

WTERT – GREECE

“Evaluating the potential for energy recovery from MSW in Greece”

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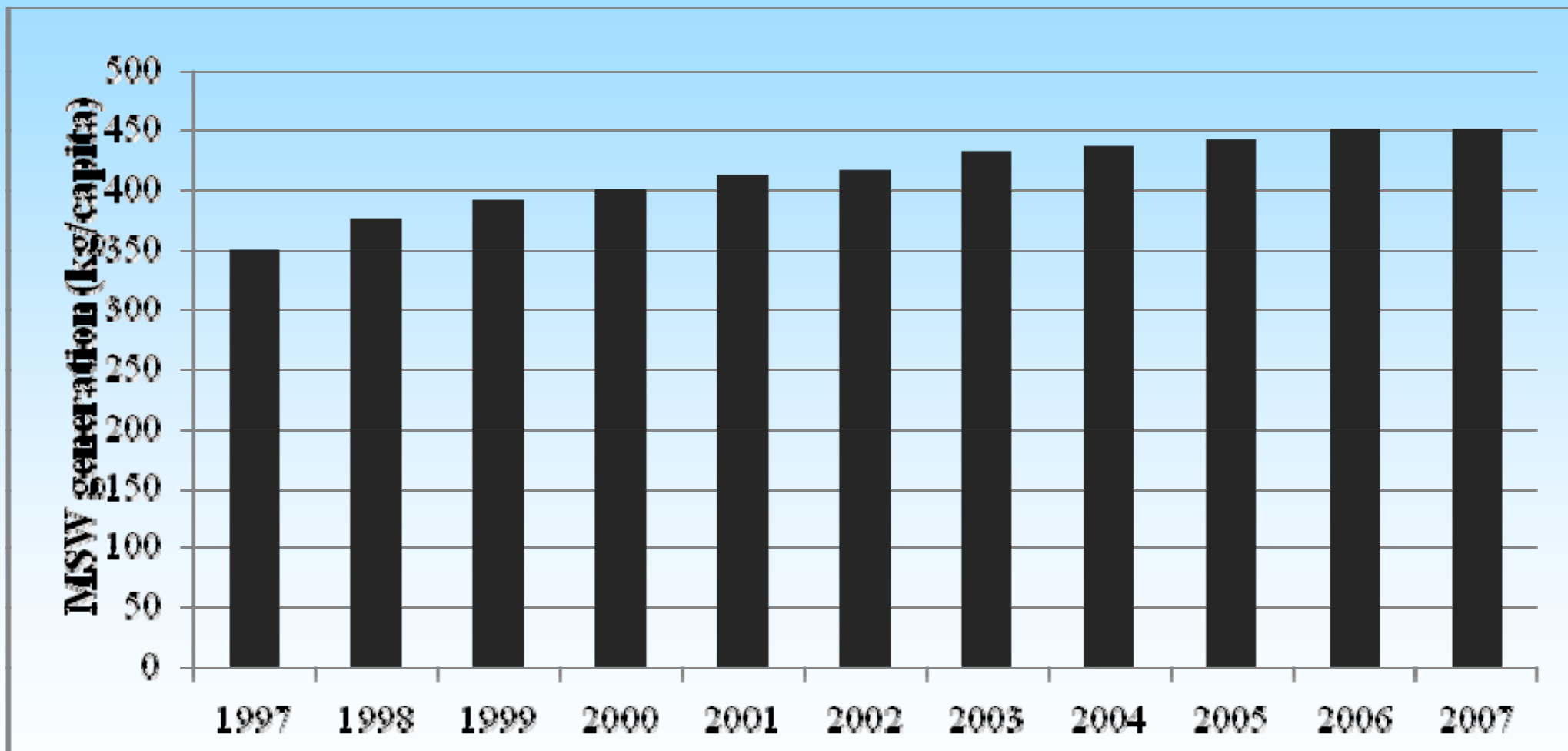


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MSW production in Greece is increasing over the years, as everywhere in the world.



Potential for electricity production (gross) and lignite savings per Region in Greece by WTE (mass-burn and RDF/SRF utilisation)

Region	Electricity Production (Gross) / Lignite Savings	Remarks
Attica	650x10 ⁶ kWh _e /y	WTE facility of at least 1Mt/y capacity of MSW and some RDF/SRF
Central Macedonia	325x10 ⁶ kWh _e /y	WTE facility with 500 kt/y capacity of MSW and some RDF/SRF
Crete	70x10 ⁶ kWh _e /y	One dedicated RDF/SRF utilization plant of at least 105Kt/y capacity
Western Macedonia	20x10 ³ t/y	Co-combustion of RDF/SRF in existing coal-fired power plants
Peloponnese	76x10 ³ t/y	Co-combustion of RDF/SRF in existing coal-fired power plants
Epirus*†	32x10 ³ t/y	RDF/SRF production plant in Epirus and co-combustion in existing coal-fired power plants in Western Macedonia
Western Greece*	130x10 ⁶ kWh _e /y	WTE facility of 200 kt/y capacity combusting MSW and RDF/SRF produced locally
Central Greece* Thessaly*	227-260 x10 ⁶ kWh _e /y	WTE facility of 350-400 kt/y capacity combusting MSW and RDF/SRF produced locally
Eastern Macedonia – Thrace*	130x10 ⁶ kWh _e /y	WTE facility of 200 kt/y capacity combusting MSW and RDF/SRF produced locally
Rhodes#*	65-130 x10 ⁶ kWh _e /y	WTE facility with 100-200 kt/y capacity for combusting MSW and RDF/SRF produced at other nearby Aegean islands



Greece has 6,000 islands, islets and rocks.
Only 127 are inhabited and only 79 of them have a
population of more than 100 residents.

