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Making society an active participant in water adaptation to global change

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D6.4 3rd detailed cross-cutting Policy Sectors analysis -water and climate

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Executive summary

This deliverable report provides a detailed policy review of the Case Study River Basin Partner (CSRB) countries at National Level and, in the case of Spain, the Regional Level for Catalonia. The Report is based on the application of a Policy Analysis Tool which provides a methodology for researchers to identify and contribute a consistent quantitative and a descriptive analysis of policy instruments at the National level, a review of main policy sectors of interest and, where feasible, a comparison between policy sectors. The value of this report for the BeWater Partners is to build an understanding of the CSRB policy landscape and identify which individual policy instruments provide an opportunity for research results to be taken up, allowing BeWater to contribute to existing policy implementation. More specifically this refers to individual policy instruments that encourage participation and stakeholder engagement, allowing BeWater to contribute to policy processes; and therefore provide opportunity for either uptake or contribution to policy processes.

The comparative policy analyses of the CSRB partner countries identify similarities and differences in policy instrument profiles between the countries. This aspect of analysis contributes to one of the key outcomes of BeWater, which is a methodology to facilitate outscaling and transferability of the process into other Mediterranean river basins and/or countries. This Policy Analysis Tool provides a relatively simple methodology for the identification of policy instruments favourable to a BeWater approach, and which can reduce the limitations of applying a single-policy approach to BeWater uptake by providing more than one policy option in more than one policy sector.

The results of the analyses show the differences in the occurrence and distribution of individual climate-friendly indicators within the policy landscape of the 4 CSRB Partner countries. A trend analysis over time of the total indicator scores for Water Sector policies in the four countries range from a static trendline for Slovenia to a sharp increase for Spain, with a strong influence of regional policies from Catalonia.

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1. Introduction

1.1 Background

This Deliverable represents the application of the BeWater Policy Analysis Tool which was piloted in the previous deliverable D 6.3. The tool employs Excel, which allows for building of lists, fixing values in macros for drop-down lists of indicators, and finally data presentation in the form of charts and graphs. The selected lists of indicators facilitates policy document review by allowing word-search tools to identify the presence and/or absence of indicators. This version of excel tool builds on the work of the previous version used in the pilot testing by streamlining the tool for automatic indicator totals, adjustments to the Supporting Notes worksheet, and introduction of specific worksheets for production of graphics for each indicator type.

1.2 Objectives

The main objective of this deliverable is to provide a detailed policy review of the Case Study River Basin Partner countries at National Level and, in the case of Spain, the Regional Level for Catalonia. The Policy Analysis Tool provides a methodology for researchers to identify and contribute a consistent quantitative and a descriptive analysis of policy instruments at the National level, a review of main policy sectors of interest and a comparison between policy sectors. For our purposes we apply the definition of policy sector as follows: “A policy sector has four dimensions: a cognitive dimension, such as a sectorial paradigm, private actors, for example interest groups and professions, institutions, which provide the legal context and the actors therein, as well as policies that concretely apply the paradigm to specific problems”.¹ The BeWater Policy Analysis Tool addresses policy sectors, stakeholders, the legal context of policy type and climate-friendly indicators². This analysis facilitates CSRB Partners to build an understanding of the policy landscape³ and identify which individual policy instruments provide an opportunity for research results to be taken up, allowing BeWater to contribute to existing policy instruments that encourage participation and stakeholder engagement, which are key to the BeWater process. The multi-sector analysis with the tool also allows researchers working primarily in one policy sector, such as Water, to see where compatibilities or limitations exist in other sectors such as Energy, Forestry or Agriculture. This is especially relevant for the themes of climate and adaptation, which often cut across these sectors, for Integrated Water Resources Management (IWRM), which encourages multiple sectors to engage in improved water management and more recently with the NEXUS approach, which goes beyond water management and addresses the inter-dependencies between sectors such as Water, Energy and Food Security.

The Policy Tool applies lists of indicators, which include policy sectors, policy types and four additional lists of descriptive indicators shown in Table 1. The list of policy sectors also serves as crosscutting policy indicators. The quantitative approach employed by this policy analysis allows researchers to summarize individual policy instrument information by scoring the presence of indicators, from the large lists of policies compiled for each CSRB Partner country and to illustrate and describe these results numerically, visually and over time.⁴ This multi-sector approach with standardized indicators and indicator scores allows for a wider comparative analysis than is usually done in comparative policy analysis between individual policies, between policy sectors, and eventually comparison between countries⁵.

¹ Trein, P., How to compare the coordination of policy sectors? Coupling of actors, institutions and policies (University of Lausanne June 17, 2015).

² The Policy Tool contains lists of Crosscutting Policy Sector, Thematic, Key Action, and Stakeholder indicators that represent the content of specific policy instruments that either partially or specifically address climate and climate change, thus being seen as ‘climate friendly’ policies

³ Heller, TC, “The first thing to realize is that climate policy is policy first and climate second. The design of policy, and how its implementation plays out in the real world, is most often determined by the policy architecture that typifies the political system and institutional powers in place in a nation.” of The Policy Climate, (Climate Policy Initiative, 2013)

⁴ Breunig, C & Ahlquist, J.S., Quantitative Methodologies in Public Policy (Palgrave and Macmillan, 2014, Chapter 6) state that both quantitative and qualitative work in comparative public policy, essentially describing political phenomena using numbers and visual techniques such as histograms and box plots, assist researchers in illustrating large amounts of data and act as a tool for reducing information to gain understanding of a subject. Line plots over time and/or space are especially important.

⁵ Laurence Brandenberger, University of Bern (Institute of Political Sciences), Isabelle Schlaepfer, University of Bern (Institute of Political Science), Philip Leifeld, University of Konstanz, Manuel Fischer, Swiss Federal Institute of Aquatic Science and Technology (Eawag), Overlapping subsystems: Swiss water policy across media and parliament, (Session Paper, International Conference on Public Policy, Milan, 2015). Authors state that “While important theories regarding policymaking have traditionally focused on single policy sectors, subsystems, or domains, recent research places an emphasis on linked subsystems or trans-subsystem dynamics. With the increasing complexity of modern political problems, actors simultaneously deal with several issues at different stages and levels, and across varying arenas. Approaches focusing on single policy sectors, subsystems, or domains are unable to deal with this new complexity in policymaking. They thus risk drawing an incomplete and potentially biased analysis of modern policymaking. Failing to take policy subsystem interdependencies into account complicates the understanding of the

Table 1 Lists of Indicators for Analysing Policies

Policy Sector	Type of Policy	Thematic	Actions	Stakeholders
Water	Act / Law	Mitigation	Participation	Public
Energy	Decree	Adaptation	Consultation	Civil Society
Agriculture	Policy	GHG	Information	NGOs
Forestry	Regulation	Flood	Awareness	Community
Environment	Paper	Drought	Dissemination	Research Academia
Transport	White Paper	Landslide	Planning	Private
Health	Directive	Avalanche	Design	Associations
Education		Torrent	Implementation	
Climate		Heatwave	Control	
Fisheries		Management	Accountability	
		Disaster	Transparency	
		Risk		
		Reduction		

1.2.1 Specific Objectives

The specific objective of this analysis is to identify individual policy instruments of interest, which, in the case of BeWater, are instruments that have 'climate-friendly' content and thus oriented to supporting adaptation measures in river basin management. This contributes to BeWater project objective N° 3, which is to promote the transfer of BeWater results into policy, with a generic adaptation plan to be developed which will be geared towards EU and MS policy and response needs. In order to identify the best options for transfer of results into policy, it is necessary to first determine the profile of existing relevant policy instruments, and then identify those into which an adaptation plan can be more easily taken up into the policy design, or into which policy processes, such as a consultation or participation, the BeWater approach can contribute. By applying the same methodology of policy analysis to a list of policy instruments from different policy sectors and to each CSRB Partner country, it is also possible to compare to which degree policy contexts or landscapes compare or differ between policy sectors and countries. This aspect of analysis results can contribute to one of the key outcomes of BeWater, which is outscaling and transferability of the process into other Mediterranean river basins and/or countries and which will require the identification of favourable policy instruments. Finally, the identification of more than one policy instrument favourable to a BeWater approach presents additional policy options for future application, and which can reduce the risk of a single-policy approach not successfully engaging in uptake.

1.3 Methodology

The Policy Analysis Tool was piloted in 2015 with the CSRB partners and the results reported in Deliverable Report 6.3, which was subsequently adjusted and improved. Application of the Policy Analysis Tool results in indicator profiles of specific policy instruments from lists established by policy researchers in each CSRB Partner Country. The lists all include examples from the Water Sector and other sectors such as Agriculture, Energy and Environment. The lists for each CSRB country vary in length and distribution among policy sectors, with the Water Sector a focus. The present version of the Policy Analysis Tools consists of an excel sheet with 25 columns of information and input data for each policy instrument. A profile of each policy instrument is constructed with its content of Crosscutting Sector, Thematic, Key Action⁶ and Stakeholder⁷ indicators identified as being relevant to adaptation and the degree to which an instrument is multi-sectoral. These content indicator lists are accompanied by descriptive indicators of: Policy Sector, Crosscutting Policy

functioning and potential institutional design of cross-sectoral coordination. What is more, it can lead to wrong inferences about the factors leading to given political outcomes."

⁶ A list of Key Action indicators were identified which indicate to what degree a policy instrument in its actions or measures implicates public and / or stakeholder involvement.

⁷ Stakeholders, be they target groups, beneficiaries or other interested parties, can influence policy creation and implementation. Where complex policy challenges are being addressed, multiple stakeholder groups contribute more effectively by bringing more experience, perspective and expertise into a policy process. Research Academia is included as a stakeholder indicator for promoting Science and Research into Policy.

Sector, Date, Type of Policy⁸, links to EU Policy, the Water Framework Directive (WFD) specifically, and river basin management (RBM). The latter three indicators are regarded individually because policy instruments addressing RBM are not automatically linked to the WFD and EU-related policy and instruments can be linked to EU-related policy but not necessarily to the WFD. Policy Type can be relevant to accessibility of policy instruments to the uptake of research results. Acts are more open to consultation and participation, at least during the formulation process, Regulations dictate the implementation of legislation and Decrees are top down, normally with the equivalent of a Law, and not open to consultation, participation or adjustment. We have found that Regulations tend to have lower indicator scores than Acts or Policies. By applying the date on which a number of policy instruments were established, the Policy Tool also allows for identifying possible trends of indicator content over time in one or more policy sectors. After scanning an individual policy instrument for indicators, the presence of the indicators is recorded in the Policy Tool excel sheet and scores allocated for single indicators (e.g. Type of Policy) or multiple indicator sets (e.g. lists of Stakeholders) as they appear in the policy instrument. A final total indicator score sums all scores of the indicators; the size of the score representing the indicator content and the quality of a given policy instrument.

1.3.1 Country-Level Analyses

The lists of policy instrument vary between the countries, but the number of Water Sector policy list always equal to or greater than other policy sector lists. Researchers expanded upon the list of policy instruments from the Pilot survey, using his or her discretion for selection of policy instruments that they found to be the most relevant to water, environment and climate activities. Each policy instrument was analysed within the framework of the indicators described above, with specific and total indicator scores entered into the appropriate column. Specific indicator scores were transformed into graphs or charts on indicator worksheets within the CSRB country data excel workbook, allowing for the visualisation of data analyses. Each policy instrument is allocated a reference number in the main database, which can be included into graphs and tables, allowing for specific indicator sets or outliers to be traced back to individual policy instruments. Worksheet functions with data linked to the main database via a pivot table, allowing for automatic correction in the worksheets when database cleaning or adjustments are performed. Finally, with a total number of 51 individual indicators and 8 indicator types, the presentation of analyses of all indicators per country surpasses the scope of this report. The analyses in this report address all **types** of indicators, but focusses on specific indicators that reflect the essential policy information of main interest to the BeWater project. Consequently, crosscutting sectors of Climate, Water and Energy are analysed, for the Thematic indicators, we analyse Mitigation and Adaptation and for Key Actions we analyse the indicator Participation.

There are two main challenges in performing this scope of policy analysis. The first is language, with the presentation in the Policy Tool tables being in English, which is not an official language for legal archiving in any of the CSRB countries. Secondly, a certain amount of policy research expertise is useful in constructing a large enough list of policy instruments sufficient for executing meaningful comparative analysis. These challenges were addressed with the engagement of a special team of legal researchers assembled by the University of Palermo (UNIPA) Law Department, who have a network of collaborators with the required language capacity for each of the CSRB countries. This was especially valuable in Tunisia where sourcing policy documents during the pilot phase proved to be difficult. All sources and links for individual policy instruments are included in the Policy Tool data sheet including Euro-lex or the Faolex for regional-scale archives⁹ or national level archives for each country studied.¹⁰ Data was collected over the July-August period and analysis done during August-September of 2016.

⁸ Policy Type is addressed in the Supporting Notes of the datasheets, but can be defined as follows: An **ACT** is legislation passed by the Parliament. Acts, (not including Schedules to Acts) can only be amended by another Act of Parliament. Acts set out the broad legal/policy principles. **REGULATIONS** are the guidelines that dictate how the provisions of the Act are applied. (cf WA.Gov, 2003) **DECREES** are usually issued by the Govt Executive Office or Head of State and has the power of Rule of Law. Acts reflect a consultative process, while Regulations and Decrees are more 'top-down' and are not consultative or participative.

