## Supplementary Material

Key features of the studies reviewed for social dimension of CE

| Code | Reference                                 | Geographic context | Goal   | Scale<br>(level) | industrial<br>sector                          | Research type         |
|------|---|--------------------|--|------------------|---|-----------------------|
| 1    | (Allam and<br>Jones, 2018)                | Australia          | To develop a sociotechnical framework to consider the use of transformed plastic wastes  | Macro            | Waste Management                              | Case study            |
| 2    | (Aquilani et al.,<br>2018)                | Italy              | To investigate the trade-offs of the spatial, temporal and social dimension of urban growth  | Micro            | Waste Management                              | Theoretical approach  |
| 3    | (Amenta and<br>van Timmeren,<br>2018)     | Italy              | To propose a framework to integrate key features of<br>corporate sustainability to contribute to build bio-<br>economies                         | Micro            | Not specified                                 | Theoretical approach  |
| 4    | (Weslynne S.<br>Ashton and<br>Bain, 2012) | USA                | To develop a conceptual framework to identify and<br>measure social characteristics of wastes management   | Micro            | Waste Management                              | Theoretical approach  |
| 5    | (Avdiushchenko,<br>2018)                  | Poland             | To develop a regional monitoring framework to be used<br>as an instrument for faster implementation of CE model                                  | Macro            | Not specified                                 | Theoretical approach  |
| 6    | (Azevedo et al.,<br>2017)                 | Portugal           | To assess corporate sustainability under a CE context to<br>contribute the innovation of enterprises   | Micro            | Manufacture                                   | Analytical assessment |
| 7    | (Biber-<br>Freudenberger et<br>al., 2018) | Germany            | To improve understanding of sustainability implications<br>of the supply and demand of bio-based products  | Micro            | High-tech<br>(biotechnology)                  | Analytical assessment |
| 8    | (Boons et al., 2011)                      | The<br>Netherlands | To propose a theoretical framework, which addresses bounded clusters of firms  | Macro            | Not specified                                 | Theoretical approach  |
| 9    | (Borrello et al.,<br>2017)                | Italy              | To carry out an assessment regarding to the participation<br>of consumers to circular agri-food loops to reduce<br>wastes                        | Micro            | Waste Management<br>(food)                    | Case study            |
| 10   | (Chaudhary and<br>Vrat, 2018)             | India              | To develop a system dynamics model to study the<br>sustainable benefits of circular flow of gold in cell<br>phones supply chain                  | Macro            | Waste Management<br>(cellphones/gold)         | Case study            |
| 11   | (Chen et al.,<br>2019)                    | UK                 | To understand the socio-economic implications of<br>recovering nutrients from residues to recirculate to the<br>next crop as an example of BE    | Micro            | Waste Management<br>(food) and<br>fertilizers | Analytical assessment |
| 12   | (Xue et al.,<br>2010b)                    | China              | To provide initial insight into awareness of municipal<br>government officials with respect to the promotion<br>process of CE                    | Macro            | Urban area                                    | Survey                |
| 13   | (Chiappetta<br>Jabbour et al.,<br>2019)   | France             | To develop an integrate theoretical framework<br>incorporating the role of Green Human Resource<br>Management in further CE practices and policy | Micro            | Not specified                                 | Theoretical approach  |
| 14   | (D'Amato et al.,<br>2019)                 | Finland            | Compare closed-looped economies (CE, BE, and GE)   | Not<br>mentioned | Not specified                                 | Analytical assessment |

