1.0 Summary of Recommendations for Spain

Spain's compliance with the Landfill Directive (due by 2016) and the Waste Framework Directive (due by 2020) relies upon addressing several technical, administrative, legal and management issues in the short and mid-term for which these measures are proposed:

- Measures addressing several potential issues:
  1. Introduction of a **national tax on landfill** of municipal waste;
  2. Co-ordinated **updates to the Regional Waste Management Plans (RWMPs)**;
- Measures regarding the **alignment of the RWMPs with national obligations**:
  3. Identifying and characterising regions at risk of non-compliance;
  4. Identifying and characterising top performing regions, key factors of success and dissemination of good practices;
  5. Approval of waste prevention programs complementing the RWMPs in prevention issues if they are not included in RWMPs.
- Measures for **increasing separate collection (SC):**
  6. Introducing **specific plans for biowaste management** within RWMPs;
  7. Identifying and raising awareness about successful waste collection/charging models (i.e. door-to-door SC + PAYT schemes);
- Measures for ensuring the best possible **performance at Mechanical-Biological Treatment (MBT) facilities:**
  8. Compiling capacities and efficiencies (based on mass-flow analysis) as regards to residual waste treatment at MBT facilities;
  9. Compiling the capacity of MBTs for the treatment of separately collected biowaste as well as the quality of outputs;
  10. Identifying and characterising the best performing MBT plants and ensure technology transfer;
- **Economic instruments and tax reforms** for a better waste management:
  11. Reform on municipal waste charges to cover full costs;
  12. Improved and new extended producer responsibility (EPR) systems;
- Measures addressing **the reliability of data** on waste management:
  13. Compiling, comparing and harmonizing current methods for the calculation of BMW to landfill at the regional level;
  14. Addressing the sources of inconsistency, in particular regarding MBT plants.
- Measures addressing **the coordination and cooperation on interregional waste shipments**:
  15. Monitoring interregional waste flows;
  16. Fostering efficiency and economies of scale through a plan for sharing treatment facilities.

2.0 Potential Issues with approach to Waste Management

Number	Potential issue	Description	Reasons for the issue
1	Regional waste planning not aligned with national obligations.	The State is responsible for the accomplishment of targets. Most Executive competences rely on the ACs and they have to put in place their corresponding RWMPs. The PEMAR (National Waste Management Plan,) establishes that targets must be met at the regional level (i.e. 50% recycling rate by 2020, biodegradable municipal waste (BMW) to landfill 35% by 2016). It follows that ACs should amend/revise their RWMPs according to these targets and time frames.	The PEMAR establishes that each AC should meet the targets set out by the Waste Framework Directive and the Landfill Directive. This new context suggests that co-ordination must be strengthened. PEMAR does not include an identification of priorities, transitional measures and mechanisms for technological and knowledge transfer towards the worst performing regions. In the absence of further coordination of efforts, the accomplishment of targets at the national level will depend upon ACs' commitment. Until now, RWMPs have been implemented largely independently from each other. RWMPs differ in terms of targets, focus, waste streams addressed and time spans. This situation has led to different outcomes in terms of recycling and material recovery rates, related to different waste collection schemes, waste management approaches and investments. Consequently, the current degree of compliance quantitatively and qualitatively diverges at the regional level: - 7 ACs have already met the target for BMW to landfill (due by 2016) and 3 others are close to reach it. 7 regions are very likely not to make it. - Regarding recycling rates, one region has already met the target and 6 ACs will accomplish the target (due by 2020) if the current trends are maintained. The remaining 10 ACs will find difficulties meeting the target unless major changes occur. This situation places in jeopardy the successful accomplishment of targets at the national level.

Number	Potential issue	Description	Reasons for the issue
2	Slow progress in the adoption of more effective separate collection (SC) schemes, particularly regarding biowaste.	The low levels of separated collection suggest that SC schemes needs to improve.	Only 18% of total waste generated was separately collected in 2012. The recycling and recovery rate at MBTs will not allow the targets to be met even in case of diverting the whole tonnage of unsorted waste going currently to landfill towards these facilities. Consequently, only through the adoption of more effective schemes of SC will the targets be accomplished. This is particularly relevant for biowaste (44% of total municipal waste generated). SC of biowaste was 4% of total municipal waste generated and 24% of separately collected waste. There is a lack of knowledge about the efficiency of the different waste collection schemes as related to recycling and recovery rates and costs. Door-to-door collection, although increasing, still has a very limited presence currently.
3	Poor performance of mechanical-biological treatment (MBT) plants.	Residual waste amounted 82% of total waste collected in 2012 (17,911,465 t). Of this, approximately 63% (or 53% of total waste generated) was treated in MBT plants where 65% of the input was rejected. There are neither incentives linked to performance nor any contractual commitment on recycling and material recovery.	Improving performance at MBT plants is important in the short term. Until more effective collection schemes are fully operating, MBT plants will be treating the largest share of municipal solid waste (MSW) (54% in 2012, 47% planned in 2020). There is also a data gap on both, nominal capacities for unsorted waste treatment at MBT's and for nominal capacities of segregated biowaste treatment at independent composting / digestion facilities. This gap hampers the crosscheck of current and expected treatment capacities against current and expected waste generation[1] and its spatial distribution. Consequently, the appropriateness of future investment on infrastructures cannot be properly evaluated. This point is related to issue number 6.