⁹ Eurolex EUR-Lex - <http://eur-lex.europa.eu/homepage.html> provides free access, in the 24 official EU languages, to the authentic Official Journal of the European Union and EU law (EU treaties, directives, regulations, decisions, consolidated legislation, etc.) and FAO-lex FAOLEX <http://faolex.fao.org/> which is a comprehensive and up-to-date legislative and policy database, one of the world's largest electronic collection of national laws, regulations and policies on food, agriculture and renewable natural resources.

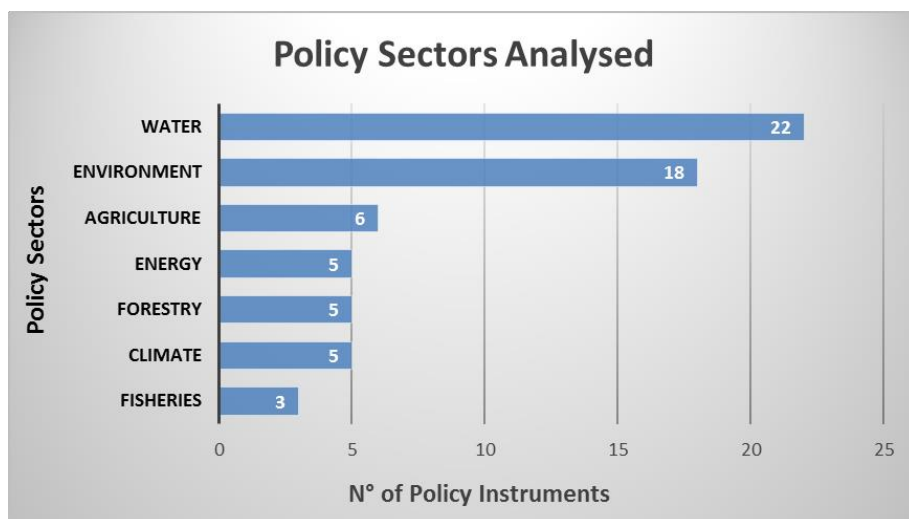
¹⁰ The CNUST for the Journal Officiel Republic Tunisien (JORT) <http://www.cnudst.rnrt.tn/wwwisis/jort.06/form.htm>, The global climate legislation database of the Grantham Institute, <http://www.lse.ac.uk/GranthamInstitute/legislation/the-global-climate-legislation-database/>; Hispagua database - Spanish Information System on Water, http://www.ub.edu/aigua/es/pages/show/objects_id/151; Catalan Water Agency Database <http://acanet.gencat.cat/scripts/legislacio/menu.asp?idioma=en>; Legal Information System of the Republic of Slovenia (Pravno-informacijski sistem Republike Slovenije (v nadaljnjem besedilu: PIS) <http://www.pisrs.si/Pis.web/>

2. Slovenia

2.1 Policy Sectors and Description of Policies

In Slovenia 64 individual policy instruments across six policy sectors are identified and analysed through their content of pre-selected indicators. Figure 1 presents a distribution of policy instruments for Slovenia.

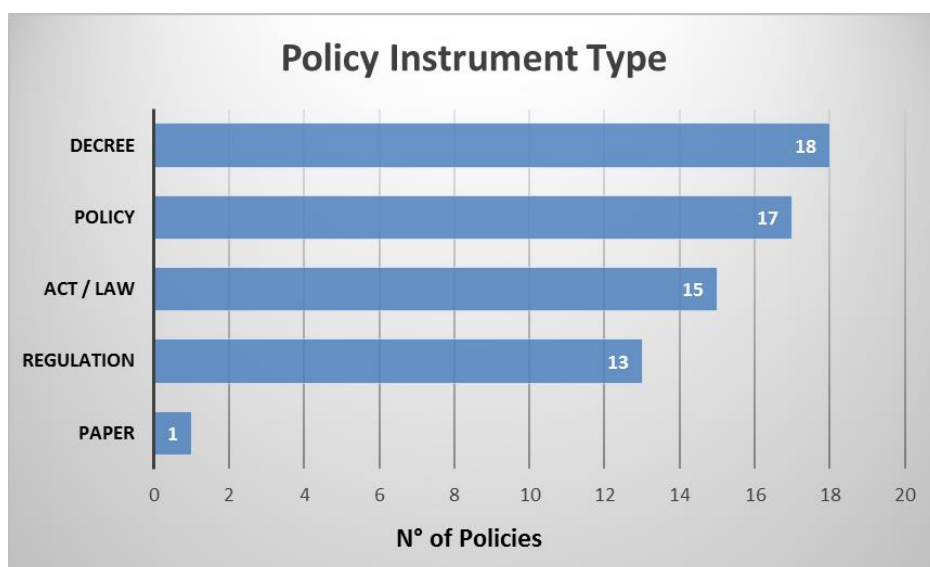
Figure 1 Slovenia List of Sectors and Policies Analysed



The majority of the individual policy instruments selected are from the Water Sector, followed in descending order by Environment, Agriculture, Energy, Forestry, Climate and Fisheries sectors. For Slovenia, comparative analysis between policy sectors will focus on the Water and Environment sectors, which have the highest number of policy instruments and thus allow for comparison.

The types of policy instruments analysed are presented in Figure 2. Within the Slovenia list there is an equal distribution of prescriptive instruments of Decrees and Regulations (31 total) when compared to the more open processes of Policies and Acts / Laws (32 in total).

Figure 2 Slovenia Types of Policy Instruments

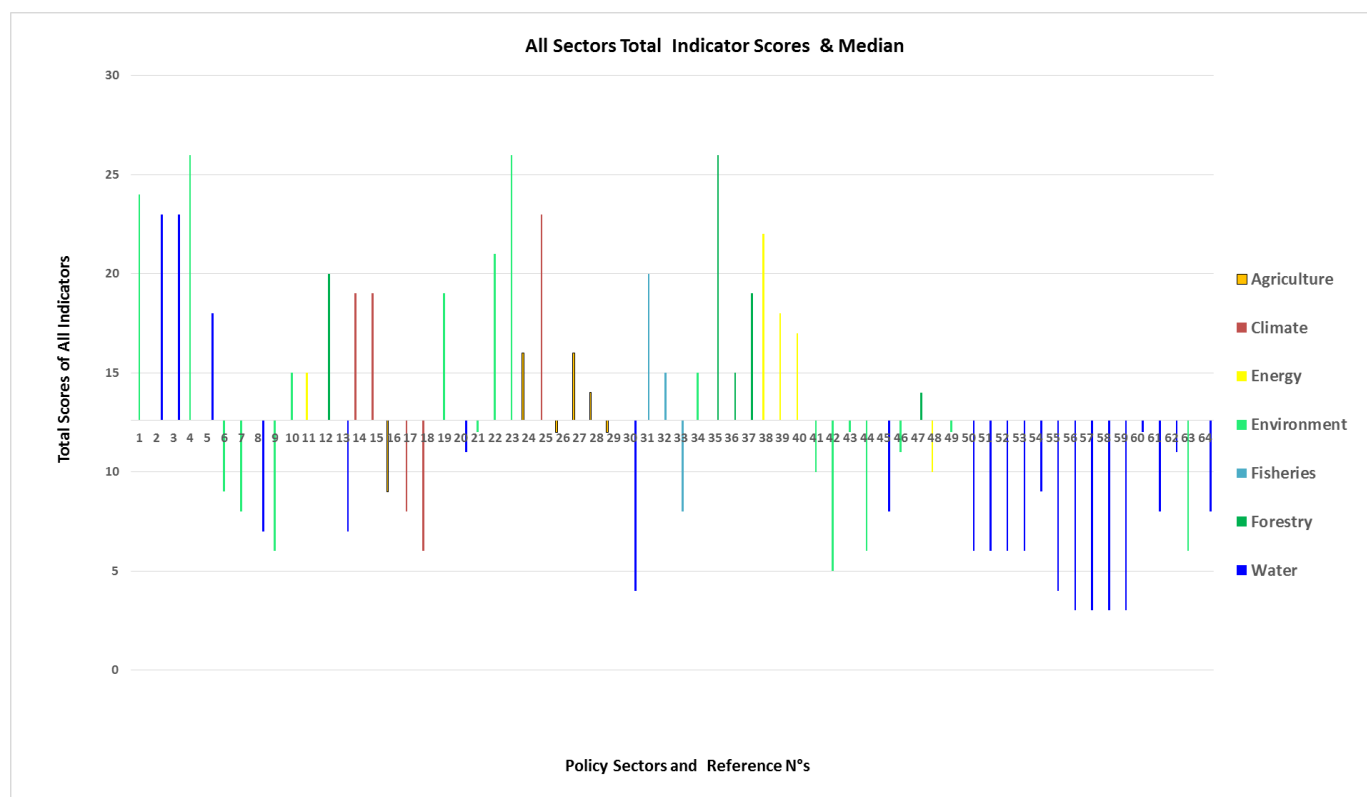


2.2 Policy Instruments and Total Indicator Scores

Total Indicator Scores are examined first to identify from which policy instruments and from which sector the most climate-friendly indicators are detected. In the database for Slovenia the scores displayed in Figure 3 range from the highest of 26 to the lowest score of 3 and a statistical median of 12. We use the median for delineating high scoring and low scoring policy instruments. In the database the highest Total Indicator scores of 26 are for Environment Sector Policies and include; the Resolution on the National Environmental Action Programme 2005–2012 (NEAP, 2006), Resolution on National Forestry Programme (2007), and the Rural Development Programme 2014-2020. The NEAP is a strategic document on environmental protection that provides policy directions and environment protection goals but introduces no specific measures. This was a programme for the 2005-2012 period, has not been replaced but its principles and goals are still relevant and have affected other documents/legislation. The 2007 Forestry Resolution is a strategic document for the development of Slovenian forests, with links between forest and water management emphasized, specifically water quality, flood and drought prevention. The Rural Development Programme is a detailed programme of rural development, covering many water-related areas including water protection and management, preservation of biodiversity (river basin management) and drinking water supply. The next highest Total Indicator score is 24 for the Environmental Protection Act of 2016 which is essentially core legislation dealing with environmental protection and sustainable development.¹¹ Figure 3 that the next highest Total Indicator scores of 24 are both Water Sector policy implements and they are the Waters Act (2015) and the Decree on the river basin management plan for the Danube Basin and the Adriatic Sea Basin (2012). The lowest Total Indicator scores are from the Water Sector in four Regulations. They include; Rules on methods for determining water bodies of surface water, Rules on the delimitation of river basins, sub-basins and river basin districts, Rules on methods for determining water bodies of underground water (all 2003) and the Rules on determining underground water bodies (2005).¹² The highest Total Indicator scores are from the Environment Sector, indicating the Environment Sector policy instruments are the more climate-friendly than from the Water Sector. If we set a bar for Total Indicator scores at ≥ 12 , we have 12 policy instruments from Environment Sector compared to six from the Water Sector scoring above the median, which are high scoring.

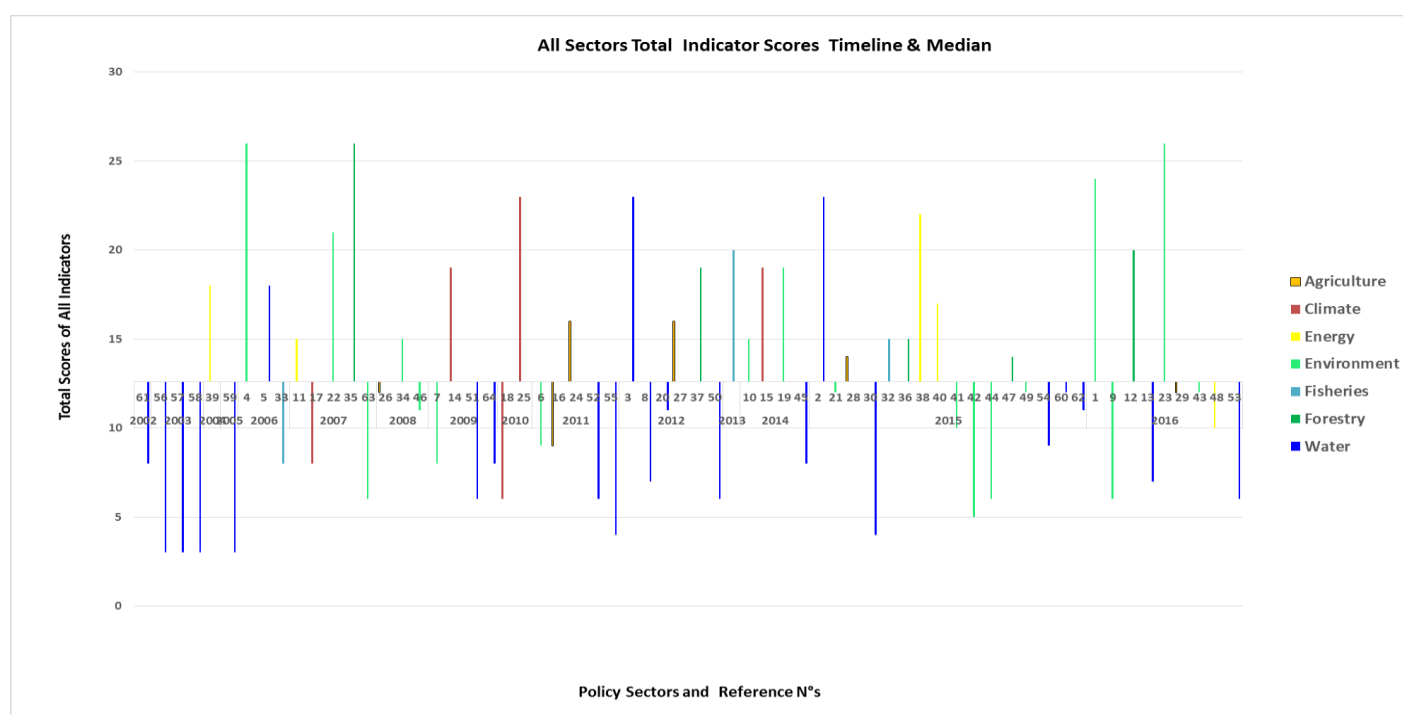
¹¹ Resolucija o Nacionalnem programu varstva okolja 2005–2012 (ReNPVO), Resolucija o nacionalnem gozdnem programu (ReNGP) (Ur. l. RS, št. 111/07), Program razvoja podeželja 2014–2020 (PRP 2014-2020), Zakon o varstvu okolja (Uradni list RS, št. 39/06 – uradno prečiščeno besedilo, 49/06 – ZMetD, 66/06 – odl. US, 33/07 – ZPNačrt, 57/08 – ZFO-1A, 70/08, 108/09, 108/09 – ZPNačrt-A, 48/12, 57/12, 92/13, 56/15, 102/15 in 30/16), and Zakon o varstvu okolja (Uradni list RS, št. 39/06 – uradno prečiščeno besedilo, 49/06 – ZMetD, 66/06 – odl. US, 33/07 – ZPNačrt, 57/08 – ZFO-1A, 70/08, 108/09, 108/09 – ZPNačrt-A, 48/12, 57/12, 92/13, 56/15, 102/15 in 30/16)

