Circular economy would increase European competitiveness and deliver better societal outcomes, new study reveals

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The Ellen MacArthur Foundation, the McKinsey Center for Business and Environment, and SUN (Stiftungsfonds für Umweltökonomie und Nachhaltigkeit), today present the results of a major new study at the European Commission's stakeholder conference on the circular economy in Brussels. *Growth Within: A circular economy vision for a competitive Europe* reveals that by adopting circular economy principles, Europe can take advantage of the impending technology revolution to create a net benefit of $\in 1.8$ trillion by 2030, or $\in 0.9$ trillion more than in the current linear development path. This would be accompanied by better societal outcomes including an increase of $\in 3,000$ in household income, a reduction in the cost of time lost to congestion by 16%, and a halving of carbon dioxide emissions compared with current levels.

Europe's current linear growth model is highly dependent on finite resources, exposing it to resource volatility, limited gains in productivity, and huge loss of value through waste. Research to date by the Ellen MacArthur Foundation has quantified clear economic benefits of a transition to the circular economy which aims to keep products, components, and materials at their highest value at all times. This latest research presents, for the first time, a vision of how the circular economy could look for three of Europe's most resource-intensive basic needs: food, mobility and the built environment, which together account for 60% of household costs.

The report acknowledges that on the current linear path, technological disruption will bring benefits, but finds that the potential gains for growth, household incomes and the environment are much greater with a circular model. Key findings for Europe include:

- A circular economy could result in overall benefits of €1.8 trillion by 2030, or twice the benefits seen on the current development path (€0.9 trillion)
- By adopting circular economy principles, Europe can take advantage of the technology revolution and increase average disposable income for EU households by €3,000 euros, or 11% higher than the current development path
- This would further translate into an 11% GDP increase by 2030 versus today, compared with 4% in the current development path
- The circular model would also benefit households in other ways. For example, compared to the current development path, the cost of time lost to congestion would decrease by 16% by 2030, and close to 60% by 2050
- Carbon dioxide emissions would halve by 2030, relative to today's levels (48% reduction of carbon dioxide emissions by 2030 across the three basic needs studied, or 84% by 2050)
- Primary material consumption measured by car and construction materials, real estate land, synthetic fertiliser, pesticides, agricultural water use, fuels, and non-renewable electricity could drop 32% by 2030 and 53% by 2050, compared with today
- 65 reviewed academic papers indicate that "existing studies point to the positive employment effects occurring in the case that the circular economy is implemented"

The report's findings are timely: as the European Commission considers its circular economy strategy and consults with stakeholders in order to develop a circular economy package by the end of the year, *Growth Within* provides a fact-base to inform the choices that need to be made.

For policy-makers inspired by the vision presented in this report, the Ellen MacArthur Foundation's new and complementary report, *Delivering the circular economy: A toolkit for policy-makers*, offers an actionable, step-by-step methodology to help transition towards a circular economy.

"The economy is undergoing profound transformation as the technology revolution reaches scale. This report has shown that by applying circular economy principles we can catalyse this change, achieve a real system shift, and open a new era of growth and development, decoupled from resource constraints."– Dame Ellen MacArthur

"The findings are the result of a nine-month study, drawing on the expertise of academia, government, and industry. The insights of the report have been derived through extensive desk research, over 150 interviews, a new approach to modelling the economic impact of the circular economy, the largest comparative study on employment effects, and three in-depth sector analyses. The results show that, given the massive change in technology, consumer behaviour and business models, the circular economy is both viable and attractive. We found that businesses that work on the basis of circular principles are amongst the fastest growing in the economy." – Dr. Martin R. Stuchtey, McKinsey Center for Business and Environment

"SUN is very pleased to contribute – through this report – to one of the most important economic debates in Europe. The report lies at the heart of SUN's focus: research into the economic opportunity of better environmental stewardship." – Dr. Klaus Zumwinkel, President of Deutsche Post Foundation and SUN

To read the full report, visit: www.ellenmacarthurfoundation.org/books-and-reports http://sun-stiftungsfonds.org/en/

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Notes to editors:

This report is sponsored by SUN (Stiftungsfonds für Umweltökonomie und Nachhaltigkeit) in collaboration with The Ellen MacArthur Foundation and the McKinsey Center for Business and Environment.

- SUN—Stiftungsfonds für Umweltökonomie und Nachhaltigkeit GmbH (Foundation for Environmental Economics and Sustainability). The Deutsche Post Foundation established SUN as a non-profit organisation in September 2014 in order to strengthen its international activities supporting institutions, programmes, and projects dealing with the challenges and opportunities of globalisation and enhanced cross-border activities. SUN promotes research on environmental protection, international understanding, and development cooperation.
- The Ellen MacArthur Foundation was created in 2010 to accelerate the transition to a circular economy. The Foundation's work focuses on three areas: insight and analysis, business and government, and education and training. With Knowledge Partner, McKinsey & Co, the Foundation works to quantify the economic potential of the circular model and to develop approaches for capturing this value. The Foundation collaborates with Global Partners (*Cisco, Kingfisher, Philips, Renault, Unilever*), and its CE100 network (businesses, governments & cities), to develop circular business initiatives and build capacity. The Foundation is creating a global teaching and learning platform on the circular economy as well, encompassing work with leading universities, schools and colleges, and online events such as the Disruptive Innovation Festival.
- The McKinsey Center for Business and Environment is working with businesses, governments, and non-profit organisations to tackle system-level sustainability and resource-productivity-related challenges. The Center's core belief is that growth in the 21st century will not be about managing

trade-offs between making profits and preserving the environment. Instead, new technologies and business models will allow companies, cities, and countries to use natural resources more productively and to leverage that ability as a new source of value and influence. The Center provided analytical support and overall project management for this project.