Average of 2.42 over 4.
2. Applied research on systems evolution, best practice, impact improvement? Average of 2.33 over 4.
3. Association to disseminate, promote and federate Swiss currency systems at a municipal, cantonal, national, and international level? Average of 2.08 over 4.

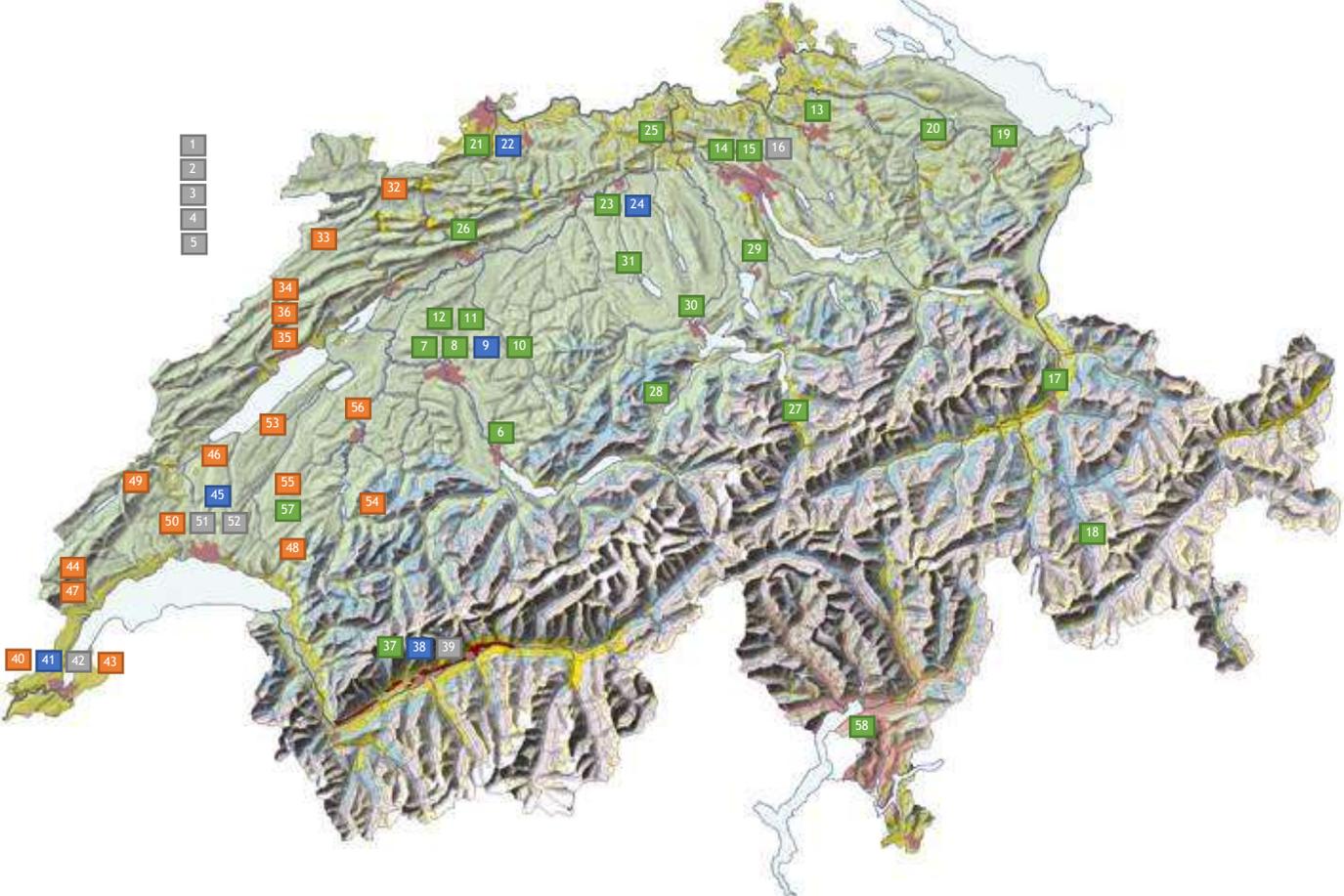
²⁴ Opinion: 4: very high importance, 3: high importance, 2: low importance, 1: very low.