[1] The PEMAR expects the overall quantity of unsorted waste treated at MBTs to remain constant by 2020; therefore investment in new MBT facilities should be checked against this forecast at the regional and municipal level.

Number	Potential issue	Description	Reasons for the issue
4	Scarce, and non-harmonised implementation of economic instruments in waste management	Economic instruments to incentivise management of waste in the higher tiers of the waste hierarchy are scarcely implemented. Moreover, the extent of implementation of these instruments is very unevenly distributed across regions.	Although a number of regions have introduced a landfill tax on municipal waste, the level of the tax is not high enough to act as a disincentive for residual waste disposal and foster prevention and efficiency (waste to landfill was more than 60% of total MSW in 2012, albeit that some of this was stabilised biowaste). In the absence of a landfill tax implemented at the national level, distortions are caused by differentials in landfill costs. In the meantime, transitional measures are required in order to cope with the current landfill levels. Municipal charges do not generally cover the costs of waste management and they are rarely linked to waste generation. A very limited number of PAYT schemes are implemented. Deposit and refund systems are currently restricted to some products used in the food service industry sector.
5	Quality of data for reporting.	ACs are responsible for gathering data on waste collection and treatment from waste treatment plants and municipalities. This data is then sent to the MAGRAMA. The method for the calculation of BMW sent to landfill in each AC is unknown. Mass balances as reported by waste treatment facilities, do not completely match with data on waste collection.	Each AC is responsible for the gathering of data on waste treatment and waste collection from treatment plants and municipalities. It has not been possible to find out the method by which each AC estimates BMW sent to landfill. In the absence of a common and transparent framework for accounting, results are unverifiable. Since 2009 the two bodies responsible for reporting data on waste management, namely the National Statistics Institute and MAGRAMA, have coordinated their methods and standards. Inconsistencies remain, though. First, regarding the correspondence between data on inputs to waste treatment plants and data on waste collection. Second, mass losses at MBT plants (accounted for as recycling) are unusually high for some facilities.
6	Coordination and cooperation on interregional (IRR) waste shipments.	IRR waste shipments have been recently regulated at the national scale. IRR coordination should contribute to avoid the "border" effect entailing inefficiencies, and a "race to the bottom" for those ACs where landfill costs are higher.	There is a lack of knowledge on the current IRR waste flows, in terms of tonnage, quality, origin/destination, economic efficiency, etc. IRR waste shipments can contribute to optimize treatment capacity, lower treatment costs and the emergence of economies of scale. However, it can also lead to a "race to the bottom", particularly for waste coming from regions where landfill costs are higher.

3.0 Recommended Measures

3.1 Measures Addressing Several Potential Issues

Measure	Type of instrument	Responsibility	Estimated costs (infrastructure requirement)	Available EU funding	Anticipated impact
1. **Introduction of a national tax on landfill and treatment of municipal waste:[2]** This tax would build upon the main characteristics of the existing regional taxes, and its revenue would be transferred to the Autonomous Communities, which would also define the tax rates within a minimum level set by the national legislation. It should be applied both to residual waste disposal and rejects from MBT plants, albeit at different rates if the MBT outputs meet a standard for stabilisation. It should also include incineration. If the introduction of a national tax proves impossible, at the very least, a minimum tax rate should be mandatory.	Legal, economic	MINHAP, MAGRAMA.	-	N/A	It should help diverting unsorted waste from landfills and fostering efficiency at treatment facilities. The current gate fees and landfill taxes do not disincentive disposal. Landfill taxes will help implement the waste hierarchy by making the higher tiers more cost competitive.

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[2] This proposal is taken from report from the Commission of Experts for the Spanish Tributary System Reform (2014), though adapted to include other forms of residual waste management. The report also recommends the definition of a national minimum tax rate.

