ReCyFilm - Research Project Fact Sheet

Title of Project	**Design and manufacturing of a novel Low-Density Polyethylene (LDPE) Film for the construction industry, using recycled agricultural plastic waste (APW) - completed**
Project Acronym	ReCyFilm
Funding Program	The Research Promotion Foundation Programmes for Research, Technological Development and Innovation "Restart 2016-2020".
Project Identifier	Smart Growth, Research in Enterprises
Total Budget	199629 €
Starting – Ending Date	03/2019-02//2021
Consortium	1. Elysee Irrigation Ltd (CY) 2. Agricultural Research Intitute (ARI) 3. Frederick Research Center (FRC)
Project Objectives	General: The project "Design and manufacturing of a novel Low-Density Polyethylene (LDPE) Film for the construction industry, using recycled agricultural plastic waste (APW) aims to the design and manufacturing of an innovative, environmental friendly and economically viable Low Density Polyethylene (LDPE) film (Recy-Film) for applications in the construction industry. The main innovation and environmental aspect of the proposed product is the raw material to be used, which will be recycled agricultural plastic waste (APW), delivering a green building material which can be considered for green public procurements (GPP). The main beneficiary of the product is Elysee Irrigation Ltd, the largest manufacturer and supplier of plastic systems for agricultural, domestic and public use in Cyprus. Recy-Film will essentially replace the existing LDPE film product of Elysee, whose current production line uses virgin, fossil fuel-based materials. LDPE films are installed in buildings as vapour barriers, to reduce weed growth, and as a separating layer to accommodate differential movements. The choice of construction LDPE films was selected due to the contamination of APW with chemicals, a fact that forbids its exploitation either for potable water pipes, or for irrigation plastics. For the manufacture of the Recy-Film, a pilot recycling unit, which will be able to handle 6 tonnes of APW on a daily basis, will be installed at the industrial facilities of Elysee. The project will also investigate the supply chains of APW from the source to the recycling facilities for the design of a comprehensive collection system that will be adopted by Elysee.
Work Packages	1. WP1. Project Management 2. WP2. Dissemination Activities 3. WP3. Supply chain and collection of Agricultural Plastic Waste (APW) 4. WP4. Recy-Film Design 5. WP5. Recy-Film Manufacturing and Testing 6. WP6. Sustainability Aspects of Recy-Film
External References	https://doi.org/10.1016/j.clet.2021.100326 https://doi.org/10.1016/j.dib.2020.106622
Role in the Project	Principal Investigator