Board 3: Swiss currency systems survey results in April 2017

Region	Canton	City	Currency name	System type	Launch date	Units	Organizations	Individuals
Swiss	-	Zurich	1. Migros Cumulus	Issued currency				
	-	Basel	2. Coop Supercard	Issued currency				
	-	Bern	3. Reka	Issued currency				
	-	Basel	4. WIR	Issued currency	1934	800'000'000	60'000	0
	-	-	5. Bitcoin	Issued currency				
German	Bern	Thun	6. Zytbörse Thun	Mutual credit C				
	Bern	Bern	7. Tauschnetz Länggasse Bern	Mutual credit C				
	Bern	Bern	8. Tuusch-Träff Bümpliz	Mutual credit C				
	Bern	Bern	9. Bonobo - Bon ohne Boss	Issued currency	2015			
	Bern	Bern	10. Bazore - Orte Zum ZeitTauschen	Mutual credit C				
	Bern	Biel	TALENT Region Biel	Issued currency				
	Bern	Burgdorf	11. Nachbarschaftshilfe Burgdorf	Mutual credit C				
	Bern	Ittigen	12. carote Nachbarschaftsnetz Ittigen	Mutual credit C				
	Zürich	Winterthur	13. VAZYT Winterthur	Mutual credit C				
	Zürich	Zürich	14. (Netzwerk) Tauschen am Fluss	Mutual credit C				
	Zürich	Zürich	15. give&get	Mutual credit C	01.11.2011			230
	Zürich	Zurich	16. (+)ecu, swiss ecu	Issued currency	2011			
	Graubünden	Chur	17. Ziitbörsa Chur und Umgebung	Mutual credit C				
	Graubünden	Samedan	18. tauscheria Südbünden	Mutual credit C				
	St. Gallen	St. Gallen	19. Zeitbörse Benevol St.Gallen	Mutual credit C				
	St. Gallen	St. Gallen	TALENT Region St. Gallen	Issued currency				
	Thurgau	Bischofszell	20. Stund um Stund Region Bischofszell	Mutual credit C				
	Basel-Stadt	Basel	21. Zeittauschbörse Region Basel	Mutual credit C				
	Basel-Stadt	Basel	22. Bon-Netz-Bon	Issued currency	2005		120	
	Basel-Landschaft	Sissach	TALENT Regio Basel	Issued currency				
	Aargau	Aarau	TALENT Region Bodensee	Issued currency				
	Aargau	Aarau	23. Zeittauschbörse Aargau	Mutual credit C				
	Aargau	Aarau	24. TALENT Schweiz	Issued currency	08.08.2016	30'000	10	156
	Aargau	Aarau	TALENT Region Aarau	Issued currency				
	Aargau	Bözberg	25. Tauschring Fördertaler	Mutual credit C	01.06.2015	5'000	10	10
	Solothurn	Lohn-Ammansegg	26. Verein ZeitTausch Solothurn	Mutual credit C				
	Uri	Schattdorf	27. Tauschnetz Uri	Mutual credit C				
Obwalden	Sarnen	28. Tauschkreis Obwalden	Mutual credit C					
Zug	Zug	TALENT Region Zug	Issued currency					