Measure	Type of instrument	Responsibility	Estimated costs (infrastructure requirement)	Available EU funding	Anticipated impact
2. Co-ordinated updates to the RWMPs: The Comisión de coordinación **could be** developed to promote coordination at regional level, thereby ensuring consistency across the RWMPs. Co-ordination of the plans should include: - Updating targets, deadlines and frequency of revision (where necessary). - Alignment of periods covered by RWMPs - Defining minimum common contents for the RWMPs. Updates to the RWMP should cover the following: - Updating investments in infrastructure in the short term (where necessary). - Waste prevention programmes, including targets, which should include objectives to expand the existing networks of re-use and repair centres. This should follow from a mapping exercise whereby existing re-use / repair infrastructure is identified.	Legal, Administrative	MAGRAMA, Comisión de coordinación en material de residuos, Autonomous Communities.	-	N/A	RWMPs become homogeneous in terms of targets and deadlines, yet flexible for the local implementation of strategies and investments. ACs officially committed to the accomplishment of national targets and deadlines. Ensure waste prevention is recognised as a priority and measures are taken at regional level.

3.2 Measures aimed at Addressing Specific Issues

Measure	Type of instrument	Responsibility	Estimated costs (infrastructure requirement)	Available EU funding	Anticipated impact
Issue 1: Regional waste planning not aligned with national obligations.					
3. **Identifying and characterising regions at risk of non-compliance.**	Informational	MAGRAMA, Comisión de coordinación en materia de residuos.	-	N/A	Identification and characterisation of regions for priority action. Identification and recommendation of priority measures.
4. **Identifying and characterising top performing regions, key factors of success and dissemination of good practices.** Here, the Comisión de coordinación could play a role in monitoring the implementation of waste management plans in the AC's, the dissemination of best practice, and improving the dialogue between AC's and central government.	Informational	MAGRAMA, Comisión de coordinación en materia de residuos.	-	N/A	- Characterisation of the top performing regions; -Technology/knowledge transfer is fostered.
5. **Inclusion of waste prevention plans within the RWMPs.**	Administrative / legal	Autonomous Communities.	Unknown	Unknown	- Waste is moved up the hierarchy, improving diversion from landfill

Measure	Type of instrument	Responsibility	Estimated costs (infrastructure requirement)	Available EU funding	Anticipated impact
Issue 2: Slow progress in the adoption of more effective separate collection (SC) schemes, particularly regarding biowaste.					
6. **Introducing specific plans for biowaste management within RWMPs:** identify opportunities and candidates for the implementation of separate collection of biowaste. Consider the implementation of binding regulations which require municipalities to implement biowaste collection in (for instance) towns greater than a set number of households. Also regulations obliging commercial organisations generating more than a fixed quantity of food waste per annum to separate and contract for separately collected organic waste.	Administrative / legal	Autonomous Communities.	Unknown	Unknown	Candidates for implementing the SC of biowaste identified and prioritised. Potential requirement on municipalities to collect household biowaste. Potential requirement on businesses to have commercial biowaste separately collected. Targets for SC of biowaste could be defined.
7. **Identifying and raising awareness about successful waste collection/charging models** (i.e. door-to-door + PAYT schemes)**.** To be achieved through the introduction of a separate body aimed at knowledge transfer and training (similar to WRAP in the UK), covering issues such as the system design, operation and optimisation.	Informational	MAGRAMA, Autonomous Communities, Municipalities.	-	N/A	Linking specific collection schemes to recycling rates will permit recommendations to be based upon an empirical basis. Increased separation at source entailing increased recycling rates.

Measure	Type of instrument	Responsibility	Estimated costs (infrastructure requirement)	Available EU funding	Anticipated impact
Issue 3: Poor performance of mechanical-biological treatment (MBT) plants.					
8. **Compiling capacities and efficiencies (based on mass flow analysis) as regards to residual waste treatment at MBT facilities.**	Informational	MAGRAMA, Autonomous Communities,	Additional required treatment capacity unknown	ERDF to be considered	Linking MBT capacities (i.e. current and planned) with the estimated production of unsorted waste will permit the re-assessment of the planned investments (i.e. MBT plants) as well as the optimization of existing facilities (the PEMAR estimates that by 2020, the overall quantity of unsorted waste treated at MBT's will remain constant).
9. **Compiling capacities for biowaste treatment of the separately collected fraction, both at MBTs and dedicated composting plants. .**	Informational	MAGRAMA, Autonomous Communities	Additional required treatment capacity unknown	ERDF to be considered	The need for new biowaste treatment facilities for SC organics will be identified and planned.

