



netCommons

Network Infrastructure as Commons

Economic Sustainability of CNs (v2) Community Currencies for Community Networks

**Deliverable Number D2.6
Version 0.3
September 11, 2017**



**Co-Funded by the Horizon 2020 programme of the European Union
Grant Number 688768**



Project Acronym: netCommons
Project Full Title: Network Infrastructure as Commons.
Call: H2020-ICT-2015
Topic: ICT-10-2015
Type of Action: RIA
Grant Number: 688768
Project URL: <http://netcommons.eu>

Editors:	Panayotis Antoniadis and Jens Martignoni, NetHood
Deliverable nature:	Report (R)
Dissemination level:	Public (PU)
Contractual Delivery Date:	December 31, 2017
Actual Delivery Date:	September 11, 2017
Number of pages:	21
Keywords:	community networks, dissemination, community currency
Authors:	Panayotis Antoniadis, NetHood Jens Martignoni, NetHood
Peer review:	n/a

History of Revision

Rev	Date	Author	Description
v0.1	31/07/2017	Panayotis Antoniadis	Final draft
v0.2	08/09/2017	Jens Martignoni	Adaptation to new Word Template
v0.3	11/09/2017	Panayotis Antoniadis	Release

Executive Summary

The series of deliverables on economic sustainability of Community Networks (D2.4 & D2.6) is focusing on the analysis and design of community currency (CC) schemes that could be become part of the internal management of a CN or include CNs in wider local economies. The preliminary exploration of analogies between CNs and CCs, and possible combinations, documented in D2.4, has led to a long-term collaboration between NetHood and UPC on the development of a concrete strategy for the inclusion of community currencies in the overall management of Guifi.net. This strategy needs to take into account the particularities of the specific context, and especially the rapid developments in the Barcelona municipality regarding the launching of a new currency. It needs also to be supported by the appropriate educational tools.

This deliverable reports the different steps taken toward this direction and in its final version (due December 2017) will include the final recommendation and strategy proposed by netCommons for the case of Guifi.net and how these recommendations can be generalized to be applied in more or less different scenarios in other countries.

Contents

1	Introduction	7
2	The Barcelona Conference	8
2.1	International research on Complementary Currencies	8
2.2	Conference and participation of netCommons	8
2.3	General results and outcomes	9
3	Workshop about the Commons	11
3.1	Managing the commons	11
3.2	The District Currency	12
3.3	Special-Purpose Community Currency: The Case of Community Networks	12
4	Game workshops	14
4.1	Play in Karthago	14
4.2	Play in Barcelona	16
5	Summary	18

List of figures

List of tables

List of acronyms

BCN	Barcelona
B4RN	Broadband for the Rural North
CAPS	Collective Awareness Platforms for Sustainability and Social Innovation
CC	Community Currency
CCs	Community Currencies (plural)
CN	Community Network
CNs	Community Networks (plural)
CSCC	International Conference on Social and Complementary Currencies
CONFINE	Community Networks Testbed for the Future Internet
DAO	Decentralized Autonomous Organization
eXO	The Association for the Expansion of Open Network
FLOSS	Free /Libre Open-Source Software
GFOSS	Greek Free/Open Source Software Society
ICT	Information and Communications Technology
ISP	Internet Service Provider
LETS	Local Exchange and Trade System
VOIP	Voice Over Internet Protocol

1 Introduction

At the end of the first year of the netCommons project, the decision was made to pursue a more concrete than initially anticipated task: the design of a community currency model for Guifi.net as one of the most mature CNs in Europe.

This preliminary version of D2.6 reports on the first steps, i.e., workshops and educational games, after this key decision, which will be further complemented with additional events and analyzed to produce a concrete set of recommendations and design elements of a specific scheme.

2 The Barcelona Conference

2.1 International research on Complementary Currencies

Scientific research in complementary and community currencies is still an outsider theme in economic and social research but is gaining more and more attention in the last years. A special journal, the International Journal of Community Currency Research (ijccr.net) exists since 20 years (founded 1997 in UK). A first international conference of researchers and practitioners in the field was held 2011 in Lyon (France) and has now become a biennial event. The Fourth International Conference on Social and Complementary Currencies titled “Money, Awareness and Values for the Social Change”¹, was held in Barcelona from 10 to 14 May, 2017, with the participation of a delegation of netCommons (see below).