| 15 | (Dietz et al.,<br>2018)                  | Germany            | To develop and information tool that enables national<br>and international policy makers to learn from other<br>counties' BE strategies                                      | Macro    | Not specified           | Analytical assessment |
|----|--|--------------------|--|----------|-------------------------|-----------------------|
| 16 | (Puppim de<br>Oliveira et al.,<br>2013a) | Japan              | To link the concepts of governance and green economy<br>in cities by identifying the key economic process in<br>urban areas and assessing good governance                    | Macro    | Urban area              | Analytical assessment |
| 17 | (Domenech et al., 2019)                  | UK                 | To provide a descriptive mapping of IS and to identify key characteristics of IS networks.   | Meso     | Manufacture             | Analytical assessment |
| 18 | (Doménech et al., 2011)                  | UK                 | To analyze the mechanisms in the building of trust and<br>embeddedness and identify phases in cooperation<br>leading effective IS exchanges                                  | Meso     | Waste Management        | Theoretical approach  |
| 19 | (Pitkänen et al.,<br>2016)               | Finland            | To increase understanding of transition to GE by<br>exploring qualitatively a range of practical GE cases<br>from different fields   | Macro    | Energy, Wood,<br>Wastes | Analytical assessment |
| 20 | (Egenolf et al.,<br>2019)                | Germany            | To develop a framework for the evaluation of the<br>sustainability of the BE, considering economic, social<br>and environmental dimensions                                   | Macro    | Not specified           | Theoretical approach  |
| 21 | (Fischer and<br>Pascucci, 2017)          | The<br>Netherlands | To compare empirical evidence on CE from textile<br>industry to build a cohesive conceptual framework  | Micro    | Textile                 | Analytical assessment |
| 22 | (Geissdoerfer et<br>al., 2018)           | UK                 | To discuss the sustainability performance of circular<br>business model and circular supply chain necessary to<br>implement  | Micro    | Manufacture             | Analytical assessment |
| 23 | (Girard and<br>Nocca, 2017)              | Italy              | To identify a tourism management model able to produce multidimensional benefits, and reduce costs   | Macro    | Tourism                 | Analytical assessment |
| 24 | (Gutberlet et al., 2017)                 | Canada             | To address the challenge of expanding the social and<br>political aspects of the CE concept, making social<br>benefits more sustainable and less paternalistic               | Macro    | Waste Management        | Case study            |
| 25 | (Hagemann et al., 2016)                  | Germany            | Identify influence factors for the future development of<br>a wood BE  | Macro    | Wood                    | Survey                |
| 26 | (He et al.,<br>2018a)                    | China              | To investigate what drives public acceptance and<br>rejection of chemical industrial parks policies and<br>projects  | Micro    | Chemistry               | Survey                |
| 27 | (He et al.,<br>2018b)                    | China              | To understand public perception, attitude, and response<br>and the factors underlying the support/acceptance of<br>Chemical industrial park                                  | Micro    | Chemistry               | Survey                |
| 28 | (Iacovidou et al.,<br>2017)              | UK                 | To analyse environmental, economic, social and<br>technical metrics used in waste management and<br>resource recovery systems  | Multiple | Waste Management        | Analytical assessment |
| 28 | (Jasinevičius et<br>al., 2017)           | Finland            | To assess impacts of increased domestic wood<br>utilisation on employment, economic performance on<br>the sector, and carbon balances in forest biomass and<br>wood products | Macro    | Wood                    | Case study            |
| 30 | (Korhonen et al., 2018)                  | Sweden             | To contribute to scientific research on CE by defining<br>the concept from the perspective of sustainability   | Macro    | Not specified           | Theoretical approach  |

|                                     |                                   |              | science. Moreover, conduct a critical analysis of the<br>concept from the perspective of environmental<br>sustainability  |                  |                         |                      |
|-------------------------------------|-----------------------------------|--------------|---|------------------|-------------------------|----------------------|
| 31                                  | (Laurenti et al.,<br>2018a)       | Sweden       | To highlight the role of developing an approach to reach<br>a wider audience to communicate the waste footprint in<br>the context of CE   | Micro            | Not specified           | Survey               |
| 32                                  | (Laurenti et al.,<br>2018b)       | Sweden       | To develop an integrative framework for recognising the socio-economic embeddedness of the CE   | Not<br>mentioned | Waste Management        | Theoretical approach |
| 33 (Loiseau et al.,<br>2016) France |                                   | France       | To identify and describe the main theories and concepts<br>related to a green economy and to illustrate their links to<br>sustainability  | Not<br>mentioned | Not specified           | Analytical assessmen |
| 34                                  | (Martin and<br>Harris, 2018)      | Sweden       | To analyse the environmental and socio-economic<br>implications of an emerging network using LCA and<br>socio-economic assessment to illustrate the implications<br>of the firms of the network and regional sustainability           | Micro            | Energy, Wood,<br>Wastes | Case study           |
| 35                                  | (Mattila et al.,<br>2018)         | Finland      | To complement local social sustainability which is often<br>applied to forest systems with analysis of global social<br>life cycle impacts, applying SHDB   | Multiple         | Wood                    | Case study           |
| 36                                  | (Millar et al.,<br>2019)          | UK           | To exanimate the current relationship between the CE<br>and SD  | Not<br>mentioned | Not specified           | Analytical assessmen |
| 37                                  | (Morales et al.,<br>2019)         | France       | To explore the transition phases and the learning process<br>of IS in order to appreciate the structural transformation<br>in this complex system embodied by the organization<br>strategy developed between actors and organizations | Micro            | Petrochemical           | Case study           |
| 38                                  | (Moreau et al.,<br>2017b)         | Switzerland  | To examine the CE from a biophysical and social<br>perspective to show that concept lacks the social and<br>institutional dimensions to address the current material<br>and energy throughput in the economy                          | Not<br>mentioned | Not specified           | Theoretical approach |
| 39                                  | (Murray et al.,<br>2017)          | UK           | To explain the inter – and trans- disciplinary<br>perspectives inherent in concepts of the CE that apply to<br>the implementation of sustainable business   | Not<br>mentioned | Not specified           | Analytical assessmen |
| 40                                  | (Nahman et al.,<br>2016)          | South Africa | To develop a composite index for measuring green<br>economic performance, based on social, economic and<br>environmental dimensions   | Macro            | Not specified           | Theoretical approach |
| 41                                  | (Pei et al., 2018)                | Taiwan       | To provide and overview of the interrelationship's<br>tourism and sustainability from a cross-disciplinary<br>perspective   | Macro            | Tourism                 | Analytical assessmen |
| 42                                  | (Pociovălișteanu<br>et al., 2015) | Romania      | To study the situation of green jobs at the EU level and<br>relationship between environment and employment, by<br>analysing the link between employment and<br>environmental policies  | Macro            | Green activities        | Analytical assessmer |
| 43                                  | (Rafiaani et al.,<br>2018)        | Belgium      | To propose a modified system approach for a social<br>sustainability impact assessment of the bio-based   | Not<br>mentioned | Not specified           | Analytical assessmer |

