As urban agriculture grows worldwide, a key need is to ensure that the nexus of food, energy, and water is optimized in order to utilise urban resources in a sustainable way. This project will ask farmers to measure the efficiency of urban agriculture case studies in five developed countries by quantifying usage of energy, water and other resources as well as production of produce and compost. Data gathered will be used to model the resource flows of urban agriculture in five cities. This will enable the identification of methods to improve efficiency, also at a city-scale. An on-line platform will be created to collect data from urban farmers as well as share knowledge generated within the project in order to increase the resource efficiency of urban food production methods.

**Aim/objective**

**Aim:** To develop a truly comprehensive system to measure existing Urban Agriculture practices (FEW-meter).

**Objectives:**
- a) to develop the FEW-meter methodology;
- b) to form an on-line community of farmers to gather and exchange knowledge;
- c) to analyse data from case studies;
- d) to develop two experiments with soil remediation and anaerobic digestion;
- e) and to develop urban scenarios of optimal use of resources.

**Approaches/methods**

A key approach to research will be the co-production of knowledge: the methodology to measure and analyse data from case studies will be co-created with urban farmers.

Data collected will be extrapolated at an urban scale through material flow analysis, a methodology that we will use to identify the potential for a circular urban metabolism of urban agriculture.

**Expected results and impacts**

A refined model to measure and improve UA; a theoretical and practical instrument for future research.

Contribution to advance UA towards a more resilient, resource-efficient practice. In particular, impact is expected by advancing approaches that focus on cropping methods, better use of renewable energy and urban waste, social cohesion and a promotion of short supply chains, with economic benefits.

A network of urban farmers based on mutual learning.