



Summary
Meganews Magazines LCA
*Environmental performance of a new innovative media
distribution channel.*

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1 Introducing a new media distribution channel

Meganews offers a new magazine concept. Small internet based magazine kiosks will be placed at airports, hospitals etc., at which the customer can choose from a range of magazine titles at a touch screen, pay with a credit card and then receive a copy of the magazine just after two minutes of printing.

At a time of heightened focus on environmental issues it is important for companies such as Meganews to understand the environmental profile of their products and services. This is particularly true in a changing market place, where magazine readers today have a choice between reading over the Internet and reading a printed copy. Knowing how the Meganews concept performs in comparison with traditional alternatives provides a better understanding for the new concept internally for Meganews and provides a platform for external communication regarding the environmental benefits of the concept.

Why a study of the environmental performance?

- Proactive!
- Finding potential improvement areas
- Comparison with other media channels
- Making sure that the new solution is a step forward

Innventia has a long experience of working with environmental performance of developing products and processes in cooperation with customers. In particular, Innventia works with assessment methods such as environmental and sustainability strategies, environmental indicators and life cycle assessment, in order to optimize the environmental and sustainability performance of a company, a process or a product.

In 2010, in cooperation with Sveriges Tidskrifter, Innventia performed a Life Cycle Analysis which described the potential environmental impact of a printed magazine and its comparable online content.

2 Method

- Life cycle assessment with system expansion was performed in order to map the anticipated life cycle GHG emissions along the value chains of a Meganews magazine and a traditional magazine.
- The *δCML 2001 (nov 2010) Global Warming Potential (GWP 100 years)* method was used to calculate the GHG emissions, and was modified by Innventia to only analyse the fossil flows. The biogenic CO₂-emissions are considered to be balanced by the uptake of CO₂ (by forests and crops).
- The LCA software GaBI 5.0 was used. Generic data was taken from the GaBi ÷ 11 professional database and the Ecoinvent database 2.0.

3 Functional unit

One sold copy of a typical Swedish magazine is the functional unit.

4 Setting up scenarios – A typical Swedish magazine

Two scenarios of a life cycle of a printed copy of a magazine were modelled in order to perform the environmental evaluations. One scenario describes the processes when the magazine is distributed electronically to a Meganews Magazines kiosk and printed on demand. The second scenario describes the processes when a magazine is printed at a printer and distributed by trucks to a fictive sales point. See flow sheets, section 10 and 11, for an overview.

There are many different magazines for sale at sale points in Sweden today. They differ in page size, page numbers, grammage, paper type etc. Also, magazines are printed in different countries on paper manufactured in different countries.

A typical Swedish magazine was chosen and used as the basis for comparison.

The share of unsold magazines is 40 % in the scenario for a traditional magazine.

5 System boundaries and limitations

This study looks at two ways of delivering a printed and sold copy of a Swedish magazine without gifts, inserts and plastic wrapping, to a reader/customer.

- In the traditional scenario the magazine is printed at a heat set printer in Sweden, and then distributed to a fictive sales point somewhere in Sweden. The unsold magazines are then returned to the distribution company and then recycled. In the Meganews scenario, the customer pays for the magazine in a Meganews magazine kiosk, placed in Sweden, and the magazine is printed on demand by a digital printer. Every printed copy is sold.
- The study quantifies the potential fossil GHG emissions that arise during the life cycle of the magazines in these systems, from cradle-to-grave.
- The study does not look at subscription of magazines or reading magazines on electronic devices as computers, tablets or smartphones.
- The production of content (journalist work) is not included.
- The environmental performance of distribution of content via the internet infrastructure is not included (Servers etc)
- The production of the printer and kiosk, including touch-screens, servers etc is regarded as capital goods (compare with the heat set printer), and is not included in the study.
- Only transports of wood and paper are included for upstream inputs.
- The transport to and from the sales point, by the customer is not included.
- Packaging of paper and magazines for transports are not included.

6 Results

The calculations are made on the two scenarios for the Meganews magazine and the traditional magazine described above. The scenarios were chosen to reflect the life cycles of the two different systems in a fair way. However, the scenarios include assumptions and data gaps. Since the Meganews system was not yet available at the time of the study, the data is predicted values. The life cycle of the Meganews kiosk (printer, computers etc) is not included.

The majority of the life cycle fossil GHG emissions are emitted during the production of the paper in both systems. See Figure 1.

