**Sustainability and circular packaging in China’s e-commerce industry: developments in the private and public sectors**

On the 20th of April 2017, more than 25 Swedish and Chinese companies, organisations, networks and associations gathered to discuss the latest developments, challenges and ways forward for sustainable packaging in the e-commerce and express industry in China. The discussion was a first step to explore opportunities for cooperation between participants from both countries and to help companies reduce their environmental footprint in China. The event was co-hosted by the Embassy of Sweden in Beijing and Cainiao Network. This report provides a non-exhaustive overview of some of the points that were discussed.

**1. Background**

**1.1    Information on the situation in China**

The e-commerce industry makes an important contribution to job creation and business growth. In China alone, around 57 million packages were delivered each day in 2015. This figure is expected to rise to 145 million in 2020. Yet as the industry continues to grow, so does the associated environmental impact and the importance of employing sustainable practices. Packaging material can be the source of pollution, environmental degradation and many other negative environmental effects.

Having noticed the problem, the Chinese government has made efforts to increase recycling and the use of green packaging materials in the e-commerce and express industry. In August 2016, for example, the State Post Bureau introduced a plan to establish a collection system for packaging material in the express industry by 2020. Most importantly, this plan will incorporate guidelines for recycling and collection of packaging material into certain Chinese regulations and laws governing the express industry. It will also encourage companies in the industry to use packaging which is easier to recycle. Moreover, the Ministry of Industry and Information Technology and the Ministry of Commerce in November 2016 jointly issued a guideline for developing the packaging industry. This guideline calls for preventing overuse of packaging, using more economical, material-saving and recyclable packaging solutions, as well as raising awareness among the public on related issues.

Despite these positive policy trends, it should be noted that current regulations still lack binding requirements for companies. With compliance being optional, the likelihood of companies implementing relevant guidelines remains fairly low. Two other bottlenecks on the way to achieving sustainability in the e-commerce and express industry are the high cost of environment-friendly packaging and the lack of an efficient collection system.

**1.2    What Sweden has done to address some of these challenges**

In Sweden, waste originating from the e-commerce sector is largely seen within the context of household waste management. In this area, Sweden has been relatively successful, considering that less than one percent of today’s household waste goes to landfill. A few factors seem to underpin this progress. First is the necessity of allocating sufficient financial resources for waste management systems and of having strong legal and economic tools to implement them. In the Swedish experience, using market mechanisms has been important in this regard. In Stockholm, for example, authorities have put in place practices of procurement that foster market innovation and competition between private contractors seeking to be part of the waste management system. Also, raising awareness and knowledge in households has been crucial to make sure that people know how and why to recycle.

Moreover, cooperation between stakeholders and a clear distribution of responsibility among them have been essential for the functioning of the Swedish system. Sweden is using the principle of "extended producer responsibility" (EPR), which in short makes the manufacturer of a given product partly responsible for its life-cycle. In practice, the responsibility of collection, sorting, recycling, reporting, among other things, has been divided up between producers, municipalities and end-users such as households. To deal with their responsibilities, producers have established "joint material companies" (one for each material) to handle tasks such as collection and recycling on their behalf. One reason for this is because it is hard for producers to know what waste is theirs, once it is circulated in society. In sum, the Swedish household waste management system works fairly well, although it is clear that more can be done to prevent and reduce packaging waste.

**2. Three key challenges and what is being done to address them**

Stakeholders in the e-commerce sector are facing a number of challenges that must be overcome to achieve sustainability. This roundtable discussion focused on three important issues: (1) how to reduce the use of packaging material, (2) how to use more sustainable packaging materials, and (3) how to recycle and reuse more packaging material.

**2.1    Reducing the use of packaging material**

A key issue to reduce the use of packaging material is determining how much packaging to use for each unit. Using too much packaging is wasteful, while using too little packaging increases risk of goods being damaged, something which also leads to waste. This dilemma can be overcome by analysis and testing of the durability of different packaging materials and their ability to protect different products. This way companies can come closer to using the optimal amount of packaging material.

Companies have also been developing new ways of wrapping which use less packaging material but still sufficiently protect the product. As an example of this, furniture retailer IKEA is using the so-called "flat pack" in China. These packages contain parts of ready-to-assemble furniture, which are put together by the customer after delivery. This principle reduces both the size of packages and the packaging material needed to sufficiently protect the transported items.

Another alternative to reduce the use of packaging material is finding ways to increase the efficiency of different materials. This option has been explored by the company Ranpak, which is pressing paper materials into shapes that improve their cushioning properties. The increased efficiency allows the sender to use less material while attaining the same basic level of protection of the goods.

**2.2    Using green packaging material**

Using more sustainable packaging materials is a challenge for the e-commerce industry. Of importance is using materials that consume less raw materials and fossil fuels when produced. In this regard, companies in China have made efforts to develop renewable and more easily recyclable materials for packaging, such as bioplastics. These materials have been used to produce both biodegradable bags and boxes. Hubei Guanghe Biotechnology Co., for example, has worked together with Cainiao Network to send out more than 500,000 such packages, which are also designed in ways that do not require tape.

Despite these efforts, the cost of making green packages is usually higher than if other materials and methods had been used. This imposes a cost on companies making efforts to be more sustainable and can make it hard for them to compete in terms of low pricing. Consumers willing to pay extra for environmentally friendly options could solve part of this problem by creating a demand for such packaging.

On e-commerce websites, there are already "green choices" which give consumers the option to pay more to have their products wrapped in sustainable packaging. But for the demand for such services to grow, awareness needs to be raised among consumers about the environmental impact of their choices. A key challenge here is to demonstrate the value of green packaging and to make people understand that what they are buying is not only the product itself. Cainiao Network has already launched some outreach programmes to address this issue, focusing especially on younger people.

**2.3    Recycling and reusing packaging material**

Developing methods for turning waste into value is an important step towards sustainability. In China, some efforts have been made to facilitate the reusing of e-commerce packaging. Among other things, a new start-up company called HeArt has developed boxes that can be folded into calendars after they are opened by the customer. This type of dual-use items can also serve as a place for advertising, which can drive down the cost of environmentally friendly boxes and bags.

Initiatives have also been undertaken to facilitate and promote recycling. For example, Cainiao Network has established a great number of recycling stations around the country and installed recycling bins at university post stations. Here students have the option to open packages at the moment they receive them, to then place the wrapping material into the recycling bin. The packaging company Tetra Pak has explored options of collecting its own packages after they are used and disposed of in society, with the end-goal of making new products out of them. Another option proposed during the discussion was to facilitate recycling by a system where the person delivering a package to a customer waits for the buyer to open the box or bag, and then takes it back for recycling or reuse.

**3. How to go forward?**

Raising awareness seems to be of critical importance to overcome all of the above-mentioned challenges. Companies need to be well informed about the environmental impact of their packages to see a reason for using less packaging material. End-users need to know the environmental impact of their consumption behaviour for them to see the value of more sustainable options. Both companies and consumers need to be aware of how to recycle and reuse packages. Otherwise companies will neglect opportunities to facilitate recycling for consumers and consumers will fail to recycle or do it improperly. In other words, there seems to be many reasons to work towards finding new innovative ways to raise awareness in China about sustainability and packaging in the e-commerce sector.

Against the background of these many challenges and opportunities for the e-commerce industry in China, further discussion on the topic seems crucial. It also appears that no single company, organisation, network, or even government, can push the e-commerce industry toward sustainability by itself. Hopefully the roundtable discussion can become a starting point for future cooperation and dialogue between different stakeholders.