In 2015 an international research organization was established called RAMICS which is now the organizer of the conferences as well as the publisher of the journal. It also provides a database of all relevant literature. RAMICS tries to coordinate and incentivise scientific research as well as contributions and exchange of practitioners and political influencers or governmental administrations. The freshly elected board consists of seven scientists out of seven countries.

2.2 Conference and participation of netCommons

The Barcelona conference came at a critical moment when the city of Barcelona makes plans for introducing a new city currency and Guifi.net attracts more and more attention as a sustainable alternative to build and manage networking infrastructures as a commons. Therefore it was the right time and the right place to contribute and present a part of netCommons work on sustainability and currencies.

netCommons submitted two papers and applied to organize workshop and a gaming session for the conference. Both the workshop, including the two papers, and the game were accepted and additionally netCommons member Jens Martignoni was asked to be the chair of two other sessions.

Therefore the following contributions took place:

- Session 7D: Thursday, 11th May 2017, 17.00-19:00 Commons oriented currencies: What makes the difference?

Including the presentation of the two papers

- Jens Martignoni: The District Currency – a new currency design for managing the commons (Presenter: Jens Martignoni)
- Panayotis Antoniadis & Jens Martignoni & David Franquesa & Roger Baig & Leandro Navarro: Special-Purpose Community Currency: The Case of Community Networks, (Presenters: Panayotis Antoniadis, Roger Baig)
- Session 12D: Saturday, 13th May 2017, 9:00-13:30: Workshop The District-Currency-Game: How to improve life in a cooperative, (Presenters: Panayotis Antoniadis, Jens Martignoni, Ileana Apostol)
- Session 3E: Wednesday, 10th May 2017, 17:00-19:00, Chaired by Jens Martignoni
- Session 11C: Friday, 12th May 2017, 16:30-18:00, Chaired by Jens Martignoni

¹ see <https://ramics.org/barcelona2017/>

One other very important part was the presentation of governmental institutions and policies from eight European cities or towns in the main Session 4A (Thursday 11th May 2017, 9:00-13:30):

- Bristol, UK
- Lisbon, Portugal
- Vilanova i la Geltrù, Catalunya
- Santa Coloma de Gramanet, Catalunya
- Nantes, France
- Cordoba, Spain
- Sevilla, Spain
- San Juan de Aznalfarache, Spain



Representatives from different European cities and municipalities presented their official local currencies at the conference (Photo J. Martignoni)

2.3 General results and outcomes

The conference presented a colorful mixture of scientific research and practical experiences and case studies of the worldwide movement for social and complementary currencies. The first three days of the conference had 350 participants.



Exciting discussions during the breaks (Photo: Grupo de trabajo e investigación - Otro Dinero, Otros Valores)

For Saturday and Sunday the conference was open to the public, including a “1st exchange market with social currency” where about 20 marketers offered their production (food, beverage, handicraft).



The public market on Saturday (Photo: Grupo de trabajo e investigación - Otro Dinero, Otros Valores)

3 Workshop about the Commons

3.1 Managing the commons

The management of the commons is a central topic for a CN to meet its “vision of the democratization of the media through free networks”². Democratic decision-making is central and also the concepts of production and consumption play an important role in the use of the commons, since they are either used as a production resource or means of consumption. But in fact it is not perfectly clear how “the commons” in general are defined and a lot of work has been done to develop a clear concept. Detailed definitions of the commons term can be found for example in Ostrom (2009A), in Helfrich et. al. (2009), as well as in Helfrich / Heinrich Böll Foundation (2009). However, the concept of "commons" remains not a sharply delimited, but a partly contradictory one. Therefore we shall here, in an open manner, and in contrast to private goods, consider the commons as:

“All the goods which are administered in the sense of a collective property of a larger number of people with a basic claim to general wellbeing. This includes, in particular, public goods as well as cooperative goods, club goods and jointly managed public resources.” (Martignoni, 2017)

Ostrom has published detailed research results on the management of the commons and has also received the Nobel Prize (Ostrom 1990, 2009A). Cox, Arnold and Villamayor-Tomás (2010) refined the *eight design criteria* of Ostrom (2009B, p.85ff). These rules provide a framework in which the management of a commons shall generate a stable and thriving resource for the people (and institutions) involved.