	Zug	Zug	29. Exsila AG	Mutual credit C				
	Luzern	Luzern	30. Luzerner Tauschnetz	Mutual credit C				
	Luzern	Sursee	31. Tuuschnetz Soorsi	Mutual credit C				
	Jura	Delémont	32. SEL région Delémont	Mutual credit H				
	Jura	Franches Montagnes	33. SEL Franches-Montagnes	Mutual credit H				
	Neuchâtel	La Chaux-de-Fonds	34. SEL de la Chaux-de-Fonds	Mutual credit H				
	Neuchâtel	Neuchâtel	35. SEL des Rives	Mutual credit H				
	Neuchâtel	Val-de-Ruz	36. SEL Vaudrusien	Mutual credit H	1997			
	Valais	Sion	37. SEL de Sion	Mutual credit C				
	Valais	Sion	38. Farinet	Issued currency				
	Valais	Sion	39. Batz	Issued currency				
	Genève	Genève	40. SEL du Lac	Mutual credit H	2009			160
	Genève	Genève	41. Léman	Issued currency	2015			
	Genève	Genève	42. Tryngo	Mutual credit				
	Genève	Genève	43. Mouvement des Aînés	Mutual credit H				
	Vaud	Bassins	44. SEL de Bassins	Mutual credit H				
French	Vaud	Échallens	45. Monnaie Locale Gros-de-Vaud	Issued currency				
	Vaud	Yverdon-les-Bains	46. UnYverSEL, La Pesta	Mutual credit H	03.07.2017	37'500		100
	Vaud	Begnins	47. SEL Begnins et Alentours	Mutual credit H				
	Vaud	Oron	48. SEL de Chailly	Mutual credit H				
	Vaud	Vallorbe	49. SEL des 3 Vallons	Mutual credit H				
	Vaud	Lausanne	50. SEL Sous-Gare	Mutual credit H				
	Vaud	Lausanne	51. EasySwap	Mutual credit	2008			4'000
	Vaud	Lausanne	52. Kireego	Issued currency				
	Fribourg	Estavayer-le-Lac	53. SEL de la Molière	Mutual credit H				
	Fribourg	Val-de-Charney	54. SEL de la vallée de la Jogne	Mutual credit H				
	Fribourg	Romont	55. SEL Glânois, Sésame	Mutual credit H	06.04.2010	5'000		190
	Fribourg	Fribourg	56. SEL Sarine	Mutual credit H				
	Fribourg	Ursy	57. Tauschnetz Freiburg	Mutual credit C				
Italian	Ticino	Gambarogno	58. Scambio di Favori	Mutual credit C	1997	700	60	135

Figure 2: Swiss currency systems atlas compendium



Source: JUGEND MIT EINER MISSION, 2017

ANNEXE 3: HISTORICAL, CULTURAL, POLITICAL AND ECONOMICAL CONTEXT OF THE GREATER GENEVA

Taken by the Romans in 121 Before Common Era and integrated in the Narbonensis Gaul, Geneva was a Gallic Allobrogian fortified town, people living on a territory between the Isère, the Rhône and Northern Alps against the Celtic Helvetii tribe, occupying the Swiss plateau. Taken by Burgundy in 443, the Franks in 534, the Kingdom of Burgundy in 888 with its territorial apogee from Langres to Cavallon and from Nevers to Constance Lake, and finally the German Emperor in 1033. Thanks to the King of Burgundy, the feudal territory of the House of Savoy, through the County of Savoy from 1003 to 1416 and then the Duchy of Savoy from 1416 to 1860, became the longest surviving royal house in Europe. After a long struggle for their independence against the House of Savoy, Geneva won the epic battle of *l'Escalade* the 12th of December 1602. In 1541, during the Protestant Reformation, Jean CALVIN²⁵ proclaimed the Republic of Geneva, annexed by France from 1798 to 1813 as part of the Léman department, which became the Republic and Canton of Geneva by joining the Swiss Confederation the 19th of May 1815²⁶. The 25th of July 1859, the House of Savoy considered either its conservation in the Sardinian Kingdom as a province, or its total or partial incorporation to Switzerland²⁷. The 24th of March 1860, the Treaty of Turin annexed the Duchy of Savoy and the County of Nice to France²⁸, while the House of Savoy began the process of unification of Italy and became the ruling dynasty of Italy, under the conditions of a free zone creation at the Swiss frontier, and a military neutrality of the entire Savoy territory²⁹.

