

LEGAL AND ECONOMIC CONDITIONERS OF SEALING AND MAINTENANCE POSTCLAUSURE OF WASTE LANDFILLS IN ANDALUCÍA



Córdoba, 22 de febrero de 2018

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**Dirección General de Prevención y Calidad Ambiental
Consejería de Medio Ambiente y Ordenación del Territorio**

- 1. What regulations affect landfills in Andalusia?**
- 2. Who is legally responsible for the landfills?**
- 3. What administrative procedure should follow the sealing of a landfill?**
- 4. What conditions can be imposed on a sealed landfill?**
- 5. How much does it cost sealing and maintaining a landfill?**

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STATE: EXCLUSIVE COMPETENCES AND BASE LEGISLATION

AUTONOMY: EXCLUSIVE COMPETENCES AND REGULATORY DEVELOPMENT

LOCAL AUTHORITIES: ATTRIBUTED COMPETENCES



Directive 2008/98/EC on waste



Law 22/2011 on waste and degraded soil



Decree 73/2012 waste regulation of Andalusia



Town councils' regulations



Directive 1999/31/EC on the landfill of waste



Royal Decree 1481/2001 on the disposal of waste by landfill



Instruction 1/2017 DGPCA on procedures and conditioned to include in the resolutions of approval of closure projects and post-closure monitoring of landfills related to soil quality



Town councils' regulations



Law 7/2007 on integrated management of environmental quality

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LANDFILL 'S RESPONSIBLE

Law 22/2011 on waste and degraded soil:

"It corresponds to the Local Entities:

As a mandatory service, the collection, transport and treatment of household waste generated in homes, shops and services "

"Independently or associated with other local entities"

Local authorities can exercise these competences:


- With own means**
- Through a public company**
- Through a contract with a private company**

LOCAL AUTHORITY



DIRECTIVE 1999/31/EC ON THE LANDFILL OF WASTE

EXISTING LANDFILL ADAPTATION

- **Problematic historical background**
 - **Landfills distributed throughout Andalusia**
 - **Resistance to change**
 - **Substantial increase in costs for municipalities**
 - **Resistance of the municipalities to pass on the costs to their citizens**
 - **Adverse economic situation**
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- **3 Sanctioning procedures by the EU affecting Andalusia**
 - **The regional administration provides technical assistance to municipalities**
 - **40 landfills pending sealing by the CMAOT with an approximate cost of 20M€.**

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ENVIROMENTAL AUTHORIZATION

THE DIRECT DUMPING IN LANDFILL IS NOT PERMITTED IN THE MOST OF CASES

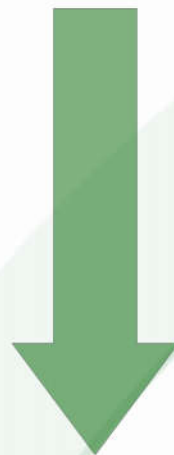
(Art. 1.2 Decree 73/2012 waste regulation of Andalusia)



ENVIROMENTAL AUTHORIZATION

Ley 7/2007 GICA: AAI: Landfill capacity > 10t/day o 25.000t total

AAU: Landfill capacity < 10t/day o 25.000t total



**ENVIRONMENTAL AUTHORIZATION OF THE TREATMENT PLANT INCLUDES
CONDITIONERS FOR THE CLOSURE AND MAINTENANCE POSTCLAUSURE OF
THE ASSOCIATED LANDFILL**

**Art. 38.3 Decree 73/2012 Waste Regulation of Andalusia: Waste treatment
plant project must contain the closure project of its associated landfill.**

LANDFILL SEALING

WHEN?

- Environmental authorization condition (capacity)
- At the request of the operator
- At the decision of the competent / judicial authority

HOW?