The idea of the workshop about commons was, to point out the different approach a commons oriented currency has and how this would lead to another design of a currency. The three papers presented in the Session 7D (English & Spanish) chaired by Susana Martín were:

- Jens Martignoni: The District Currency – a new currency design for managing the commons (Presenter: Jens Martignoni)
- Panayotis Antoniadis & Jens Martignoni & David Franquesa & Roger Baig & Leandro Navarro: Special-Purpose Community Currency: The Case of Community Networks, (Presenters: Panayotis Antoniadis, Roger Baig)
- Ton Dalmau & Carme Dastis: La Turuta, moneda local y ciudadana (Presenter: Ton Dalmau)

There is a website with all publicly available videos of the presentations, the slides and the papers: <http://dineroyvalores.wixsite.com>.

² <https://freifunk.net/en/what-is-it-about/>

3.2 The District Currency

Jens Martignoni: The District Currency – a new currency design for managing the commons (Presenter: Jens Martignoni)

(Abstract)

Most schemes of complementary currencies developed in the last 50 years are based on individual exchange and the market idea and take first the individual person or the individual company into account as an actor in a network of exchanging goods and services. Mutual Credit systems, LETS or TimeBanks e.g. do support mostly this market case and many of them limit common activities to the sole operation of the system itself. Therefore community currencies today are often currencies operating within a community but not for the community. Some exceptions like spice time credits are targeted as incentives but do not include a strong commitment of the participants, which is essential for managing a commons.

The district currency is a new currency model, which is designed upon the commons idea. First are the needs and tasks of the community, the public (community) goods and common tasks based on the commons, which are then the core and drivers of the currency. As a secondary element the traditional individual market based system can complement this and strengthen its impact.

The paper describes the basic model and some historical background as the case of Woergel which has still some interesting aspects not widely taken into consideration. The main features and mechanisms were then described and discussed. Important features and innovations are the intended and controllable circulation, the democratic decision of the spending and budget and the commons based value system. By reversing the viewpoint and starting from the commons and their use, also the idea of taxation and payments to a central authority can be reflected and find back to understandable meaning.

The currency was developed along a case study in a housing cooperative in Zurich, which is also reflected and is especially useful for the advancement of cooperatives. Experiences with the planning district-currency-game give some important hints for the feasibility and the functioning of such an improved currency model and the open questions remaining to be answered. The advantages and disadvantages of the idea were discussed as well as some sociological and economical implications and the management of a commons-based currency in general.

The presentation is available on video in two parts:

[Martignoni, J. \(1/2\) - Ponencia IV CIMSC \(Jens Martignoni\)³](#)

[Martignoni, J. \(2/2\) - Ponencia IV CIMSC \(Jens Martignoni\)⁴](#)

3.3 Special-Purpose Community Currency: The Case of Community Networks

Jens Martignoni: The District Currency – a new currency design for managing the commons (Presenter: Jens Martignoni)

Panayotis Antoniadis & Jens Martignoni & David Franquesa & Roger Baig & Leandro Navarro: Special-Purpose Community Currency: The Case of Community Networks, (Presenters: Panayotis Antoniadis, Roger Baig)

Abstract:

³ https://www.youtube.com/watch?v=Fj_GRLEJhRc

⁴ <https://www.youtube.com/watch?v=Zd5F29uLU5M>

Reading in parallel the description of community networks and community currencies reveals many similarities and differences between these two models of self-organization around networking infrastructures and monetary systems, respectively. This position paper brings together experts from both domains in an effort to share knowledge and experience and hint to possible integrated models of both community networks and community currencies in specific geographic areas, like Barcelona. For example, a special-purpose community currency can place a community network into a broader local economy that can reward investments in infrastructure and bridge the gap between professional and voluntary work. As working example, we choose Catalonia's success story on community networks, Guifi.net, and Sardinia's success story on community currencies, Sardex.net. The under-development commons-based district currency will be proposed as a means to bridge the local (a housing cooperative or a small village running its own community network and a local circuit for computer reuse) with the global (a region-wide mutual credit system like Sardex) in a scalable and democratic way.