Thus, the Greater Geneva, have a deep common history with Switzerland, Savoy, France and even Italy, which go beyond its geographical basin around the Lake Geneva and the mountains of Jura, Salève and Mont Sion. Indeed, nowadays, the Greater Geneva is at the heart of the profound regional identity of Arpitania, meaning the Lands of the Alps where the Arpitan or Franco-Provençal Gallo-Romance language is spoken, situated between Italy, Switzerland, and France³⁰. Considering this historical heritage and the

²⁵ The French Reformer Jean CALVIN was invited in Geneva in 1541, leading to the Catholic bishop move to Annecy, and legitimated in 1545 the usury, or loan interest, for productive company creation or development and its wealth accumulation, if not contrary to equity or charity as in consumer credit. This distance with the Old Testament and the Golden Rule encouraged banking activity and thus economic development of Protestant countries (SEK-FEPS *et alli*, 2010).

²⁶ Conserving its Satigny, Jussy and Céligny enclaves but below the Chablais and Faucigny territorial ambitions of the Genevan diplomat Charles PICTET de ROCHEMONT, due to obvious denominational barrier.

²⁷ Supported by a petition of 13'651 signatures from 96 municipalities: 60 in Faucigny, 23 in Chablais and 13 in Genevois, historical neutral zone of Savoy which became later on the free zone at the Swiss frontier, and at a later time the federation of municipalities of Haute-Savoie of the Greater Geneva (BERTHOD, 2006).

²⁸ According to the plebiscite of the 22nd and 23rd of April 1860, 99.67% of the Nice and Savoy citizens and 95% of the Savoy Brigade are favorable to the incorporation to France. But only 26% of the Savoy Brigade officers will integrate the French army, the rest will prefer the Sardinian army (HEYRIÈS, 1996).

²⁹ These measures were eliminated after 1919 and France were condemned in 1932 by the international court for noncompliance: large free zone or annexation zone was removed unilaterally whereas small free zone or Sardinian zone was preserved with its contraband customs (SAVOIE ARCHIVES, 2016). Historically, this free zone was the fertile region of Geneva, its granary or breadbasket, especially concerning market gardening and dairy milk, or *fruitière* in French joined to a pigsty fed by its whey. Afterwards, the Swiss milk production growth forced family farming to diary union to export its milk outside of Geneva, or even transforming its dairy farming in crop growing. Nevertheless, metalworking and watchmaking industry implementation in this free zone was limited by constraining bureaucracy to the advantage of economic development of Geneva, Annemasse and on the free zone borderline. Nowadays duty-free remain only for non-European union cars purchase and agricultural products sales. Furthermore, even if the 24th of August 1860 convention warranty the conservation of monetary sovereignty to the Bank of Savoy, the 8th of April 1865 French imperial decree authorise the transfer of this fiduciary currency official emission to the Bank of France and the Bank of Savoy sequestration (PALLUEL-GUILLARD, 1986 ; PINGON, 1996).

³⁰ With 140'000 native speakers on a cross-border territory. The bilingual French-Italian semi-autonomous region of Aosta Valley, which recognized Arpitan as an official language, and the alpine valleys in the Province of Turin in the Piedmont region in northwestern Italy besides two isolated towns in the Province of Foggia in the Apulia region of

ecological footprint limitation of a bio-region, we can foresee the territorial extension and its community appropriation options of this cross-border currency, already extending to the Lemanic Arc metropolis between Geneva, Lausanne and Montreux, or *Riviera vaudoise* in French, and gathering the Lemanic Region's swiss cantons of Geneva, Vaud and Valais, and the French departments of Haute-Savoie and Ain within the cooperation idea of the *Conseil du Léman*.