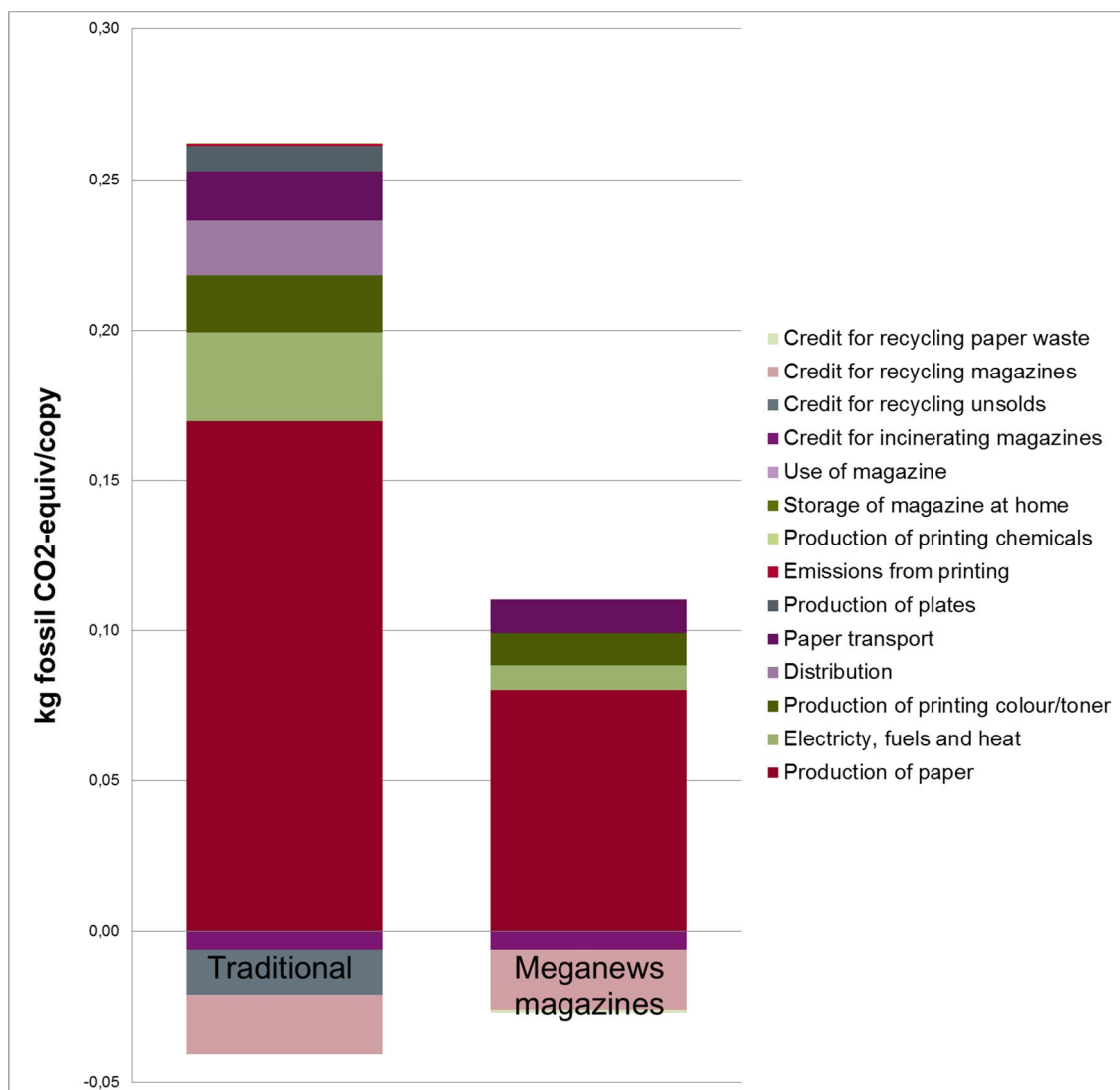


Figure 1 Fossil GHG emissions per life cycle step.

For every sold copy in the scenario for the traditional system, 2.2 copies have to be manufactured due to the waste generation at printer and due to the unsold copies at the

sales point. This is reflected in the emissions from paper production which is about twice as high as in the Meganews system.

