Project no. 4CE439P3

URBAN_WFTP

Introduction of Water Footprint (WFTP) Approach in Urban Area to Monitor, Evaluate and Improve the Water Use

First Water footprint assessment - Model A results Innsbruck

Lead contractor for deliverable *D.3.1.4*: WUELS

Start date of project: 1 November 2012 **Duration: 25 months**

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Foreword

The present report was prepared within the context of the work package WP3 (‘Water use and management baseline assessment according to Water Footprint approach and sharing of results among partners’) of the URBAN_WFTP project (http:// www.urban-wftp.eu).

Thanks are due to all partners of the URBAN_WFTP project for fruitful discussion and provision of city level data.

1. INTRODUCTION

With the data described in the 'Description and representation of the basic modules' results for the global model of the city of Innsbruck were calculated:
Taking in to account that only about 1/3 of the municipality's area is habitable it was decided to set up 2 different models:

1. A global model including the whole area of the municipality
2. A global model including only the habitable area

This following results show the usage of slightly different input data.
The Grey Water Footprint in both models was calculated based on total nitrogen. Austrian legislation and guidelines do not provide immission based pollutant limits for the river Inn, the receiving water in the city of Innsbruck. Therefore, 3mg/l were chosen for the maximum acceptable concentration c_{max}.

2. MODEL A – WHOLE AREA

For the whole area following area values were used:

Arable land area	A_{ala}	m^2	8310015
Forest and woodlands area and alps	A_{forest}	m^2	72734909
water area	A_{water}	m^2	1567476
built-up area	$A_{built-up}$	m^2	5173516
built-up area (-roof surface area)	$A_{built-up\ cor}$	m^3	1178715
road area	A_{road}	m^2	5885615
green area	A_{pubg}	m^2	10067345
roof surface area	A_{roof}	m^2	3994801

As can be seen forests and alpine wastelands states the largest part of the municipalities area. This is reflected by the large share of green water in the results visualized in Fig. 1.

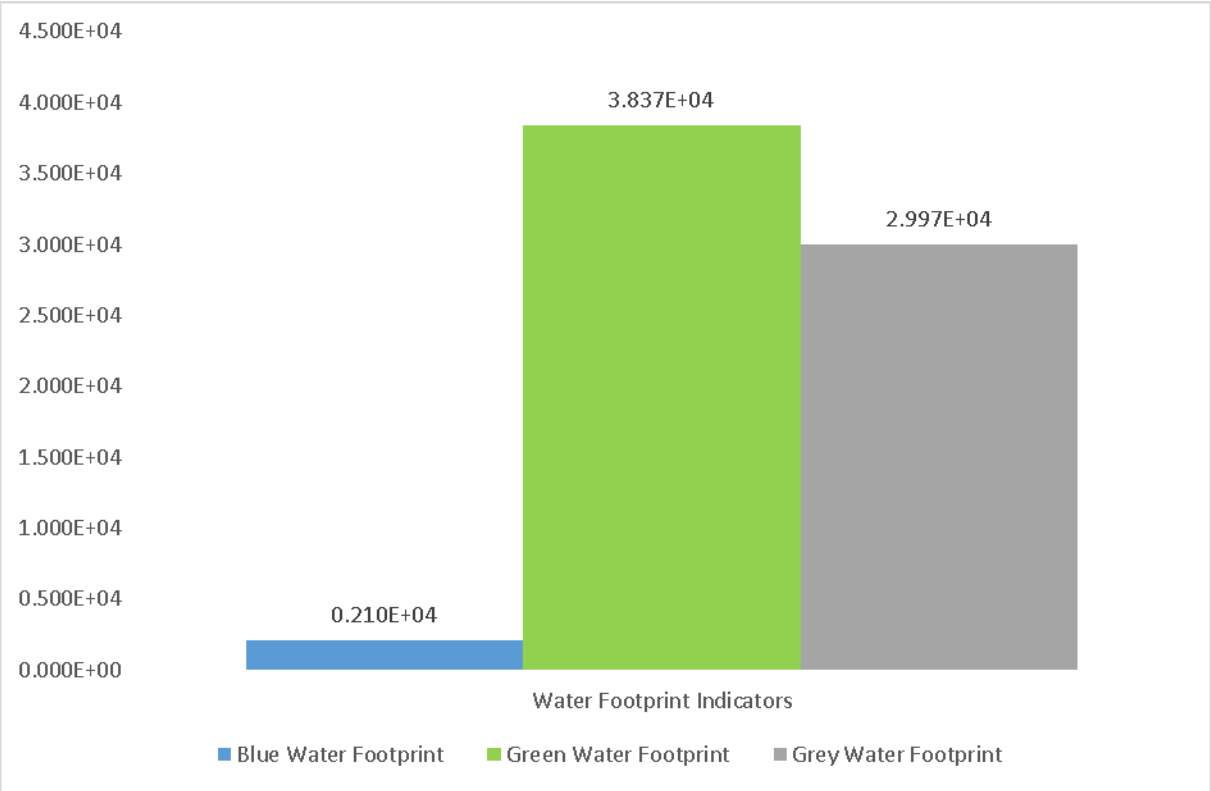

Fig. 1. Model A results – whole area

3. MODEL A – HABITABLE AREA

For the model only calculating the values for the habitable area following values were used:

Arable land area	A_{ala}	m^2	8310015
Forest and woodlands area and alps	A_{forest}	m^2	0
water area	A_{water}	m^2	1567476
built-up area	$A_{built-up}$	m^2	5173516
built-up area (-roof surface area)	$A_{built-up\ cor}$	m^3	1178715
road area	A_{road}	m^2	5885615
green area	A_{pubg}	m^2	10067345
roof surface area	A_{roof}	m^2	3994801

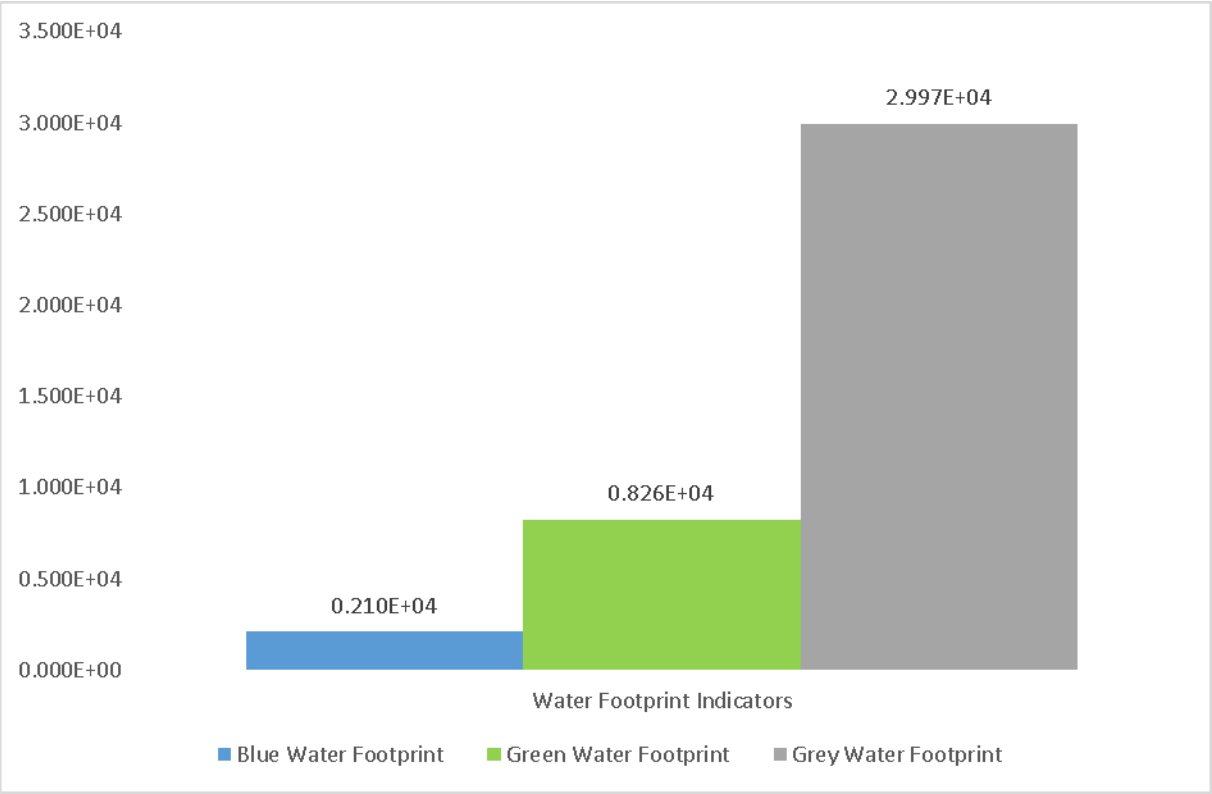

Fig. 2. results model A - habitable area

As can be seen the major difference between the whole area model A in Fig. 1 and model A for only the habitable area in Fig. 2 is only reflected through the amount of green water. When replacing the area of the municipality by the habitable area, the Green Water footprint reduces from $3.8*10^7$ to $0.8*10^4 m^3$/year and from 54.5% to 20.5% of the total water footprint respectively.