As people may recall, in 2014, the Greater Geneva, or *franco-valdo-genevois* agglomeration in French, is composed by 946'000 inhabitants, 51% living in Geneva canton, and 451'000 jobs, 66.1% in Geneva canton, spread on the 2'000 km² of 212 municipalities, between the Swiss canton of Geneva and the Nyon District composed by respectively 45 and 47 municipalities, and the French Genevan employment basin in the Haute-Savoie and Ain French departments composed by respectively 78 and 42 municipalities and some federation of municipalities, or community of communes, such as Genevois, Chablais, Faucigny and Pays de Gex. Its territory is composed by agricultural field for 33%, representing 1'300 companies and 6'000 jobs for mostly milk, gardening, and wine production, forest for 41%, built area for 13% and hydrography for 13%, even though the Lake produced 53% of the potable water. This extended geographical employment basin, with 550'000 persons crossing the border daily in 2001, is based on the economic reality of the urban area of the Swiss canton of Geneva and the French department of Haute-Savoie. For example, in 2006, 7.38% of the inhabitants of Haute-Savoie was working in Switzerland, 52'200 of 706'708 inhabitants, and the department and municipalities received a 3.5% of total worker compensation fund, in proportion to the number of border residents in Haute-Savoie, equivalent do EUR 77.687 billion (GRAND GENÈVE, 2014).

ANNEXE 4: GREATER GENEVA CURRENCY SYSTEMS SURVEY

Concerning complementary currency projects in or near the Greater Geneva region, a survey of 12 questions was sent to 7 Greater Geneva currency systems with 4 returns, and here are the results according to the following criteria (MONNAIE COMPLÉMENTAIRE LOCALE CITOYENNE, 2016):

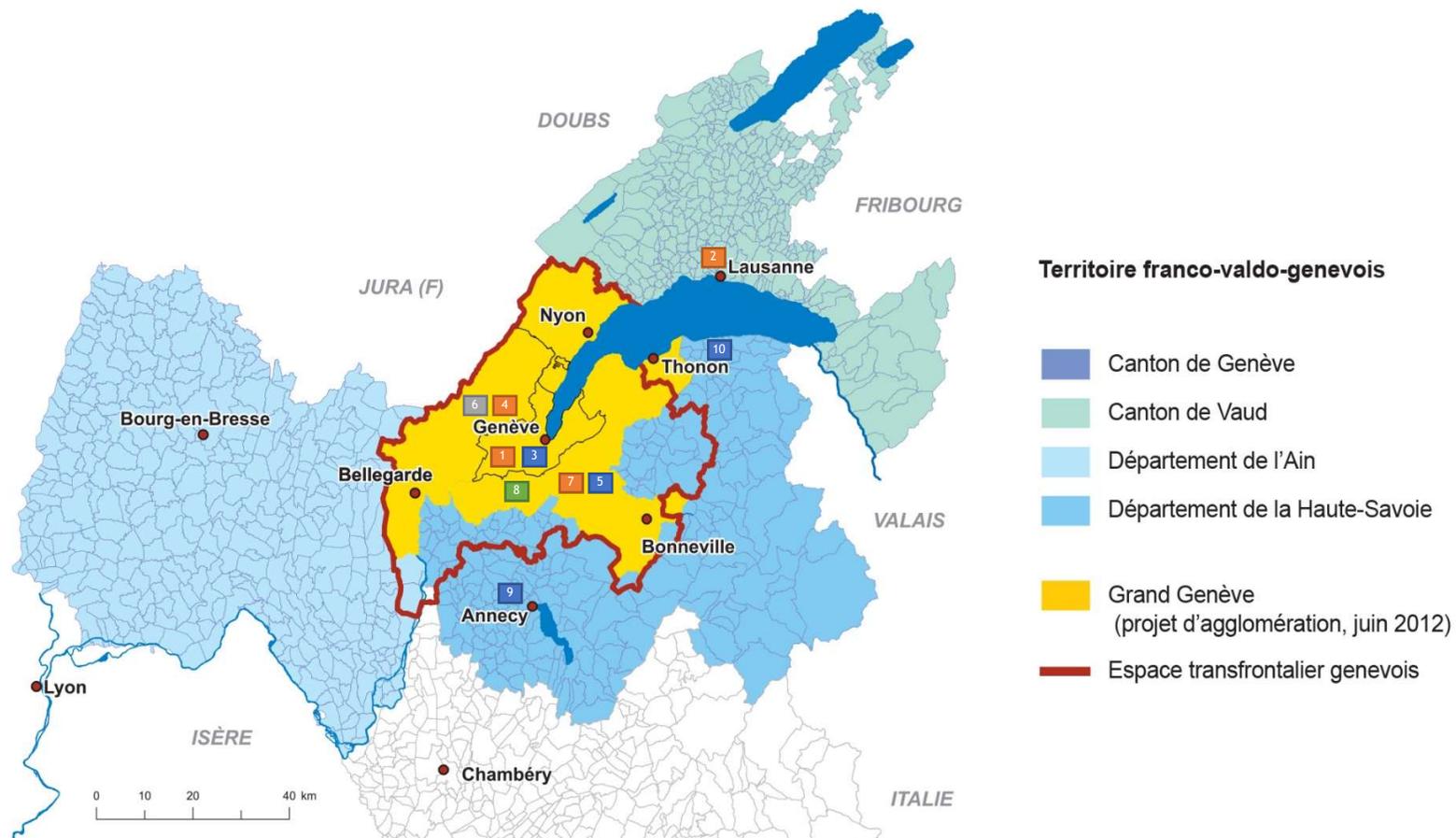
- System type: issued currency for loyalty reward or pledge backed currency, mutual credit for local exchange trading system or time banking. C: digital software Cyclos of Social Trade Organisation. H: digital software Hamlets of Community Forge.
- Units: units in circulation.
- Organizations: number of organization members such as business or producer.
- Individuals: number of individual members such as users or consumer.