¹² Pravilnik o metodologiji za določanje vodnih teles površinskih voda (Uradni list RS, št. 65/03), Pravilnik o določitvi meja povodij in porečij ter meja vodnih območij z vodami 1. reda, ki jima pripadajo (Uradni list RS, št. 82/03), Pravilnik o metodologiji za določanje vodnih teles podzemnih voda (Uradni list RS, št. 65/03), Pravilnik o določitvi vodnih teles podzemnih voda (Uradni list RS, št. 63/05)



In Figure 4, we have the distribution over time of the policy instruments, with the indicator score bar of ≥ 12 . The development of Water Sector policies in the Slovenia list occurred within three temporal clusters of 2002-2006, 2009-2011 and 2012-2016. The most recent Water Sector policy instruments, since 2014, all have low Total Indicator scores. Policy instruments from the Environment Sector are in clusters dated 2006-2008 and the most recent of 2014-2016, which includes 6 out of 16 Environmental policy instruments. The two high-scoring policy instruments from 2015-2016 are the Environmental Policy Act and the Rural Development program described above.

Figure 4 Slovenia All Sectors Total Scores and Timeline



2.2.1 Specific Descriptive Indicators

This section looks at specific descriptive indicators, beginning with links to EU-related National policy instruments presented in Figure 5. The majority of policy instruments in our list are EU-related and it is therefore easier to present below the remaining nine policy instruments, which are not EU-related. Figure 5 shows that the 8 out of 9 instruments not EU-related are low scoring.

Figure 5 Slovenia All Sectors Total Scores with non EU-Related Policy Instruments

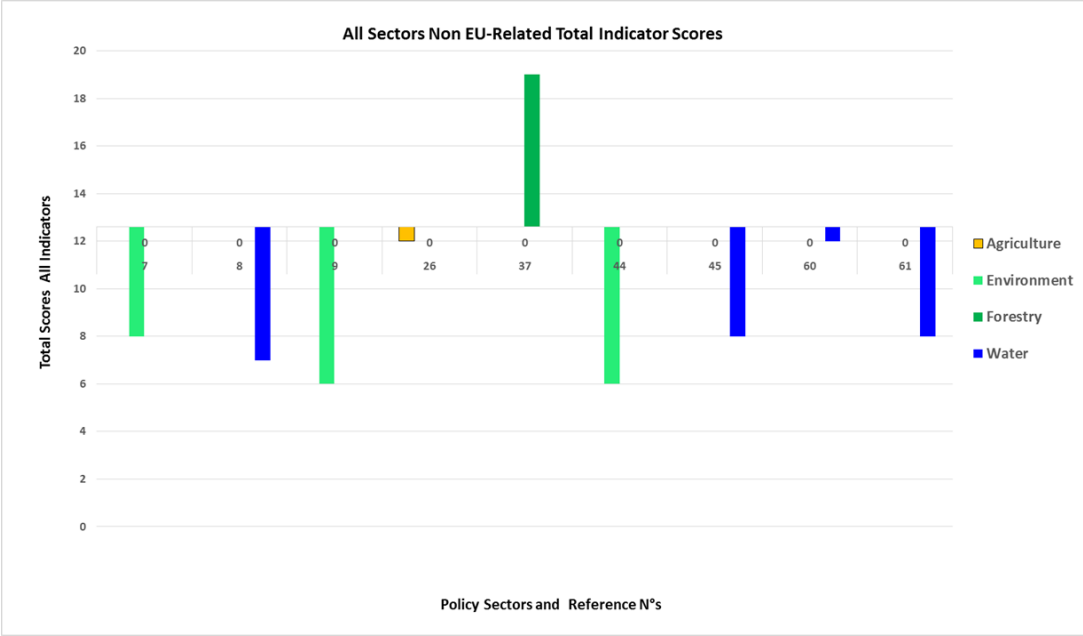
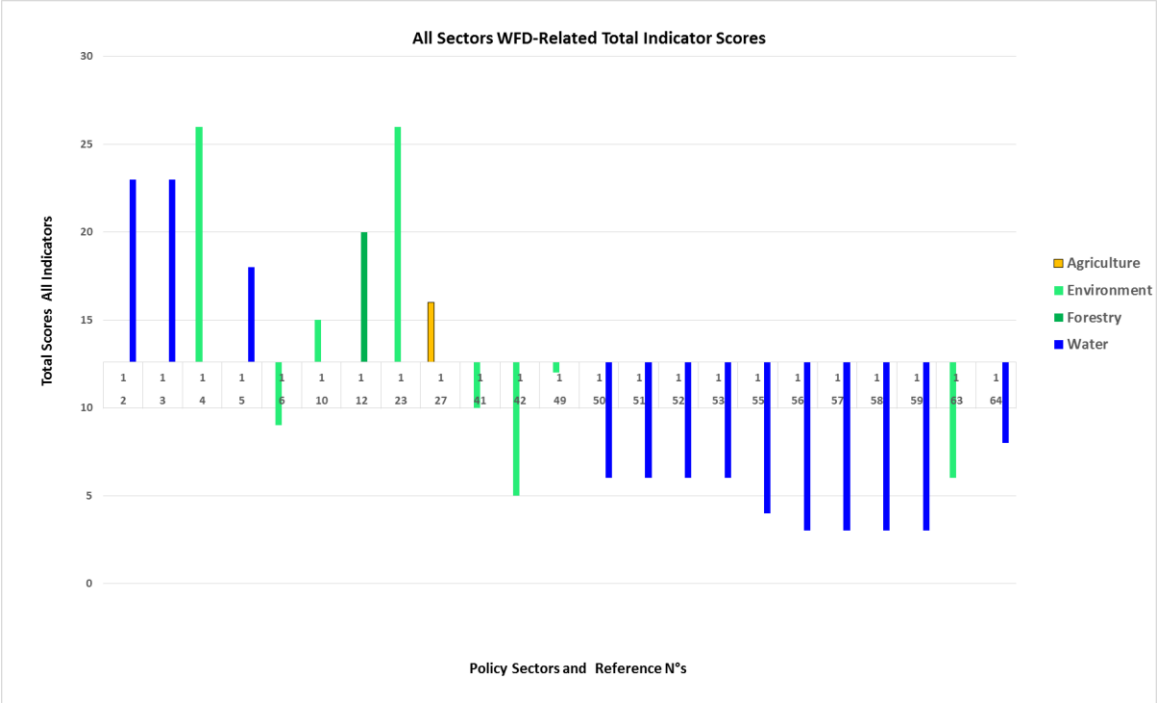


Figure 6 presents policy instruments linked to the Water Framework Directive (WFD). 23 of the 55 EU-Related instruments, slightly less than half of our total policy list, are linked to the WFD and include policy instruments from the Agriculture, Forestry, Environment and Water Policy sectors. Of interest to note is a significant number of Environment Sector policy instruments, 8 out of 16, are linked to the WFD but only 12 out of 22 Water Sector policy instruments address the WFD.

Figure 6 Slovenia All Sectors Total Scores with WFD-Related Policy Instruments



The majority of policy instruments from the Slovenian list address RBM. Figure 7 shows the 12 policy instruments not addressing RBM and include 5 out of 18 from the Environment Policy sector, 4 out of 22 for Water and one each from Energy and Forestry Policy sectors. 8 policy instruments can be considered to be high scoring for the RBM indicator.

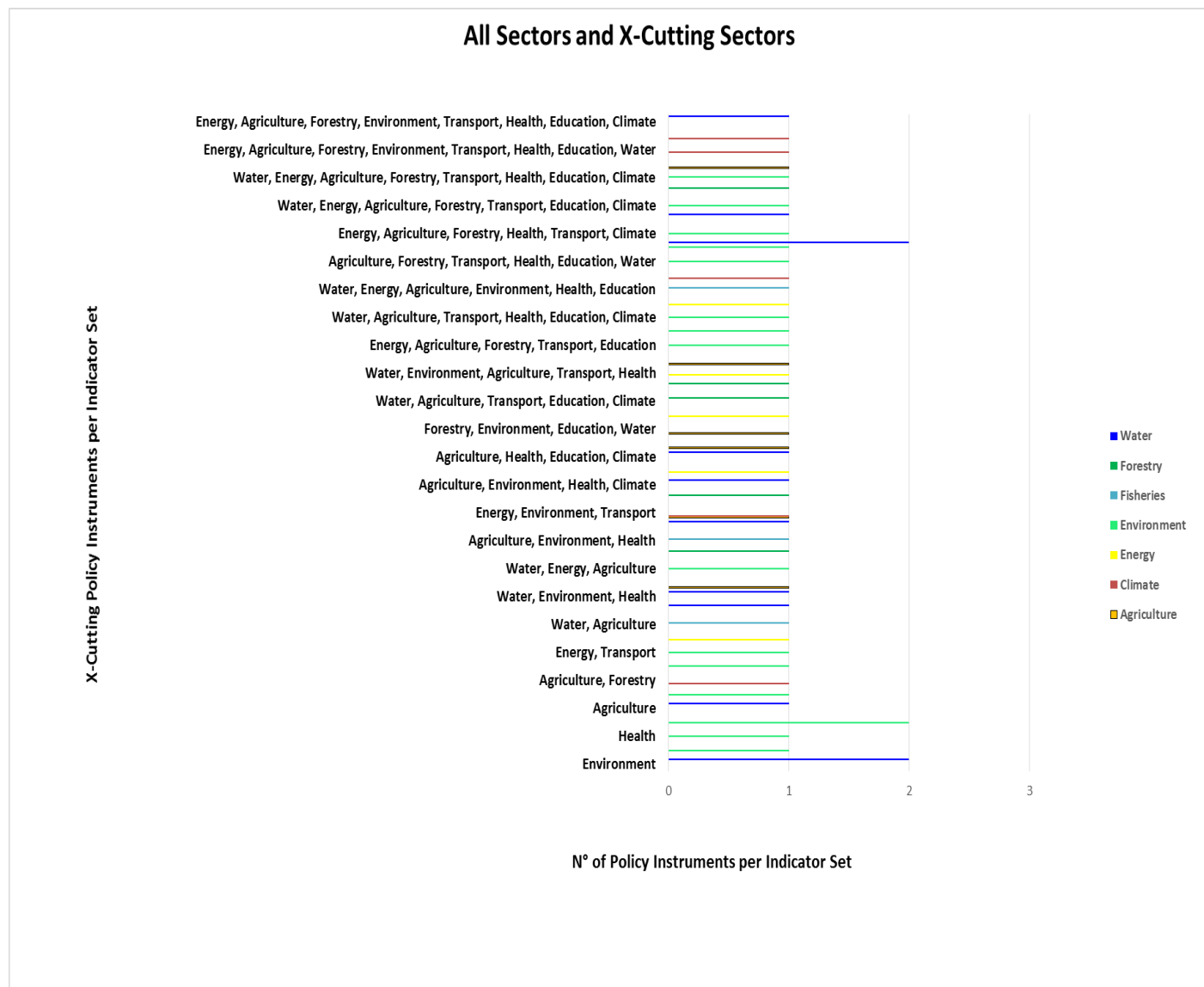
Figure 7 Slovenia All Sectors Total Scores with RBM-Related Policy Instruments