The total results (after summing the emissions and the credits) shows that about 60% less fossil GHG emissions are emitted during the life cycle of *one sold copy* of a magazine printed at a Meganews kiosk compared to a magazine printed and distributed in a traditional way. See figure 2.

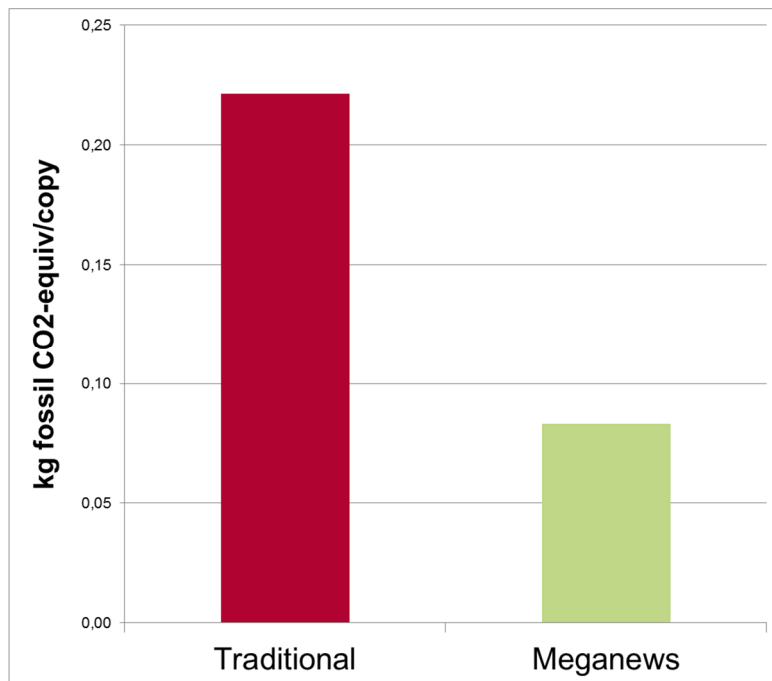


Figure 2 Fossil GHG-emissions cradle-to-grave.

7 Key factors influencing the environmental performance

Meganews scenario	Traditional scenario
Choice of paper (grammage, production site, production country)	Choice of paper (grammage, production site, production country)
Number of copies/day (allocation of power per copy)	Share of unsold magazines (%)
	Waste at printer (%)
	⇒ Less waste paper and less unsolds means that less paper has to be produced per copy of <i>sold</i> magazine.

Paper transports and distribution of magazines were not key factors in the comparison of the Meganews system and the traditional system

