

The SRI programme enters its second phase

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In their role as members of the advisory support committee, SENS eRecycling and Swico participated in implementing the Sustainable Recycling Industries (SRI) programme financed by the State Secretariat for Economic Affairs (SECO) between 2014 and 2018. Starting up again in mid-2019, this programme has now entered its second phase, which is designed to run for a further four years. In its role as contractor and technical competence centre, the Swiss Federal Laboratories for Materials Science and Technology (Empa) thereby continues to undertake core tasks in the programme roll-out and implementation.

The long-standing experience and successful cooperation with the Swiss systems and recyclers have laid an important foundation for effectively supporting the development of national e-waste management systems in the SRI partner countries Colombia, Peru, Egypt, Ghana and South Africa.

In many developing and emerging countries, the uncontrolled recycling of electronic waste in the so-called informal sector causes high levels of environmental pollution and health risks for the people involved. At the same time, however, the recycling of electronic waste in these countries also offers many people a livelihood. In particular, the collection process is often efficiently organised, because of the high material value of electronic waste, and does not involve any major risks. In addition, a large number of appliances are repaired and intact components from defective appliances are resold as spare parts. Compared to direct recycling, the respective resources are thus maintained at a higher level within the material cycle. The existing structures in countries where electronic waste is primarily processed by the informal sector can therefore also be interpreted as potential opportunities. For these reasons, the programmes, which have been financed by SECO since 2003, have always adopted a comprehensive approach and endeavoured to jointly develop institutional and private sector capacities with a special focus on the inclusion of the informal sector.

The second phase of the SRI programme¹, which is led by Empa² in cooperation with the World Resources Forum Association (WRFA)³ and other international and national partners, continues to expand on the previous successful model. The programme's overall objective is to create favourable framework conditions for the development of a sustainable electronic waste recycling industry. Partner countries taking part in the second phase include Ghana, Egypt, South Africa, Colombia and Peru. In collaboration with the respective government and private industry bodies, standards organisations and recycling partners, the following general objectives are aimed at under the programme's country component:

1. Development of a national policy and legal framework with regard to the handling of electronic waste
2. Definition of normative requirements and conformity criteria in e-waste recycling, including the establishment of an independent audit system and training of auditors
3. Optimisation of sustainable value chains and professionalisation of the recycling industry
4. Development and implementation of local best practices for handling problematic fractions

The general programme structure will remain the same for all partner countries; however, the activities will be planned individually and priorities will be tailored to the respective requirements. This will allow the different development stages

of electronic waste management in the partner countries to be taken into account in a focused manner.

In order to enhance the cooperation and exchange between SRI partner countries and with the international community, the second phase of the programme additionally includes an overarching global component. This is to ensure that synergies both between the target countries and with other programmes and initiatives are put to optimum use, and that the programme results are systematically processed, communicated and made available to the public.

One of the first products to be developed in this global component was a handbook on sorting and processing of plastics derived from electronic waste⁵, which was produced last year in cooperation with the Solving the E-waste Problem (StEP) Initiative⁴. The content of this document is based on the experience and process knowledge acquired during the first phase of the programme, particularly in India (refer to the article on SRI I in the 2018 Technical Report). The content was subsequently integrated in workshops and training sessions in other SRI partner countries. The handbook offers general information on plastics and additives, and demonstrates how relevant electronic waste plastics can be identified and sorted using simple methods and how fractions containing problematic substances can be removed (see figure). Additional chapters address possible subsequent recycling processes and the marketing of recovered plastics, as well as the handling and disposal options of non-marketable and/or contaminated fractions in a local context.

By gathering and promoting the results of the SRI I programme in a practical handbook published with open access, the methods that were developed under SRI in the area of plastics recycling are to be transferred beyond the scope of the programme itself. The cooperation with the StEP Initiative has also allowed this document to be made available, right from the beginning, to a wide network of organisations and stakeholders active in the plastics and electronic waste sector. Such partnerships will now continue to be forged and harnessed under the global component of SRI II in order to scale the concepts and methods developed in SECO-funded programmes within a global context.

¹ www.sustainable-recycling.org – Sustainable Recycling Industries.

² www.empa.ch/tsl – Swiss Federal Laboratories for Materials Science and Technology/Technology and Society Lab.

³ www.wrforum.org – World Resources Forum.

⁴ www.step-initiative.org – Solving the E-waste Problem (StEP) Initiative, an independent multi-stakeholder platform for designing strategies that address all dimensions of electronics in an increasingly digitised world.

⁵ www.sustainable-recycling.org/reports/processing-of-weee-plastics-a-practical-handbook – Link to the PDF.

Worst practices: Incineration of cable plastics for copper recovery in Ghana. Process for the systematic identification and sorting of electronic waste plastics.

Second life: Defective appliances can often be repaired and resold on second-hand markets.