2.3 Crosscutting Policies and Sectors

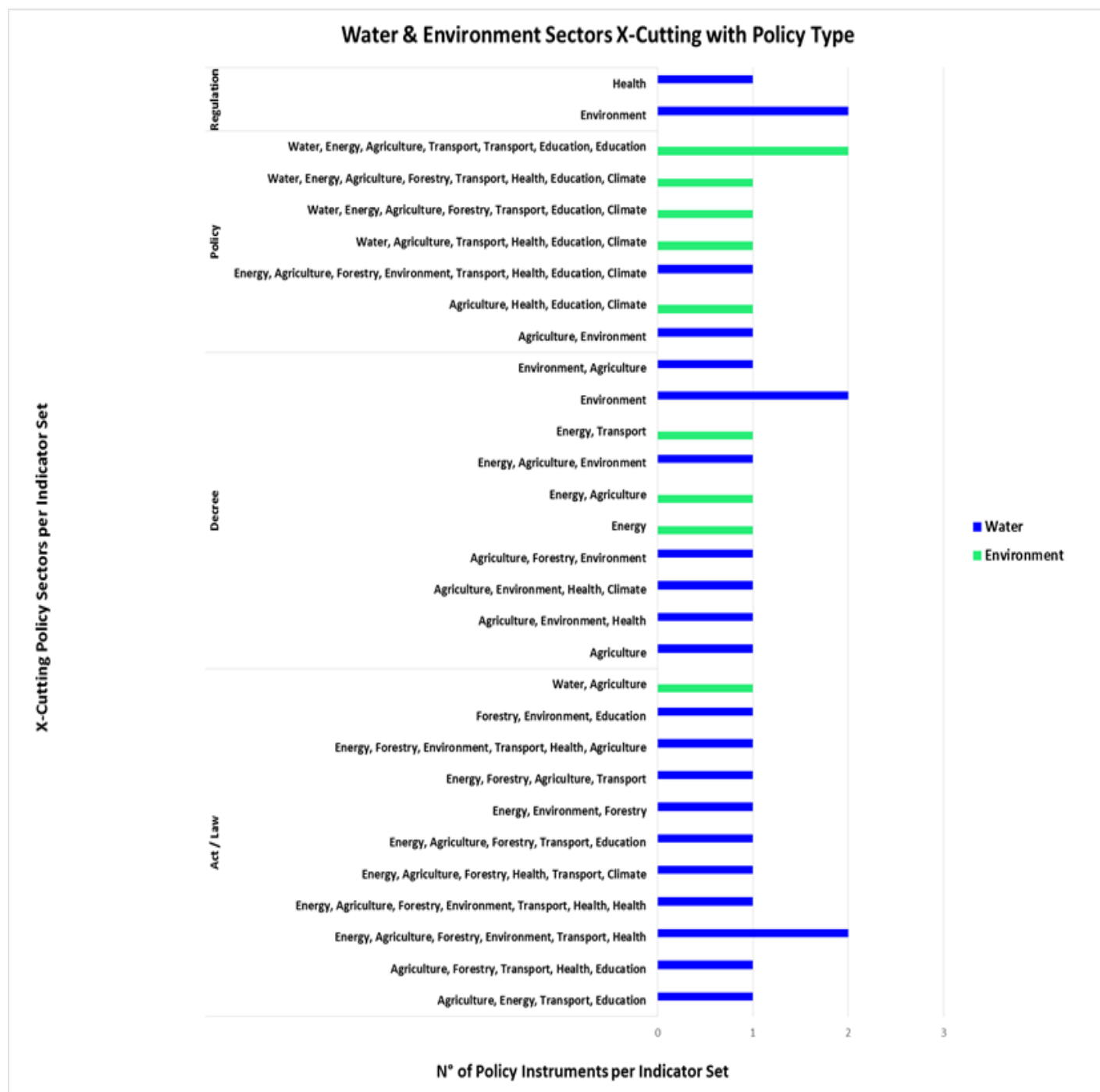
Figure 8 shows the distribution of policy sector instruments, the content and the number of crosscutting policy indicators they address. The largest indicator sets with crosscutting policy sectors are at the top of the y-axis and the number of policy instruments addressing each indicator set on the x-axis. The largest crosscutting indicator sets (i.e. those with 8 crosscutting indicators) are in policy instruments from the Water, Agriculture, Climate and Environment Policy Sectors.

Figure 8 All Sectors with X-Cutting Policy Content



In Figure 9 where we look at the possible impact of Policy Type on crosscutting policy content in the two largest sectors in our policy instrument list; the Water and Environment sector policy instruments. With the exception of one Decree, all sector policy instruments with ≥ 4 crosscutting sector indicators are either Acts / Laws or Policies. Therefore, in terms of identifying climate-friendly policies based on their crosscutting policy content, the Acts / Laws and Policies are the best type of policy instrument from our Slovenia list to explore as options for uptake of BeWater results.

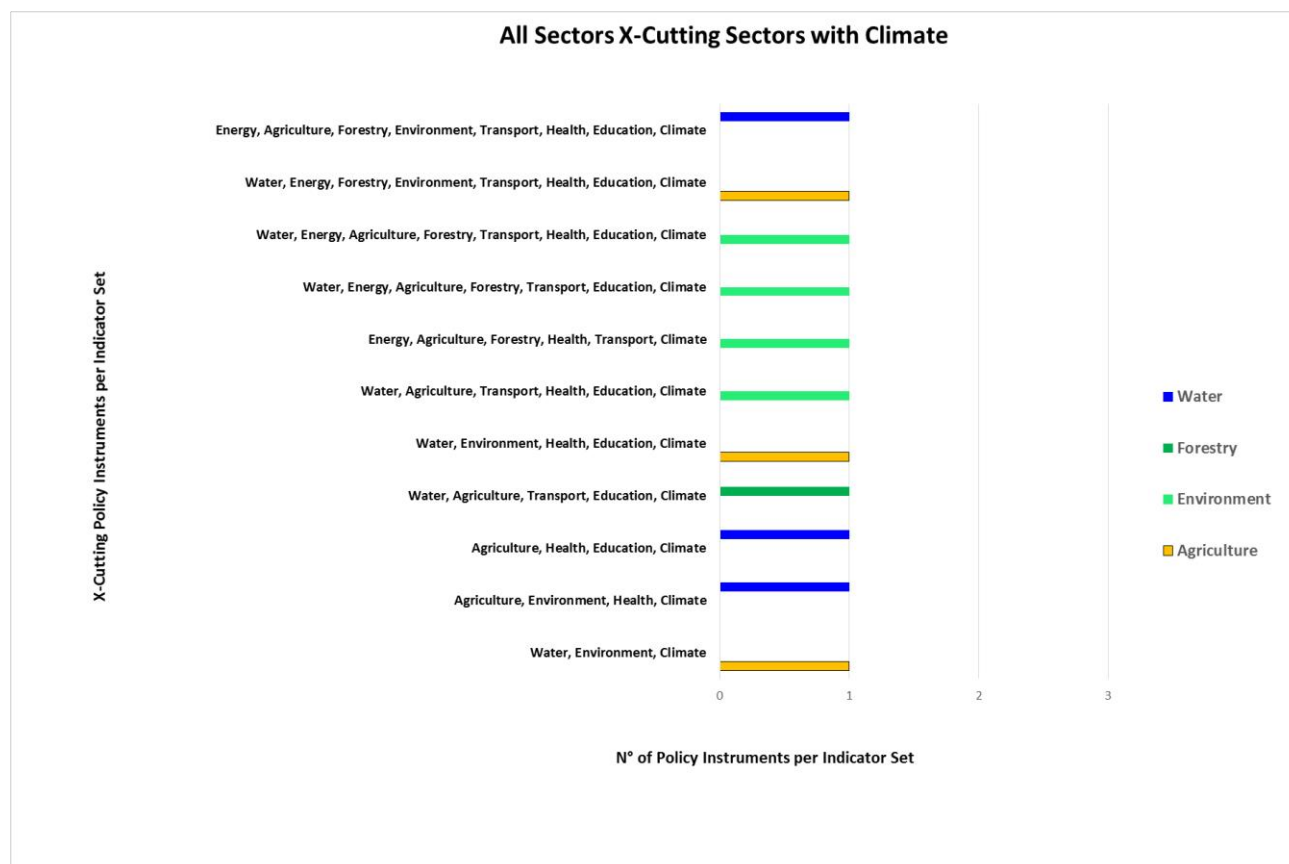
Figure 9 Slovenia Water and Environment Sectors, X-Cutting with Type of Policy



2.3.1 Specific Crosscutting Indicator Comparisons

In this section, the distribution of specific crosscutting sector indicators of Climate, Energy and Water. The indicator being analysed does not appear as a policy sector in the analysis. Figure 10 below presents the distribution of the specific indicator Climate in our list of policy instruments.

Figure 10 Slovenia All Sectors Crosscutting with Climate



Climate as an indicator is present in 4 out of 6 possible policy sectors, excluding Energy and Fisheries policy sectors and in total in only 11 out of a possible 59 policy instruments, indicating it is not a primary crosscutting indicator compared to the other indicators such as Energy or Water presented in Figures 11 and 12. However, although our list for Agriculture policy instruments is relatively short (see Figure 1 for number of policy instruments per sector), we see in Figure 10 that 3 out of 6 Agriculture Sector policy instruments address climate. This suggests that climate is important in the Agriculture Policy sector but we would need to analyse more Agriculture policy sector instruments to verify this as a trend.

Figure 11 presents the occurrence and distribution of Energy as a crosscutting indicator. It is present in all the policy sectors and in 25 out of a possible 59 instruments, including more than half of the list for the Environment policy sector (10 out of 18 instruments). It is interesting to note that while the Energy sector policy instruments do not contain climate indicators (see figure 10 above), 4 out of 5 Climate sector instruments contain Energy as a crosscutting indicator.