|                           |                                   |             | economy, considering all life cycle phases of the economy  |                  |   |                     |
|---------------------------|-----------------------------------|-------------|--|------------------|---|---------------------|
| 44                        | (Sacirovic et al.,<br>2018)       | Serbia      | To give and overview of all the major problems of the<br>city, with the tracking of generator pollutants in urban<br>and rural parts of the city                             | Meso             | Manufacture   | Analytical assessme |
| 45                        | (Sahakian, 2015)                  | Switzerland | To illustrate the linkages between industrial ecology and<br>the social solidarity economy   | Not<br>mentioned | Not specified   | Analytical assessme |
| 46                        | (Schroeder et al.,<br>2018)       | UK          | To identify relevant CE practices and synergies in the<br>context SDGs and its implementation  | Not<br>mentioned | Waste Management<br>(e-wastes,<br>municipal,<br>wastewater) | Analytical assessme |
| 47                        | (Siyambalapitiya<br>et al., 2018) | China       | To provide a quick historical overview of green growth<br>and its evolution as research about new discourses for<br>green growth in direction of a CE                        | Macro            | Not specified   | Analytical assessme |
| 48                        | (Stern et al.,<br>2018)           | Austria     | To explore how bio economy is perceived, understood<br>and evaluated by a wider audience   | Macro            | Not specified   | Survey              |
| 49                        | (Sun et al.,<br>2017)             | UK          | To contribute to understanding dynamics of IS in the<br>context of eco-industrial development  | Meso             | Not specified   | Analytical assessme |
| 50                        | (Ünal and Shao,<br>2019)          | Italy       | To examine how organizations, combine CE capabilities<br>with resources for their long-term competitive goals  | Micro            | Multiple  | Analytical assessme |
| 51                        | (Veleva et al.,<br>2017)          | USA         | To propose a model for expanded zero waste practice,<br>which includes additional indicators for measuring<br>outcomes and impacts of circular business strategies           | Micro            | High-tech<br>(pharmaceutical)                               | Theoretical approa  |
| 52                        | (Williams, 2019)                  | UK          | To explore the challenges to looping actions within<br>resource sectors and for specific actions   | Macro            | Urban area  | Analytical assessme |
| 53 (Winkler et al., 2019) |                                   | Germany     | To investigate the ways in which urban garden can<br>influence consumer behaviour and act as a potential<br>starting point for a more sustainable lifestyle                  | Micro            | Food  | Survey              |
| 54 (Yedla and Park, 2017) |                                   | India       | To analyse the key drivers to such a networking,<br>identifies what are the conditions and strategies required<br>at different levels, and barriers for their implementation | Meso             | Not specified   | Analytical assessme |
| 55                        | (Zeug et al.,<br>2019)            | Germany     | To capture and map the societal interests and<br>perceptions of the most relevant stakeholder groups of<br>BE by means of SDGs   | Not<br>mentioned | Not specified   | Analytical assessme |
| 56                        | (Zhang et al.,<br>2009)           | Japan       | To argue the perspectives of SD of socio-economic and<br>environmental performance, by reviewing the relevant<br>literature of current CE and EIPs                           | Meso             | Multiple  | Analytical assessme |
| 57                        | (Zhao et al.,<br>2018)            | China       | To develop a framework to assess the comprehensive<br>benefit of eco-industrial parks in term of CE and<br>sustainability  | Meso             | Multiple  | Analytical assessme |
| 58                        | (Zhao et al.,<br>2017)            | China       | To develop a hybrid framework for evaluating the<br>comprehensive benefit of eco-industrial parks from the<br>perspective of CE  | Meso             | Multiple  | Analytical assessme |

| 59 | (Zore et al.,<br>2018) | Slovenia | To describe an upgraded concept of sustainability metric<br>(SP) from various micro-and macroeconomic<br>perspectives and how it can be used for the synthesis of<br>production systems in order to increase their circularity | Meso             | Energy        | Analytical assessment |
|----|------------------------|----------|--|------------------|---------------|-----------------------|
| 60 | (Koumparou,<br>2017)   | Greece   | Explores the social dimension of the circular economy<br>under a sustainable perspective and to know how<br>circular economy recognize interconnections with<br>society  | Not<br>mentioned | Not specified | Theoretical approach  |