Greece is a representative example of a country which has
Waste management in the islands problem to face, because
15% of the country population is living in them
permanently.

Proposed MBT and WTE facilities for energy recovery in Aegean Sea islands.

ISLAND REGION	LOCATION of WTE UNITS	WTE UNITS CAPACITY (tones per year)	PROPOSED SRF/RDF UNITS	CAPACITY of PROPOSED SRF/RDF UNIT (tones per year)	PRODUCED RDF/SRF (tones per year)	LAND-FILLING
SARONIC GULF	ATHENS	1,000,000	SALAMINA	20899	11474	2194
			AIGINA	9148	5022	961
			POROS	2935	1611	308
			SPETSES	2638	1448	277
			KITHIRA	2264	1243	238
NORTH AEGEAN	LESVOS	130,000 (MSW and RDF/SRF)	LEMNOS	8685	4768	912
			CHIOS	17630	9679	1851
			SAMOS	12418	6817	1304
			IKARIA	2822	1549	296
CYCLADES	ATHENS	1,000,000	SYROS	10308	5659	1082
			NAXOS	12414	6815	1303
			ANDROS	6832	3751	717
			MYKONOS	7522	4130	790
			MILOS	3256	1788	342
			PAROS	8497	4665	892
DODEKANESE	RHODES	180,000	KOS	33864	18591	3556
			LEROS	5544	3044	582
			KALYMNOS	11081	6084	1164
			KARPATOS	5693	3125	598
			PATMOS	2777	1525	292
SPORADES	LARISSA	350,000	SKIATHOS	2293	1259	241
			SKOPELOS	1748	960	184

Greenhouse gasses emission reduction potential in Greece by implementing WTE facilities in strategically selected urban areas

Focusing on reducing the **greenhouse gasses (GHG) emissions** in Greece through **WTE facilities**, located in strategically selected urban areas.

•Thessaloniki

- 971 kt/y $324 \times 10^6 \text{ kWh}_e/\text{y}$
- 500 kt/y capacity of MSW and some RDF/SRF

•Total emissions savings:

504 kt CO₂/y

•Larissa

- 632,69 kt/y $227 \times 10^6 \text{ kWh}_e/\text{y}$
- 350 kt/y capacity of MSW and some RDF/SRF

•Total emissions savings:

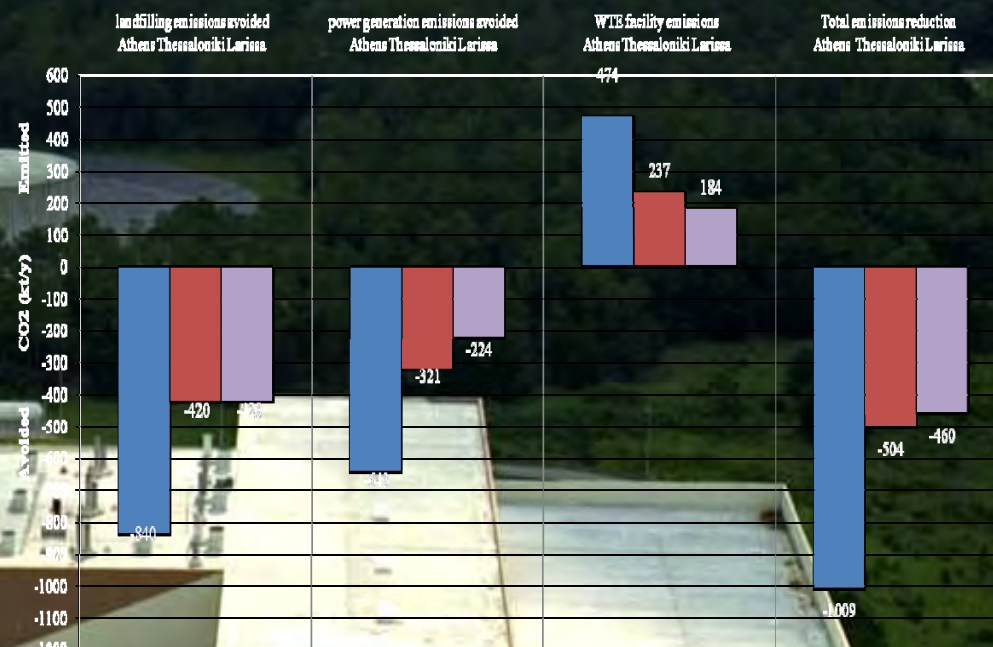
460 kt CO₂/y

•Athens

- 2200 kt/y $650 \times 10^6 \text{ kWh}_e/\text{y}$
- at least 1Mt/y capacity of MSW and some RDF/SRF

•Total emissions savings:

1009 kt CO₂/y



Reduction

- on the *dependency* from *imported fuels*
- of *fossil fuels* use (increased energy security)
- in the use of *land* for *landfills*
- and of course of *CO₂ emissions* of *Greece* (1973kt/y)