The presentation is available on video:

[Antoniadis, P. & Martignoni, J. & Franquesa, D. & Baig, R. & Navarro, L. - \(Panayotis Antoniadis & Roger Baig\)⁵](#)

⁵ https://www.youtube.com/watch?v=v2tz_j9CFS0

4 Game workshops

4.1 Play in Karthago

Our first in 2017 game workshop⁶ was held at the housing cooperative Karthago in Zurich, 8th of April 2017 including the deployment of a local wifi-zone and the hybrid letterbox as a win-win collaboration with the MAZI-project to support the democratic processes in the game. The seventeen participants were guided by three game managers, introducing the situation and facilitating the process.



Changing the tasks of the commons assembly into job descriptions and job offers by the commons commission (Photo I. Apostol)

⁶ Three first game workshops were already held in 2016, see Deliverable 2.4 (v1), section 5.3



The MAZI-Zone “Flexonomix” and the hybrid letterbox installation (Photo P. Antoniadis)



Questions and discussions during the final evaluation (Photo I. Apostol)

An interesting situation occurred with the children's caretaking in the game. After the first round a lack of caretaking abilities was stated and the commons assembly assigned unused rooms to a new childcare site. But this official supply did not satisfy all parents. So later on two competing private initiatives emerged and offered cheaper service for childcare. Surprisingly all of these “businesses” did survive and provided a wider variety of selection options, as a real market would do as well.

The numbers of the currency circulation and a brief report on the final discussion will be added to the deliverable in a later version.

4.2 Play in Barcelona

During the Barcelona conference another game workshop was held (see section 2.2). While the workshop in Karthago was directed towards cooperative members or possible users of such a district currency, the audience in Barcelona was comprised mostly of currency experts typically more critical towards new currency designs and the promised effects. So it was very nice to see that the game did also work among such participants and that some of them got very excited about the capabilities of the game as an educational instrument.



The cash-desk and the office of the commons-commission had a lot of traffic (Photo J. Martignoni)



Trading and shopping around the coffee shop (Photo J. Martignoni)



Discussions and decision taking in the commons assembly was a challenge for the internationally compiled participants (Photo J. Martignoni)

5 Summary

This preliminary version of deliverable D2.6 summarizes the main activities of NetHood and UPC in the first half of 2017.

The final version will include a more detailed analysis of the above actions and will develop a concrete strategy for improving economic sustainability of CN's with the use of CC's, with Guifi.net as the main example.

Bibliography

- Antoniadis, P. (2016). Local Networks for Local Interactions: Four Reasons Why and a Way Forward. First Monday. Available at: <http://firstmonday.org/ojs/index.php/fm/article/view/7123/5661>
- Antoniadis, P. and Apostol, I. (2014). The Right(s) to the Hybrid City and the Role of DIY Networking. The Journal of Community Informatics, special issue on "community informatics and urban planning". Available at: <http://ci-journal.net/index.php/ciej/article/view/1092>
- Antoniadis, P., Ott, J. and Passarella, A. (eds.). Do It Yourself Networking: an interdisciplinary approach (Dagstuhl seminar 14042). Dagstuhl reports, 4(1):125-151. Available at: <http://drops.dagstuhl.de/opus/volltexte/2014/4538/>
- Baig, R., Roca, R., Freitag, F., Navarro, L. (2015). guifi.net, a crowdsourced network infrastructure held in common, Computer Networks, Elsevier, 90: 150–165, doi:10.1016/j.comnet.2015.07.009.
- Baig, Roger; Dalmau, Lluís; Roca, Ramon; Navarro, Leandro; Freitag, Felix and Sathiaseelan, Arjuna (2016). Making Community Networks economically sustainable, the guifi.net experience. In Proceedings of the 2016 workshop on Global Access to the Internet for All (GAIA '16). ACM, New York, NY, USA, 31-36. DOI: <http://dx.doi.org/recursos.biblioteca.upc.edu/2940157.2940163>
- Barnes, Graham (2014). Money as a Commons, FEASTA The Foundation for the Economics of Sustainability, Briefing paper, September 5, <http://www.feasta.org/wp-content/uploads/2014/09/money-as-a-commons1.pdf>
- Blanc, J. (2011). Classifying “Ccs”:Community, complementary and local currencies types and generations, International Journal of Community Currency Research, ISSN 1325-9547
- Cook Network Consultants (2015). Enabling the Network Commons. COOK Report. Volume XXIII, No. 12 & XXIV No. 1 March - April 2015, ISSN 1071 - 6327.
- D-CENT (2015): Design of Social Digital Currency, Report 4.4, Decentralized Citizens Engagement Technologies, EU-CAPS-Project, Available at: http://dcentproject.eu/wp-content/uploads/2015/03/design_of_social_digital_currency_publication.pdf
- De Filippi, P., Tréguer, F. (2015). Expanding the Internet Commons: The Subversive Potential of Wireless Community Networks. Journal of Peer Production, Issue #6, 1-11. Available at: <http://peerproduction.net/issues/issue-6-disruption-and-the-law/peer-reviewed-articles/expanding-the-internet-commons-the-subversive-potential-of-wireless-community-networks/>
- Dini, P. and Kioupkiolis, A. (2014). Community Currencies as Laboratories of Institutional Learning: Emergence of Governance through the Mediation of Social Value, Presented at the Inaugural conference of the World Interdisciplinary Network for Institutional Research (WINIR), London, September 10-14, 2014.
- Fuchs, Christian. (2017). Sustainability and community networks. Telematics and Informatics, 34 (2): 628-639. Available at: <https://zenodo.org/record/163751>
- Greenblat, Cathy S. (1988). Designing games and simulations. An illustrated handbook. Newbury Park: Sage Publications.