Figure 11 Slovenia All Sectors with Crosscutting Energy Focus

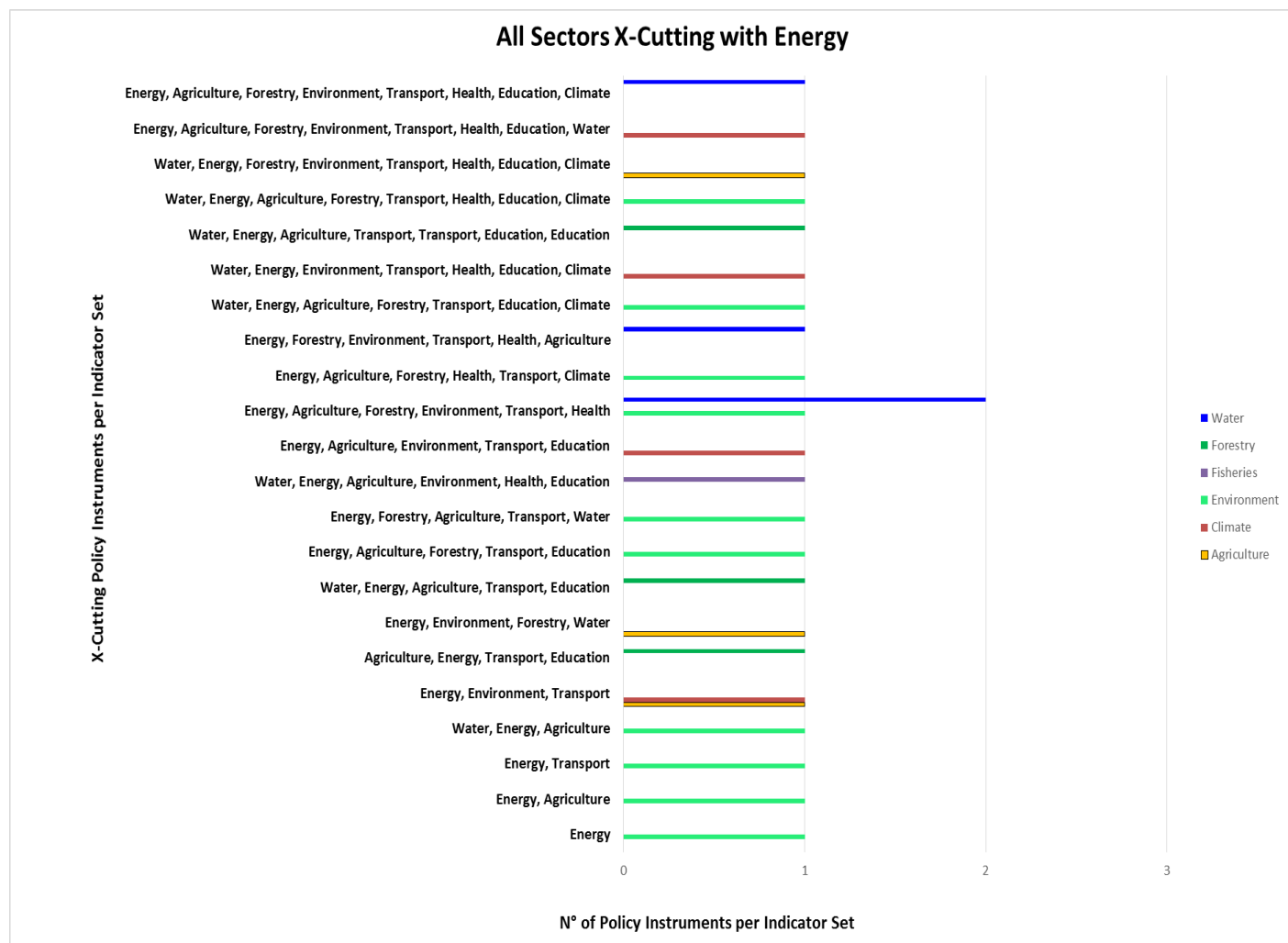
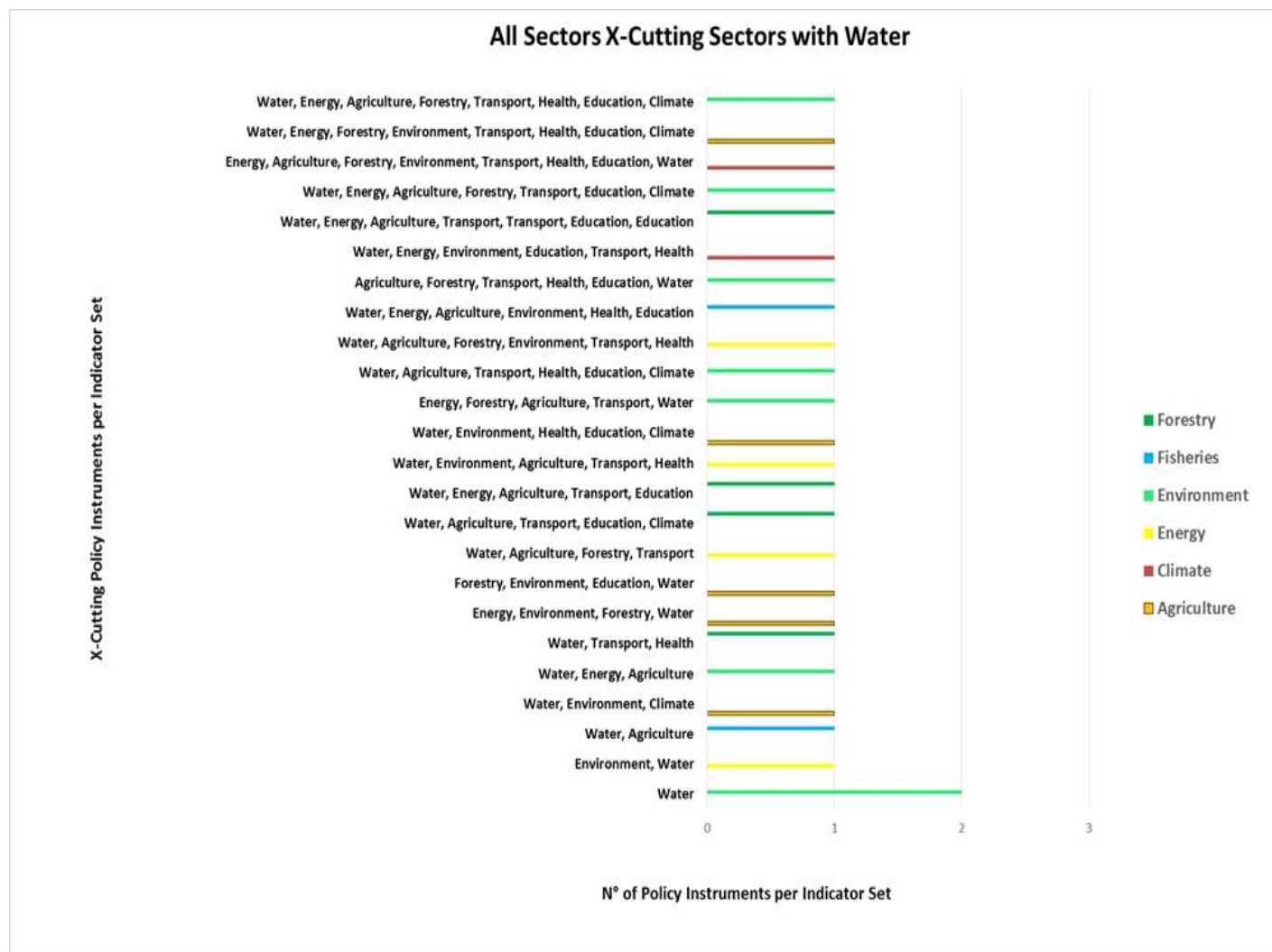


Figure 12 presents the occurrence and distribution of Water as a crosscutting indicator in other policy sectors. Water is an indicator in 25 out of a possible 44 policy instruments and is present in 5 out of 6 Agricultural policy instruments, in 4 out of 5 Forestry and Energy policy instruments and 2 out of 5 for Climate. Within this analysis, Water is the most often included as a crosscutting policy indicator in our list of policy instruments. This suggests that for BeWater in Slovenia, Policy sectors other than Water are potential targets to explore for the uptake of research results linked to water and that outscaling into other Policy sectors is a potential option.

Figure 12 Slovenia All Sectors X-Cutting with Water

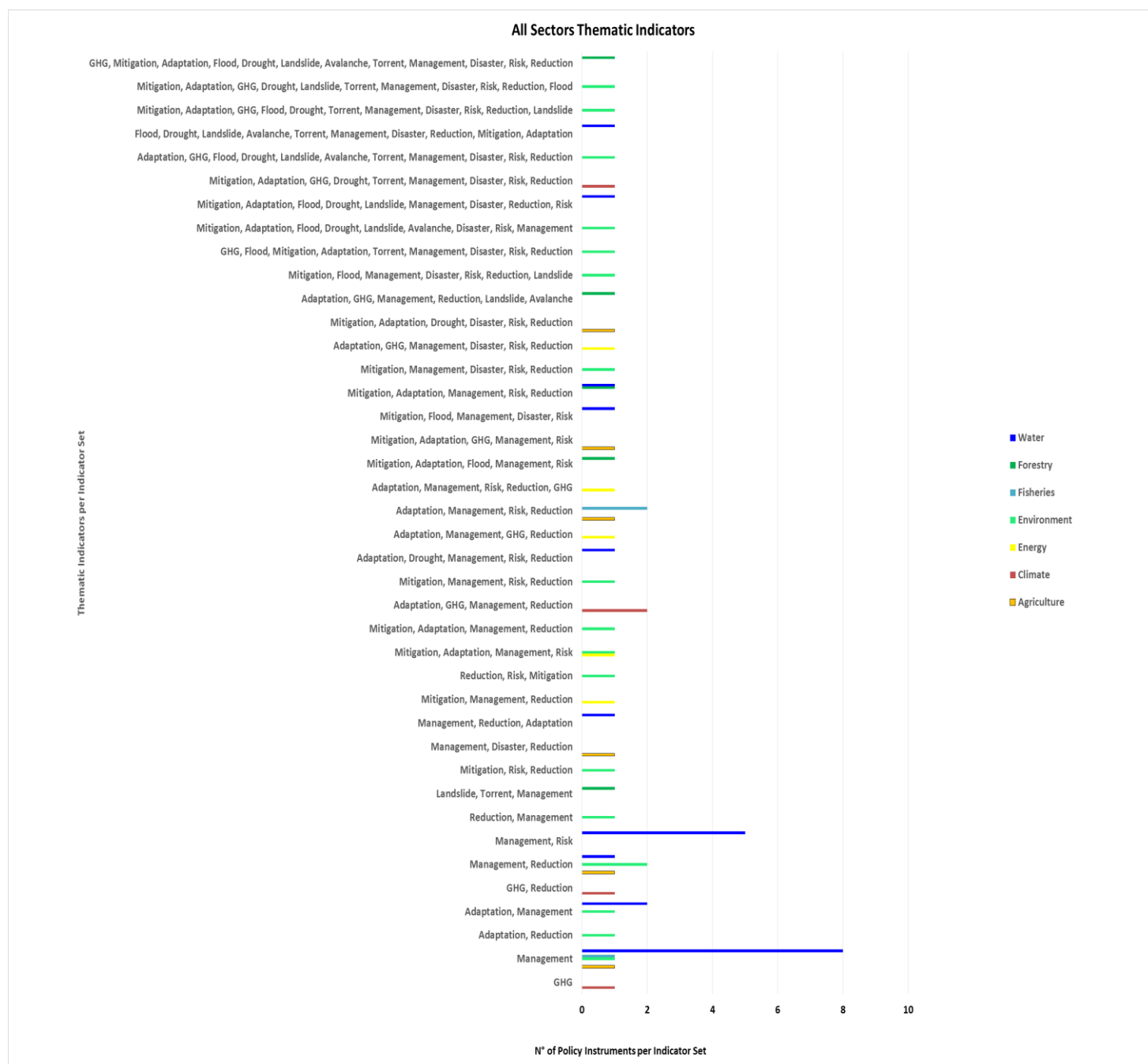


2.4 Thematic Indicators in Policies

2.4.1 Policy Sectors and Thematic Indicators

This section presents the distribution of the Thematic indicators in the seven policy sectors beginning with the overall distribution of Thematic indicators in Figure 13.

Figure 13 Slovenia All Sectors with Thematic Indicator Sets

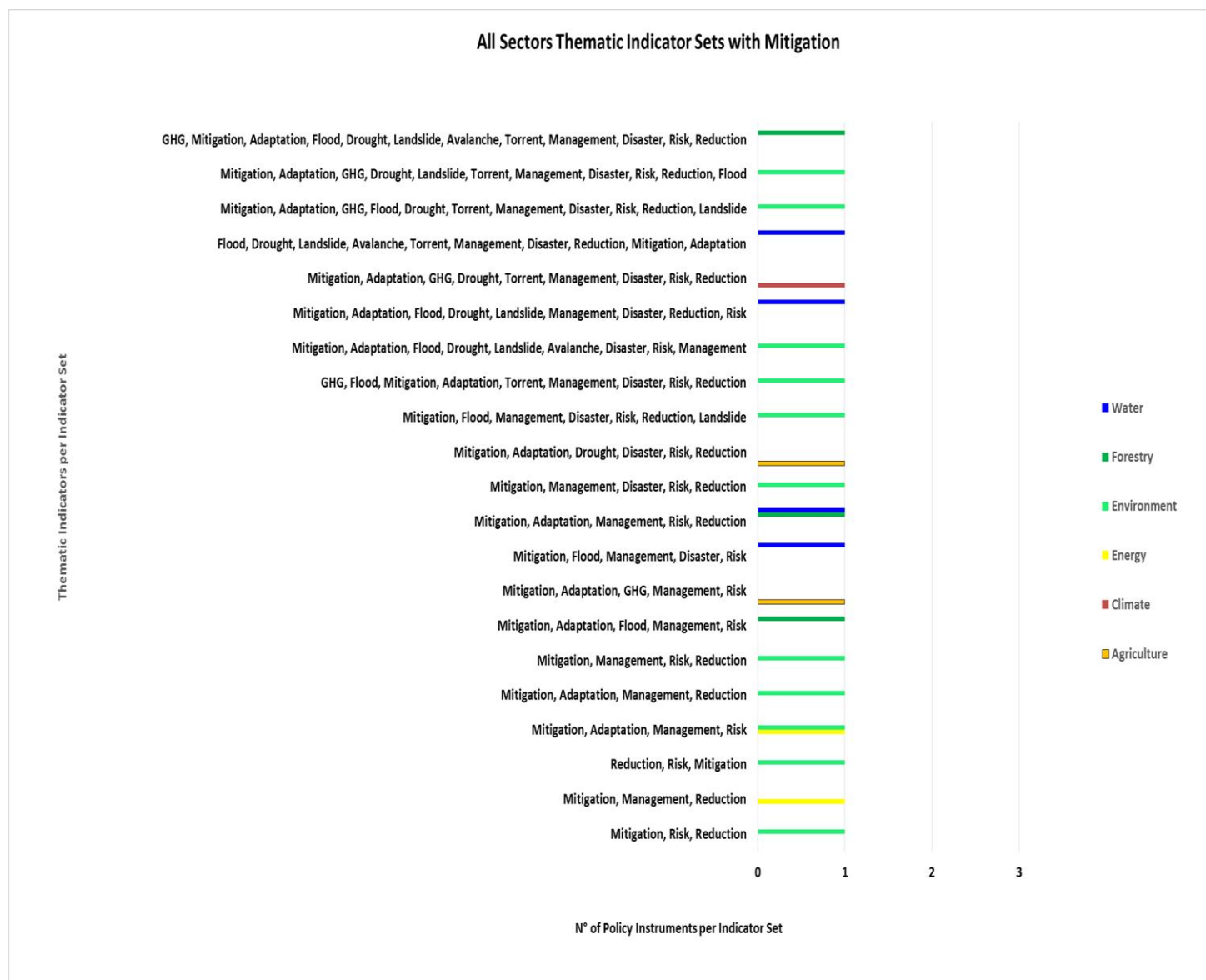


The list of indicator sets is long due to combinations of all 13 indicators being present in many of the policy instruments. Figure 13 shows that the Environment Sector policy instruments tend to contain the highest number of thematic indicators on the y-axis (12 per indicator set) while the majority of Water Sector policy instruments, 16 out of 22, contain only 1 or 2 Thematic indicators at the bottom of the y-axis.