- Environmental authorization conditions
- Sealing project
- Submission to the environmental authority for approval

PROCEDURES

WASTE TREATMENT PLANT / LANDFILL SUPPORT PROJECT



ENVIRONMENTAL AUTHORIZATION



SEALING LANDFILL PROJECT



SEALING, MAINTENANCE AND SURVEILLANCE PLAN AUTHORIZATION



ENVIRONMENTAL AUTHORITY INSPECTION (CMAOT)



CLOSED LANDFILL:

PLAN OF ENVIRONMENTAL SURVEILLANCE AND MAINTENANCE

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CLOSURE AND MAINTENANCE POSTCLAUSURE AUTHORIZATION

CONDITIONERS CLOSURE ENVIRONMENTAL AUTHORIZATION:

- Preparation of the terrain and slopes
- Slopes justification
- Sealing layers: thicknesses, materials and permeability
- Rainwater evacuation
- Resistance of the installation elements
- Landfill gas utilization
- Incineration of the spillage gases when the recovery is not possible
- Appropriate conditions within the landfill (avoid settling and unwanted reactions)

CLOSURE AND MAINTENANCE POSTCLOSURE AUTHORIZATION



CLOSURE AND MAINTENANCE POSTCLAUSURE AUTHORIZATION




CLOSURE AND MAINTENANCE POSTCLAUSURE AUTHORIZATION

CONDITIONERS RELATING TO THE SOILS QUALITY (INSTRUCTION 1/2017 DGPCA):

- Prohibition of the development of any activity that puts the sealing system at structural or functional risk.**
- Change of use or activity of the land must have favorable pronouncement of the environmental authority.**
- You must register with the Land Registration as a potentially contaminating soil activity.**