southern Italy. Rural areas of the Swiss French-speaking western part of Switzerland known as Romandy with its seven cantons: Geneva, Vaud, Neuchâtel, Jura, Bern, Lower Valais, Fribourg. Some French traditional province of Savoy, Franche-Comté, Bresse, Dombes, Bugey, Forez, Lyonnais, Dauphiné, Beaujolais in the region of Auvergne, Rhône-Alpes and Burgundy, composed by the modern departments of Haute-Savoie, Ain, Jura, Doubs, Territoire de Belfort, Savoie, Isère, Rhône, Saône-et-Loire, Cote d'Or, Haute-Saône, Haut Rhin.

Board 4: Greater Geneva currency systems survey results in April 2017

Geographical basin	Currency name	System type	Launch date (Draft date)	Units	Organizations	Individuals
Genève, Geneva	1. SEL du Lac	Mutual credit H, Local Exchange Trading System	2009			
Lausanne, Lausanne	2. SEL Sous-Gare	Mutual credit H, Local Exchange Trading System	2013			
Greater Geneva, Lemanic Arc	3. (Le) Léman	Issued currency , euro par, swiss franc par, Mutual credit in construction	2015 (2010)			
Saint-Genis-Pouilly, Ain	4. SEL du Pays de Gex	Mutual credit H, Local Exchange Trading System	2010			40
Annemasse, Haute-Savoie	5. (L')Eco	Issued currency , euro par	2012 (2010)		70	
Thoiry, Ain	6. (Le) Tiok	Mutual credit	2012 (2011)	500		30
Annemasse, Haute-Savoie	7. SEL du Genevois	Mutual credit H, Local Exchange Trading System	2016			
Saint-Julien-en-Genevois, Haute-Savoie	8. Accorderie du Genevois	Mutual credit, Time Bank	2016 (2014)			155
Annecy, Haute-Savoie	9. La Gentiane	Issued currency , euro par	2017 (2011)			
Chablais, Haute-Savoie	10. Chab(')	Issued currency , euro par	2018 (2016)			