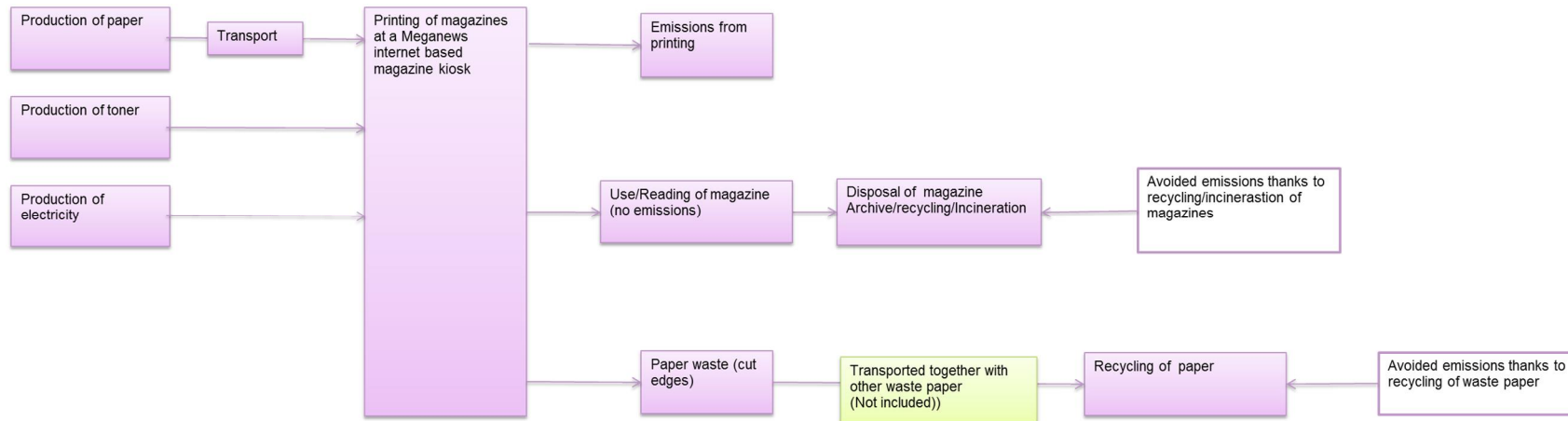
8 Conclusions

- The advantage of the Meganews system is that little paper is wasted during the life cycle.
- Meganews can influence the environmental performance of their product by choosing a paper type with lower GHG emissions.
- The more copies/day sold in the Meganews kiosk, the lower GHG emissions per magazine since the consumption of stand-by power is then allocated on more magazines.
⇒ Energy savings in stand-by mode would lower the GHG emissions of a Meganews magazine.
- The transport of paper and distribution of magazines were not a key factor in the comparison of the Meganews system and the traditional system
- The comparison is made on a typical magazine. If looking at specific magazines the benefit of being distributed via a Meganews kiosk will vary for every title depending on:
 - Share of unsolds (%)
 - Place of printing
 - Type of paper
- This study shows that the Meganews system is a sustainable option for distributing magazines!

9 Future work

- Comparison with electronic distribution of magazines would further add a view on the role of the Meganews magazines kiosk in the changing media market.
- Inclusion of the kiosk (printer, computers screens etc) would complete the picture of the environmental performance of products from Meganews magazines
- Analysing impact categories other than Global warming potential would add info to the overall environmental performance of Meganews Magazines.
- Adding scenarios would improve the understanding of the results
 - Showing the impacts of different types of paper
 - Showing the impacts of country electricity mix (both systems)

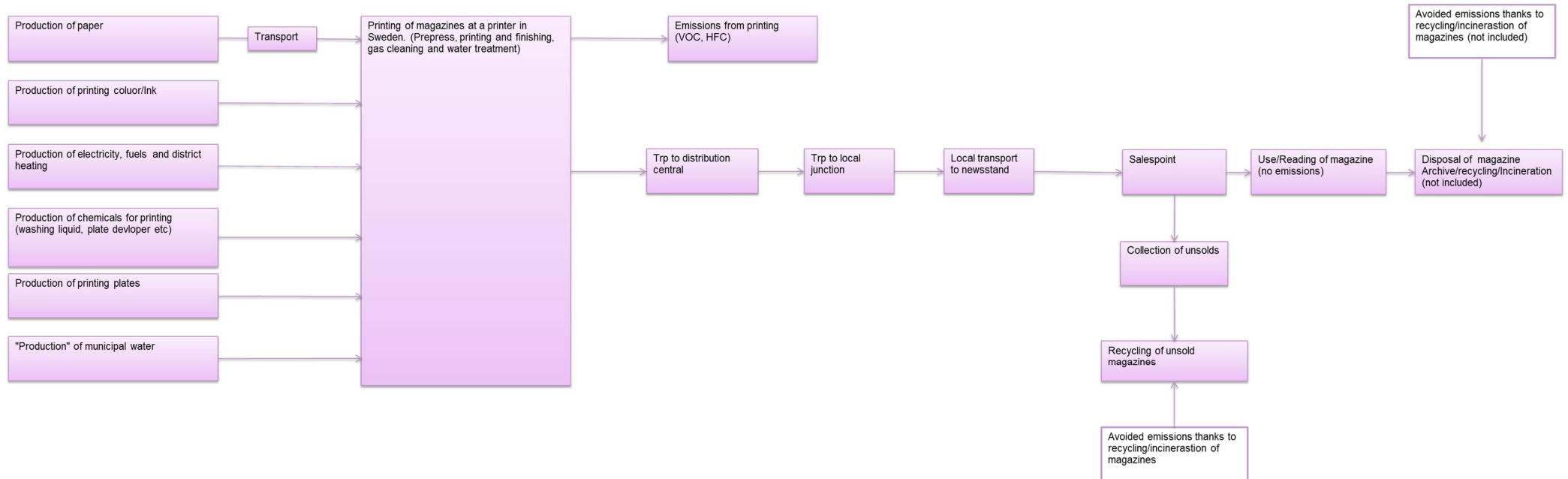
10 Flow sheet describing the Meganews system





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11 Flow sheet describing the Traditional system



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