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SEALING LANDFILL COST

SV EL BARRERO (UTRERA) – 3.265.173,52€ - 120.000 m3



SEALING LANDFILL COST

SV EL BARRERO (UTRERA) – 3.265.173,52€ - 96.755 m²



EXPEDIENTE: 2014/00130
INVERSION : 2.879.890,47 €

FASE INTERMEDIA:
Sellado del vertedero

SV EL CORNEJIL (LEBRIJA) – 2.879.890,47€ - 81.410,00 m2



SEALING LANDFILL COST

SV EL CORNEJIL (LEBRIJA) – 2.879.890,47€ - 81.410,00 m²

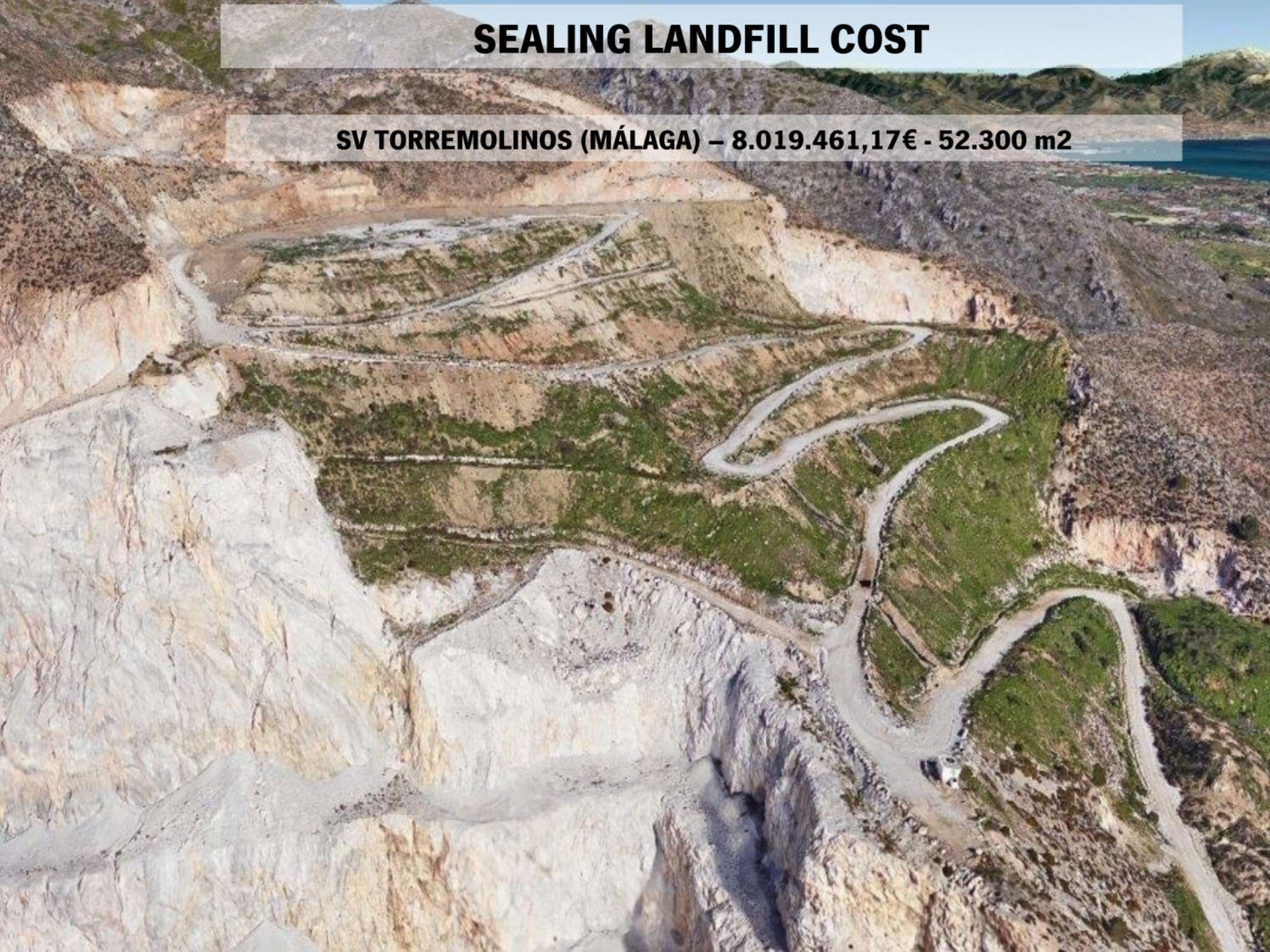
SEALING LANDFILL COST

SV LA PITILLA (PUENTE GENIL) – 1.095.690,36€ - 87.000 m²



SEALING LANDFILL COST

SV TORREMOLINOS (MÁLAGA) – 8.019.461,17€ - 52.300 m²



SEALING LANDFILL COST

MUNICIPAL WASTE LANDFILL

30€ - 150 € / m²

INERT WASTE LANDFILL

10€ - 40 € / m²

POSTCLAUSURE MAINTENANCE

CONDITIONERS MAINTENANCE:

- Sealing layer
- Drainage and leachate evacuation
- Evacuation and treatment of gases
- Rainwater evacuation
- Leachate control wells
- Leachate ponds
- Slopes, berms and service roads
- Control of animals and insects
- Vegetation control / fire risk
- Enclosure and signage
- Monitoring and control system

30.000€

POSTCLAUSURE SURVEILLANCE AND CONTROL

INTERNAL CONTROL PLAN

EFFLUENTS

Composition and volume of leachate - Half-yearly

Composition and level of groundwater - Half-yearly

Composition and volume surface water - Half-yearly

pH, suspended solids, oils and fats, conductivity, COD, BOD5, COT, cyanides, chlorides, fluorides, nitrites, nitrates, ammonium, N Kjeldahl, sulfates, sulfides, P, phenols, fecal and total coliforms, Zn, Cd, Cu, Cr, Ni, Hg, Pb, Fe and As

APPROXIMATE ANNUAL COST: 7-13.000 €

POSTCLAUSURE SURVEILLANCE AND CONTROL

INTERNAL CONTROL PLAN

METEOROLOGICAL DATA

Precipitation volume - Daily + monthly

Max and Min temperatures - Monthly average

Atmospheric humidity - Monthly average

Lysimeter Evaporation - Daily + monthly

EMISSIONS

Combustion gases valorization - Annual

NOX, CO, SO2

Emissions of gases and atmospheric pressure - Half a year

CH4, CO2, O2, H2S, H2, etc.

APPROXIMATE ANNUAL COST: 4.500 €

VIGILANCIA Y CONTROL POSTCLAUSURA

INTERNAL CONTROL PLAN

LANDFILL

Settlements report – Annual

APPROXIMATE ANNUAL COST: 3-5.000 €

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