Figure 3: Greater Geneva currency systems atlas compendium



Source : OST, Grand Genève

Source: GRAND GENÈVE, 2015

ANNEXE 5: LÉMAN CURRENCY IMPROVEMENT PROPOSITION

Consequently, the activation of the business network is necessary³¹, but to do so, the Léman currency need to propose a genuine value added, like a 5 stars' label program. But this label system, based on a micro-audit certification, can only exist if the Léman currency image communication is intelligible and accessible for everybody. Based on these recommendations, here are some proposition that the Léman currency could offer to its stakeholders in terms of label, business principles, value proposition and business model:

Table 2: label evolution through a micro-audit certification and network integration criteria

Label	Micro-audit certification	Network integration criteria
*	Charter engagement	All organization, all products
**	75% of sustainable products	Sustainable organizations or sustainable products
***	Sustainable impact report	Sustainable organization, sustainable products
****	30% transaction and 30% salary in Léman	+ Sustainable business model
*****	Interconnection with other complementary currencies	+ Sustainable currency constellation

Table 3: business principles for an impact currency

Vision	Better lifestyle in the heart of Alps
Mission	Improvement by a quarter of ecological footprint and social well-being by 2030
Theory of change	If a tenth of the population and organizations use the Léman currency, improvement by a quarter of ecological impact and social well-being
Values	Local, citizen, ethic social and ecology, cross-border, non-speculative real economy

³¹ With strategic, technical and financial partnership like an ethical bank, Swiss Alternative Bank in Switzerland and La Nef in France; some public institutions, Service Cantonal du Développement Durable and Grand Genève and Conseil du Léman and Interreg France-Suisse; some mobility entities, Unireso and Plan de Mobilité de l'Administration Cantonale; some energy or water or waste industry, Services Industriels de Genève and Serbeco; some transition towns actors, Slow Food Léman and Fédération Romande de l'Agriculture Contractuelle de Proximité.

Table 4: value proposition and business model for an impact currency

Currency name logo	Léman, <i>Le Léman</i> in French
Currency sign icon	L
Currency code symbol	LEM at a national level, CHL at an international level
Slogan baseline	Sustainable Metropolis (service signature)
Target question	Do you want to be a sustainable development actor in your region? How to reach sustainability?
Added-value	Improve your transactions and reinforce your impacts Be Alpine, Be Léman: with Léman, promote your eco-friendly region
Differentiating criteria	Sustainable label: responsible consumption of sustainable producers Income boost: promotional discount, transaction stimulation, client loyalty, salary bonus Local accelerator: local seasonal products, business to business network activation Real and non-speculative economy: for regional economic resiliency instead of money hoarding Payment safety: physical note serial number, digital cryptocurrency blockchain
Common criteria	Tax payment: local municipality and national tax payment Purchase offer diversity: answer user needs in term of quantity and quality of products usefulness Loyalty reward with promotional discount
Products offer	Label with micro-audit certification Income with business network exchange
Revenue model	1'000 to 5'000 CHF entry fee (based on juridical structure and size of the organization) 25 to 100 CHF monthly subscription (based on juridical structure and size of the organization) 5% to 10% entry and 10% to 20% exit commission on conversion (based on exchange amount) Free exit fee (under the condition of balanced account)
Objectives by 2020	3'000 business or producers (around 10% of the Geneva business network members) 50'000 users or consumers (around 10% of the Greater Geneva job employment) CHF 50 million transaction volume (around 0.1% of the Geneva canton Gross Domestic Product)

After focusing on the client advantage a financial plan, to calculate the necessary financial needs to highlight the team of skilled human resources, and an impact report, to assess the economic, social and environmental impact of the currency, should be integrated in a business plan to raise some fund from private and public sponsors such as Swiss cantons, French department, Greater Geneva and Lemanic Arc. Thanks to legal technical salespersons, not only the goods and services offer diversity would increase thanks to the network growth, but also the volume transaction within the business network would be incentivize. A digital platform, or even a mobile payment gateway, would propose a mutual credit, improve the promotional discount system, and assess the impact of the currency stock and flow.

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