2.4.2 Policy Sector and Specific Thematic Indicator Comparisons

The main Thematic indicators selected for this analysis are Mitigation from a policy perspective and Adaptation from a response perspective¹³. Figure 14 presents the list of sector policy instruments that contain Mitigation as a thematic indicator in our Slovenia list.

Figure 14 Slovenia All Policy Sectors Thematic Indicator Sets with Mitigation



The Thematic indicator Mitigation is present in 23 out of 64 policy instruments and is more present in Water Sector policy instruments (9 out of 22) compared to the Environment Sector (6 out of 18). What is interesting is that there appears to be no Climate Sector policy instruments from our list containing Mitigation as an indicator. To explore whether Climate Sector policy is more receptive to adaptation, we identify all sector policies that address Adaptation in Figure 15.

¹³ **Climate mitigation** is any action taken to permanently eliminate or reduce the long-term risk and hazards of climate change to human life, property. **Climate adaptation** refers to the ability of a system to adjust to climate change (including climate variability and extremes) to moderate potential damage, to take advantage of opportunities, or to cope with the consequences. (<http://www.global-greenhouse-warming.com/climate-mitigation-and-adaptation.html>)

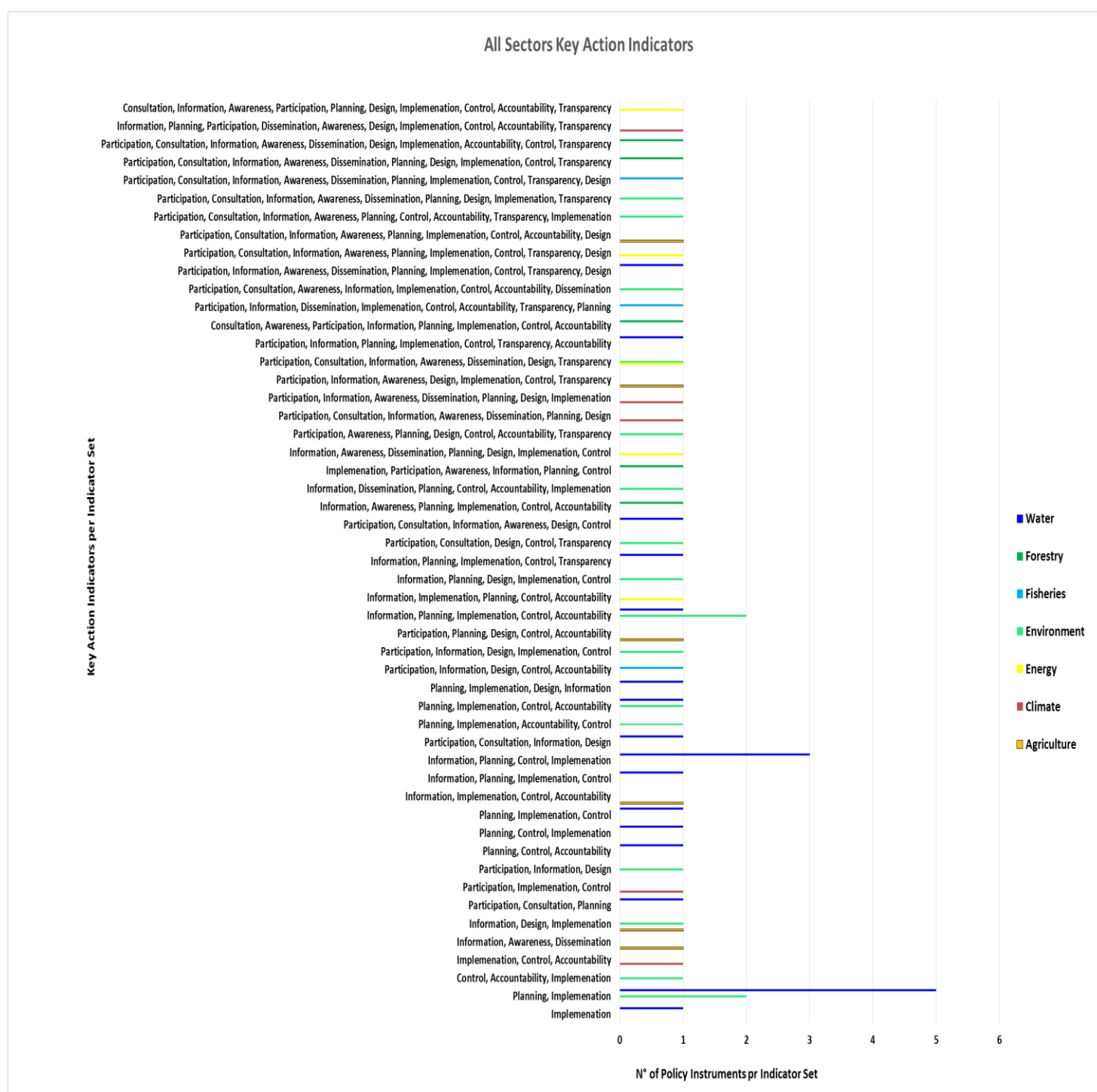


Figure 15 shows that the Adaptation indicator is present in 31 out of 64 policy instruments; and now appears in 3 out of 5 Climate Sector policy instruments. This indicates that in our list of Climate Sector policy instruments, the focus is more on adaptation than mitigation. We also see that the Adaptation indicator is present in 4 out of 5 Energy policy instruments and 9 out of 18 Environment instruments. For the Water Sector we find Adaptation addressed in 7 out of 22 instruments; relatively much lower than in the Climate, Energy and Environment policy sector instruments in our Slovenia list.

2.5 Key Action Indicators

Figure 16 presents the distribution of the Key Action indicators for all sectors, indicating to what degree policy instruments identify actions or measures, which facilitate a role for public and stakeholders. The number of Key Action indicators in the indicator sets per policy instrument ranges from 1 to 10. All policy sectors have policy instruments distributed across high and low number Key Action indicator sets. With the resulting distribution of indicator sets in Figure 16, we set a bar at ≤ 4 Key Action indicators. The sector with the most policy instruments containing the lowest number of Key Action indicators is the Water Sector with 17 out of 22 policy instruments, followed by the Environment sector with 7 out of 18 policy. Policy instruments containing ≤ 5 Key Action indicators include all 5 Energy Sector instruments, 11 out of 18 Environment and 3 out of 5 Climate Sector instruments. This indicates that from our list of instruments the Energy and Environment sectors are more favourable than the Water Sector in terms of Key Action indicators for facilitating actions such as participation, consultation and awareness-raising.

Figure 16 Slovenia All Policy Sectors with Key Action Indicators



2.5.1 Policy Sectors with Specific Key Action Indicators

This section presents the distribution of the specific Key Actions indicator of Participation in Figure 17.

Figure 17 Slovenia All Sector Key Actions with Participation

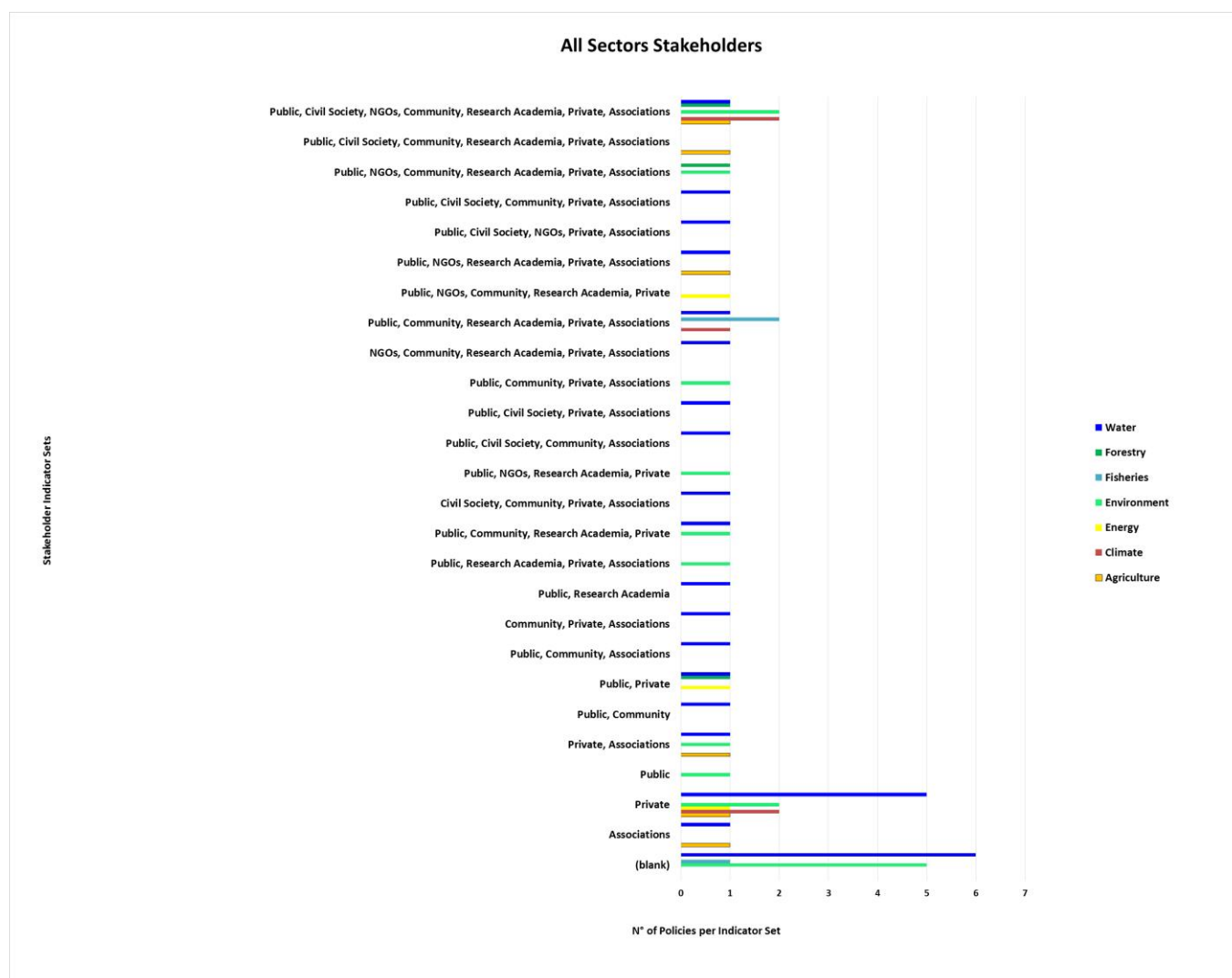


We find the Participation indicator identified in 30 out of 64 policy instruments; less than half, indicating that Participation is not a priority indicator across all policy sectors. Concerning the distribution by policy sector, it is an indicator in 4 of 5 Climate policy instruments, 3 out of 5 Energy instruments, 8 out of 16 Environment instruments and 13 out of 28 for Water policy instruments. This distribution suggests that Participation is not a strong indicator for the Water Sector and Environment Sector policy instruments but is well addressed in the Climate and Energy sector instruments of our list.

2.6 Stakeholder Indicators

This section presents the occurrence and distribution of all Stakeholder indicators in policy instruments in Figure 18 and the distribution of policy instruments containing stakeholder indicators. The range of the size of stakeholder indicators in individual sets ranges from 0 (no stakeholders identified in a policy instrument) to 7. At the bottom of the list on the y-axis, 12 policy instruments have no stakeholder indicators, including 6 instruments from the Water sector, 5 from Environment and 1 from Fisheries. In the lowest score stakeholder indicator sets with ≤ 3 indicators (including no stakeholder indicators), both Water and Environment sectors predominate, with 11 out of 18 policy instruments for Environment and 18 out of 22 for Water sector instruments, indicating that in the Slovenia policy list, the Water and Environment policy sectors have a limited role for a wide range of stakeholders.

Figure 18 Slovenia All Policy Sectors and Stakeholder Indicators



2.6.1 Policy Sectors with Specific Stakeholder Comparisons

This section presents the occurrence of specific stakeholder and their distribution in policy instruments and policy sectors. In Figure 18, the stakeholder indicator Community is identified in 24 out of 64 policy instruments. This includes 7 out of 18 policy instruments in the Environment Policy Sector compared to only 4 out of 22 policy instruments in the Water Sector list. The indicator Community is more highly represented in 3 out of 5 policy instruments from the Agriculture, Climate and Forestry policy sectors, addressed in 4 out of 5 policy instruments for Energy and finally 3 out of 3 for the Fisheries Policy Sector.

