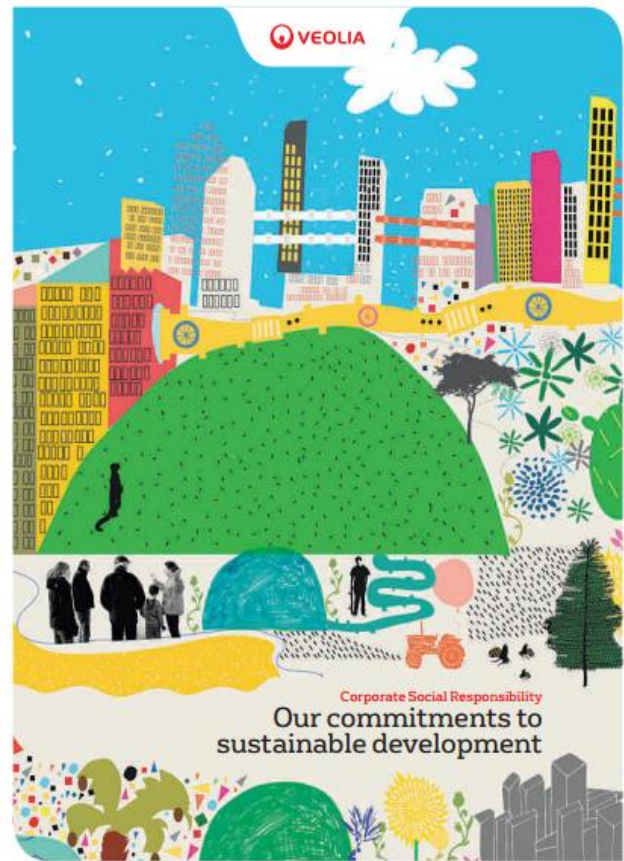


COLLECT USED GREASE AND OILS TO PRODUCE ENERGY



Some background



- ❖ Sofia has 1.4 million population
- ❖ Water and wastewater services on a concession contract with Veolia
- ❖ 2 main water sources Iskar (30 km³) and Beli Iskar Dam
- ❖ There are 4 DWP and length of potable water network is 3 827 km
- ❖ One WWTP with capacity of 500 000 m³ and length of sewerage network is 1 721 km
- ❖ Gravity system

WWTP Kubratovo

- ❖ 30 years old
- ❖ Installed capacity 1.3 M.e.h
- ❖ 2009 CHPs in operation
- ❖ 2014 100% of energy needs covered

KPI performance		2016
Volume of produced biogas	m3	12 766 705
Volume of re-used biogas	m3	12 726 513
electricity produced on site	MWh	21 007.63
Energy balance of Waste Water Treatment Plants with digester	%	111
Quantity of produced sludge (DS)	T	32 283





To collect used grease and oil for energy production

By comparison in laboratory conditions of a bioreactor fueled with sludge and a bioreactor fed with sludge and fats, greater activity and a larger population of methanogens in the fat digester were found



Collect used grease from restaurants and food produces

Transport it to WWTP and input to digesters

Produce more biogas and energy