Measure	Type of instrument	Responsibility	Estimated costs (infrastructure requirement)	Available EU funding	Anticipated impact
10. Identifying and characterising the best performing MBT plants and ensure technology transfer.	Informational	MAGRAMA, Autonomous Communities, Waste Managers	-	N/A	Technological transfers and/or including performance standards in public contracts will entail an overall increase of the quantity and quality of the recovered materials and in turn, a reduction of refuse. The margin for improvement is narrow though (see Factsheet 1.4.1 and PEMAR page 29).

Measure	Type of instrument	Responsibility	Estimated costs (infrastructure requirement)	Available EU funding	Anticipated impact
Issue 4: Scarce, non-harmonised implementation of economic instruments in waste management					
11. **Reform on municipal waste charges on:** - Households by progressively linking payment to waste generation (i.e. PAYT) as the implementation of more efficient collection system makes it suitable; - Commercial activities to ensure full cost coverage. PAYT schemes should be introduced as the implementation when collection schemes allow.	Legal, economic	Municipalities.	-	N/A	A progressive shift towards municipal waste charging systems based on waste generation will increase waste prevention and separation at source. As more efficient waste collection systems are implemented (i.e. door to door collection), PAYT schemes are more likely to succeed resulting into waste prevention and greater recycling rates.
12. **Improved and new extended producer responsibility (EPR) systems:** - Expanding EPRs towards additional waste streams (e.g., furniture, textiles, sanitary and hygiene products, etc.) - Ensuring full cost coverage and introducing eco-design (i.e. durability, recyclability) criteria for payments. - Consider the introduction of deposit refund systems	Legal, economic	MAGRAMA, Integrated Management Systems.	-	N/A	Increased waste prevention, reuse and recycling. Decrease in disposal of unsorted/bulky waste. Assumption of waste management costs by producers.
Issue 5: Quality of data for reporting.					

Measure	Type of instrument	Responsibility	Estimated costs (infrastructure requirement)	Available EU funding	Anticipated impact
13. **Compiling, comparing and harmonizing current methods for the calculation of BMW to landfill at the regional level.**	Informational	MAGRAMA, Autonomous Communities.	-	N/A	Transparency of reporting enhanced. Comparability assessed. Better characterisation of unsorted waste across regions.
14. **Addressing the sources of inconsistency between mass balances presented by treatment facilities and waste collection at municipalities.**	Informational	MAGRAMA, Autonomous Communities, Municipalities.	-	N/A	Transparency of reporting enhanced. Identification of priorities on a sound quantitative basis enabled.
Issue 6: Coordination and cooperation on interregional waste shipments					
15. **Monitoring interregional waste flows:** Data on waste flows will be crucial in the short term in order to check the extent to which interregional cooperation can contribute to the overall compliance with targets.	Informational	Autonomous Communities, MAGRAMA	-	N/A	Identification of priority regions for landfill diversion policies. Identification of priority treatment facilities for capacity optimization
16. **Fostering efficiency and economies of scale** through a plan for sharing treatment facilities (where viability is ensured by life cycle analysis).	Administrative	Autonomous Communities, MAGRAMA.	-	N/A	Optimization of treatment capacities (particularly if implemented hand in hand with measures 8 and 10).

3.3   Timeline for introducing the Proposed Measures

MEASURES	2016	2017	2018	2019	2020	Beyond 2020
1. Introduction of a national tax on landfill of municipal waste and rejects from MBT.	Preparation	In place				
2. Updating RWMPs	Preparation	In place				
3. Identifying and characterising regions at risk of non-compliance	In place					
4. Identifying and characterising top performing regions, key factors of success and dissemination of good practices	In place					
5. Introducing specific plans for biowaste management within RWMPs	Preparation	In place				
6. Identifying and raising awareness about successful waste collection/charging models (i.e. door-to-door + PAYT schemes)	Continuous work	Continuous work	Continuous work	Continuous work	Continuous work	Continuous work
7. Compiling capacities and efficiencies as regards to residual waste treatment at MBT facilities	Delivered					
8. Compiling capacities for biowaste from SC characterising as regards to the quality of outputs	Delivered					

MEASURES	2016	2017	2018	2019	2020	Beyond 2020
9. Identifying and characterising the best performing MBT plants and ensure technology transfer	Delivered					
10. Reform on municipal waste charges (where collection systems allow)	Progressive adoption	Progressive adoption	Progressive adoption	Progressive adoption	Progressive adoption	Progressive adoption
11. Improved and new extended producer responsibility (EPR) systems	Viability Assessment	Viability Assessment	In place			
12. Compiling, comparing and harmonizing current methods for the calculation of BMW to landfill at the regional level	Delivered					
13. Addressing the sources of inconsistency	Delivered					
14. Monitoring interregional waste shipments	Preparation	Preparation	Results			
15. Fostering efficiency and economies of scale	Preparation	Preparation	Preparation	Delivered		