Figure 19 Slovenia All Sectors Stakeholders with Community

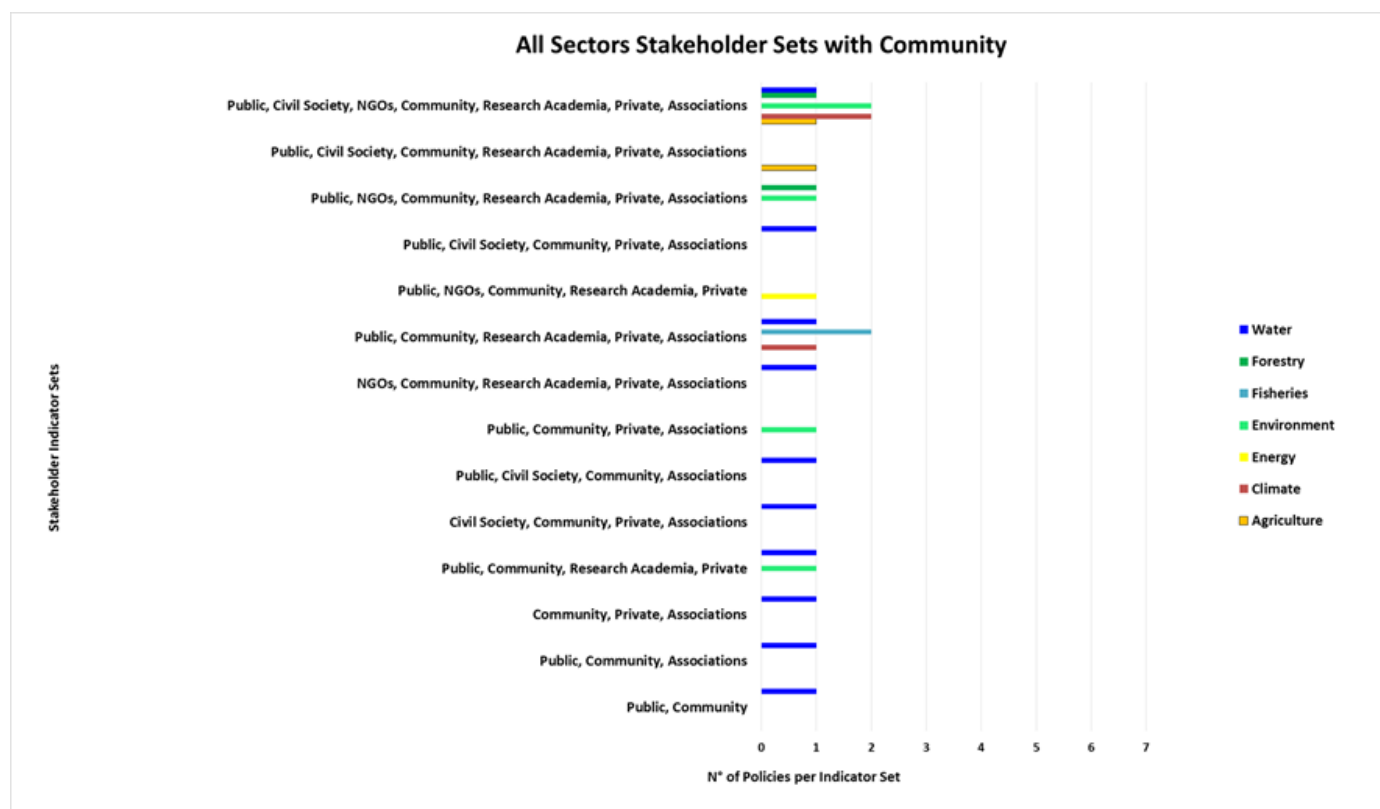
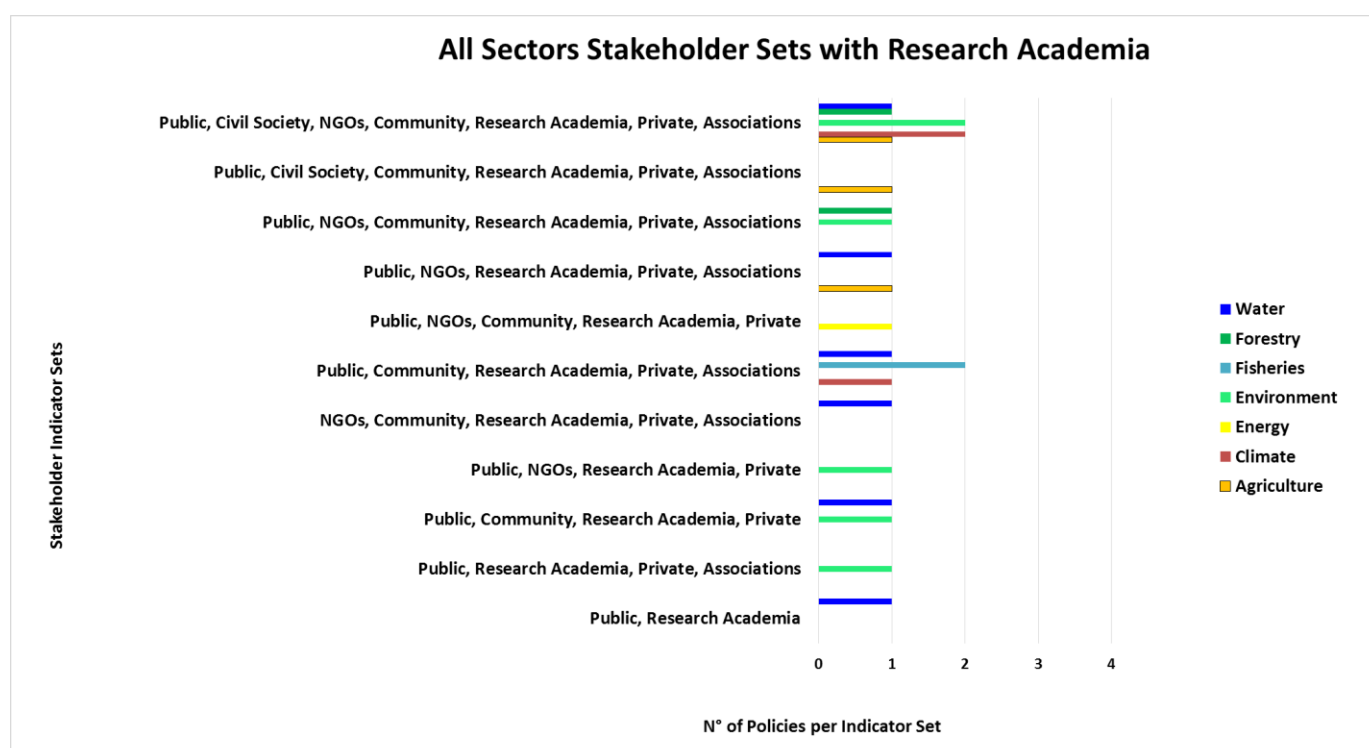


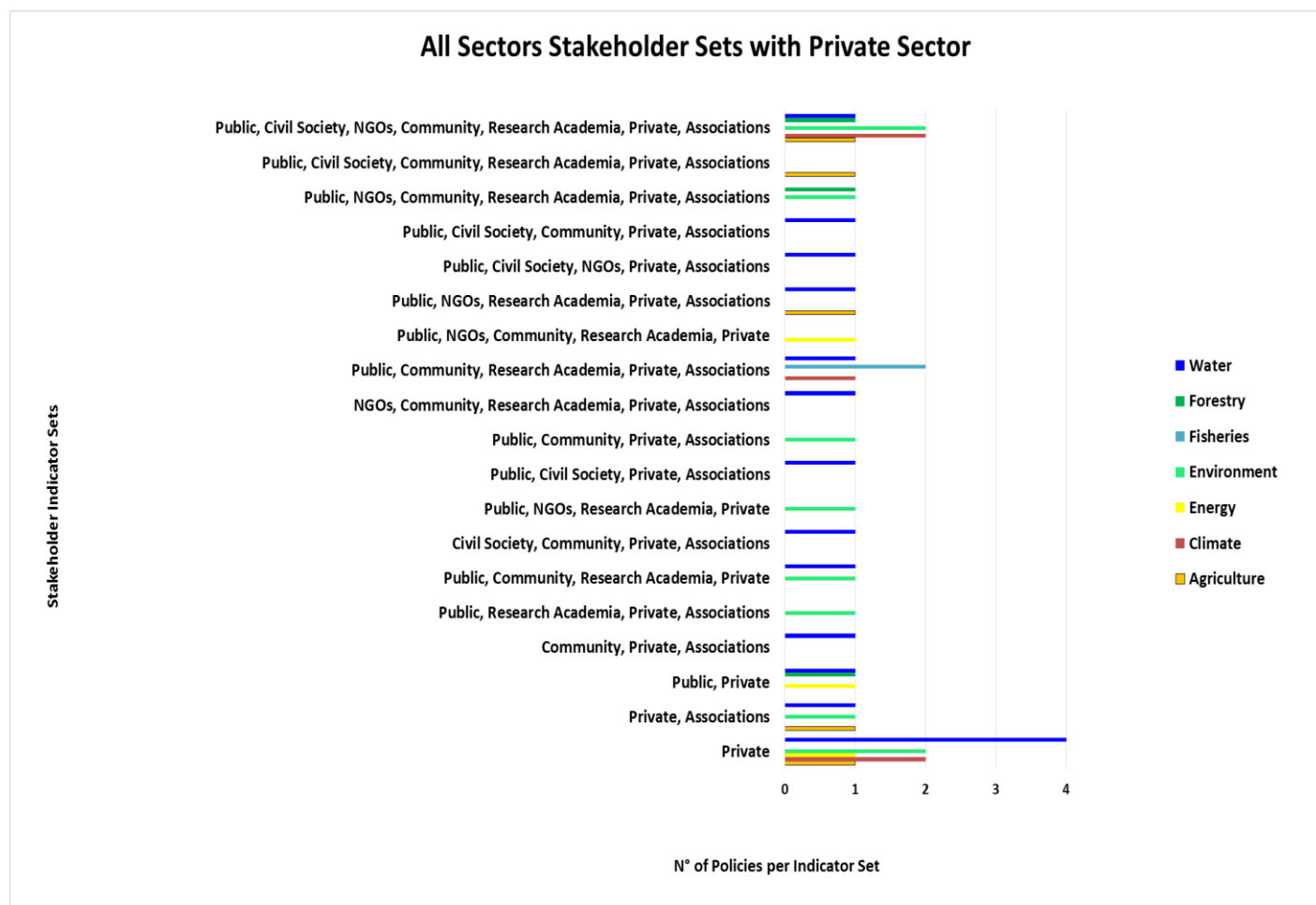
Figure 20 Slovenia All Sectors Stakeholders with Research Academia



In Figure 20 above, we see that as an indicator, Research Academia is identified in 23 out of 64 policy instruments, similar to the occurrence and distribution of Community in Figure 19. This indicator is most prominent in the Climate sector in 3 out of 5 policy instruments, followed by 2 out of 3 for the Fisheries sector. Research Academia is identified relatively less in 6 out of 16 for Environment and 5 out of 28 for the Water sector.

The occurrence and distribution of Private Sector as a stakeholder indicator is presented in Figure 21. This indicator appears 41 out of 64 policy instruments, more than the stakeholder indicators analysed in Figures 19 and 20. This suggests a strong recognition of the role of Private Sector as a stakeholder in Slovenia legislation and the added value to include them as stakeholders within the BeWater process in the Slovenian policy landscape.

Figure 21 Slovenia All Sectors and all Stakeholder indicators compared to the indicator Private Sector

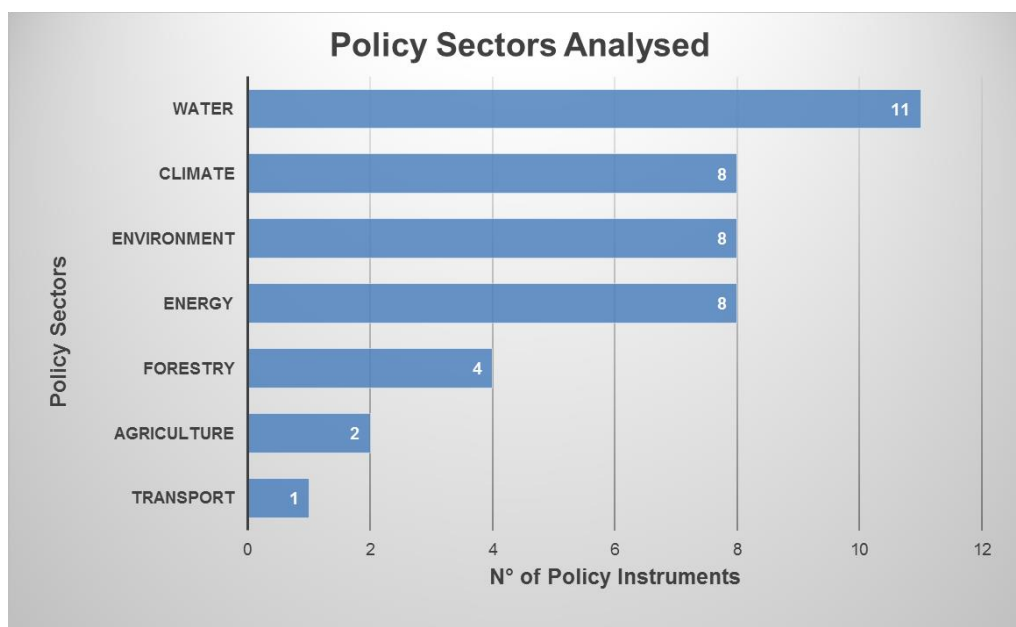


3. Spain

3.1 Policy Sectors and Descriptions of Policies

The list of policy instruments from Spain includes 42 individual policy instruments within six policy sectors with the distribution presented in Figure 22. The Water Sector list has the largest list of instruments with 11, followed by Climate, Environment and Energy with 8 instruments each and shorter lists for Forestry, Agriculture and Transport.