- Helfrich, Silke / Kuhlen, Rainer / Sachs, Wolfgang / Siefkes, Christian. (2009). Gemeingüter – Wohlstand durch Teilen, Heinrich-Böll-Stiftung, Berlin
- Helfrich, Silke / Heinrich-Böll-Stiftung (Hrsg.). (2009). Wem gehört die Welt? Zur Wiederentdeckung der Gemeingüter, oekom, München
- Iosifidis, Georgios, Charette, Yanick, Littera, Giuseppe, Tassioulas, Leandros, Christakis, Nicholas (2015). Network Analysis of the SardexCommunity Currency (September 23, 2015). Yale Day of Data. Paper 4. <http://elischolar.library.yale.edu/dayofdata/2015Posters/4>
- Littera, G., L. Sartori, P. Dini & P. Antoniadis. (2016). From an idea to a scalable working model: merging economic benefits with social values in Sardex. International Journal of Community Currencies, December 2016.
- Martignoni, Jens (2017). The District Currency – a new design for managing the commons, conference paper, the IV International Conference on Social and Complementary Currencies in Barcelona 2017
- Medosh, A. (Forthcoming). The Rise of the Network Commons. Draft available at: <http://www.thenextlayer.org/NetworkCommons>
- Navarro, L., Baig, R., Freitag, F., Tréguer F., Maccari, L., Micholia, P., Antoniadis, P. (2016). Report on the Existing CNs and their Organization (v2), Deliverable D1.2 from the NetCommons.eu research project, Available at: <http://netcommons.eu/?q=content/deliverables-page>
- Navarro, Leandro, Baig Vinas Roger, Barz, Christoph, Bonicioli, Joseph, Braem, Bart, Freitag, Felix, Vilata-i-Balaguer, Ivan (2016). Advances in wireless community networks with the community-lab testbed, in IEEE Communications Magazine, vol. 54, no. 7, pp. 20-27, July 2016. doi: 10.1109/MCOM.2016.7509374, or under <http://ieeexplore.ieee.org/document/7509374/>
- Ostrom, Elinor (2009A). Beyond Markets and states: Polycentric Governance of complex economic systems, Nobel Prize lecture, Dec. 8, 2009 Stockholm, p. 408-444
- Ostrom, Elinor (2009B): Was mehr wird, wenn wir teilen. Vom gesellschaftlichen Wert der Gemeingüter. Herausgegeben, überarbeitet und übersetzt von Silke Helfrich. Oekom, München. Download unter <https://dl.dropboxusercontent.com/u/15261457/ostrom.pdf> (27.10.2014)
- Ostrom, Elinor (1990): Governing the commons: the evolution of institutions for collective action. Cambridge University Press, Cambridge, UK.
- Schlager, E., Ostrom, E. (2015). Property-rights regimes and natural resources: A conceptual analysis,” Elinor Ostrom and the Bloomington School of Political Economy: Resource Governance, vol. 2, p. 101.

A Appendix

Background material will follow in the final release.