Figure 22 Spain List of Policy Sectors Analysed



Due to the specific political characteristics of Spain and the differences between National and Regional Policy, we have included in Figure 23 a descriptive indicator for Catalonia, the region in which the BeWater Spanish Case Study River Basin is located.

Figure 23 Spain All Sectors National and Catalan Policy Distribution

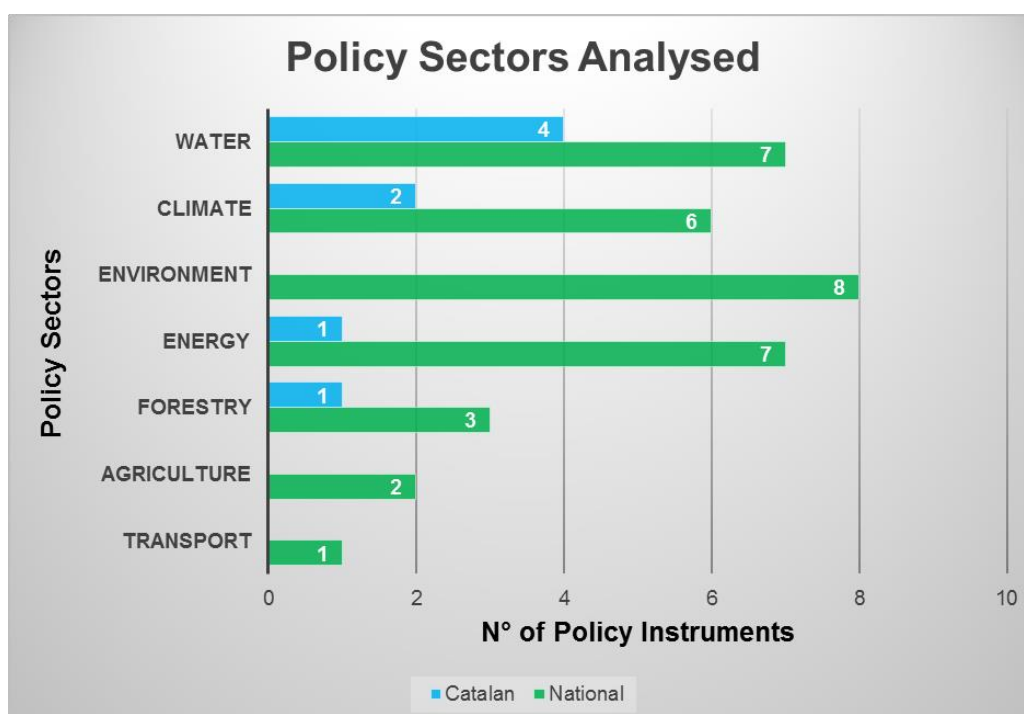
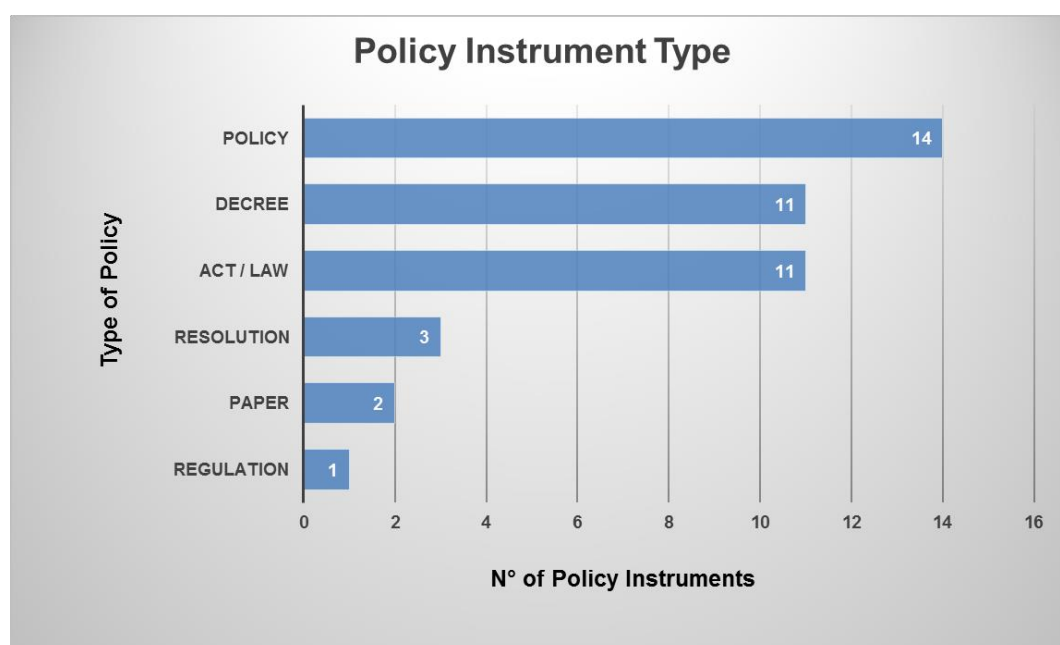


Figure 23 shows that Water Sector policies constitute half of our list of Catalan policy instruments. The distribution of the policy instruments between Policy Types are presented in Figure 24, showing a comparatively high number of 35 out of 42 policy instruments being the more open process Policies and Acts / Laws compared to more restrictive instruments of 11 Decrees, 3 Resolutions and 1 Regulation.

Figure 24 Spain Types of Policy Instruments



3.2 Policy Instruments and Total Indicator Scores

Figure 25 presents the distribution of the Total Indicator Scores for all of the policy instruments on our list for Spain. The highest total indicators score comes from the Climate sector with a score of 26, followed by Forestry and Energy with 24, Climate with 23 and Water sector policy instruments with 22 total indicators. The value for high/low scoring indicator scores is the statistical median of ≥ 12.5 . The highest total indicator scores are in the Climate sector with 5 out of 8 policy instruments present, followed by 4 instruments from the Energy and Environment sectors and 3 from the Water and Forestry sectors.

Figure 25 Spain All Sectors Total Indicator Scores

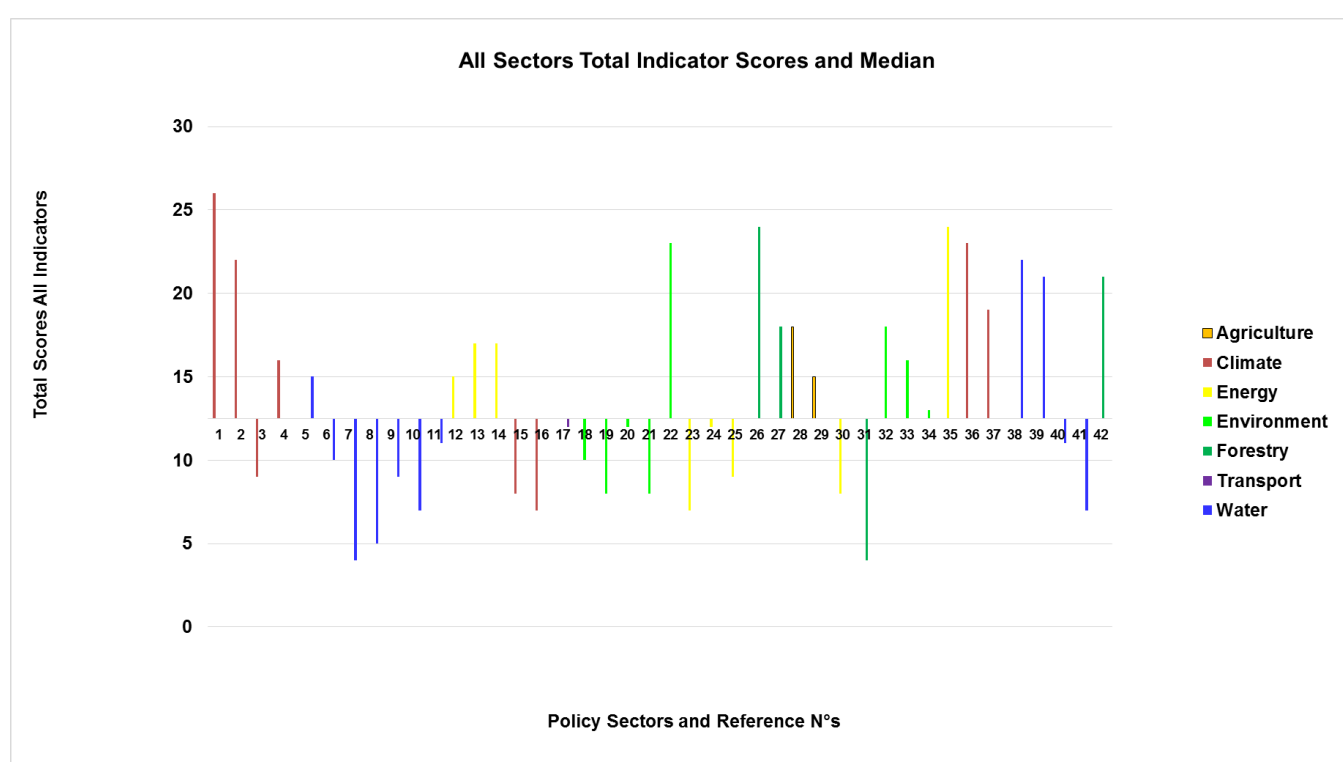
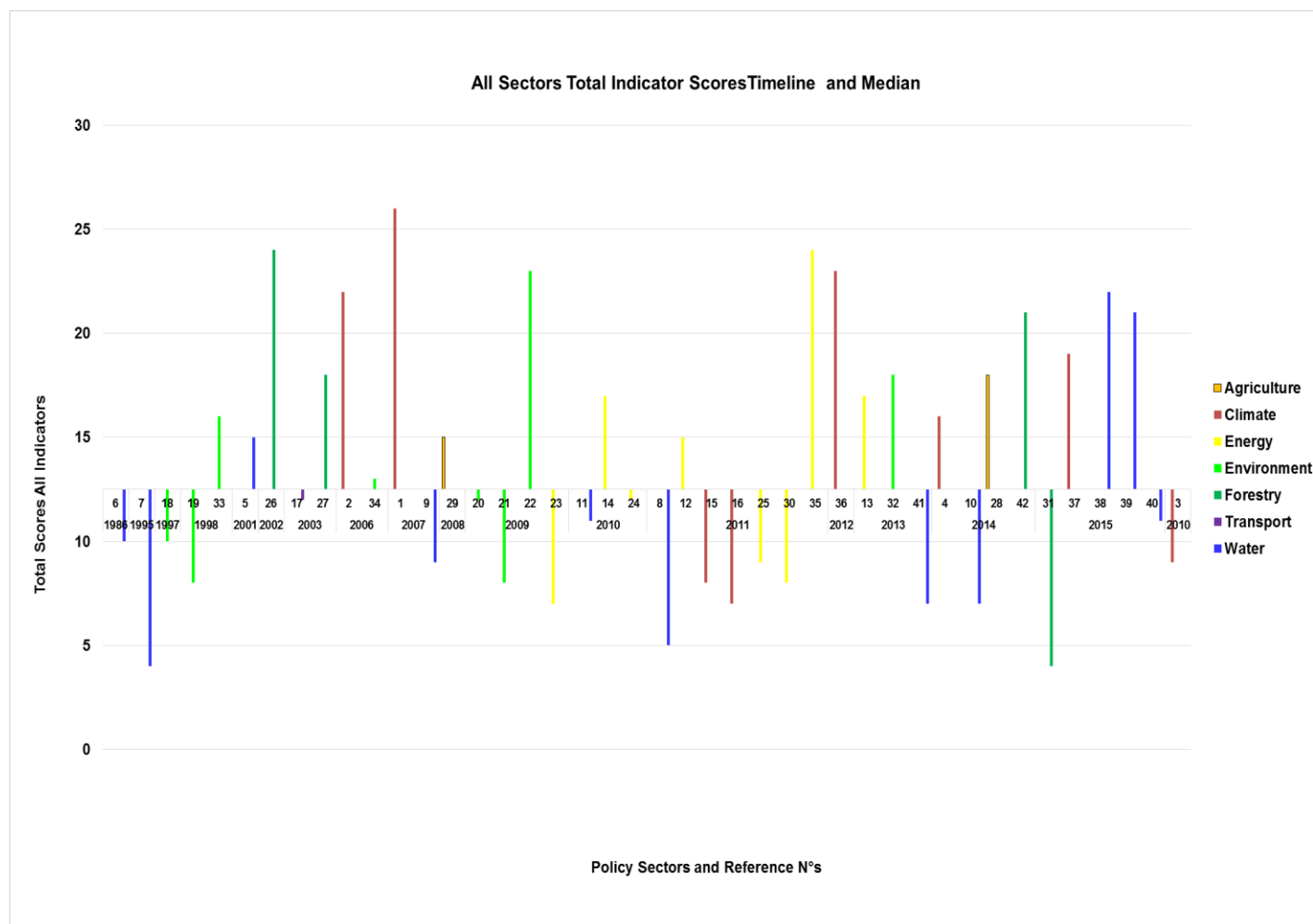


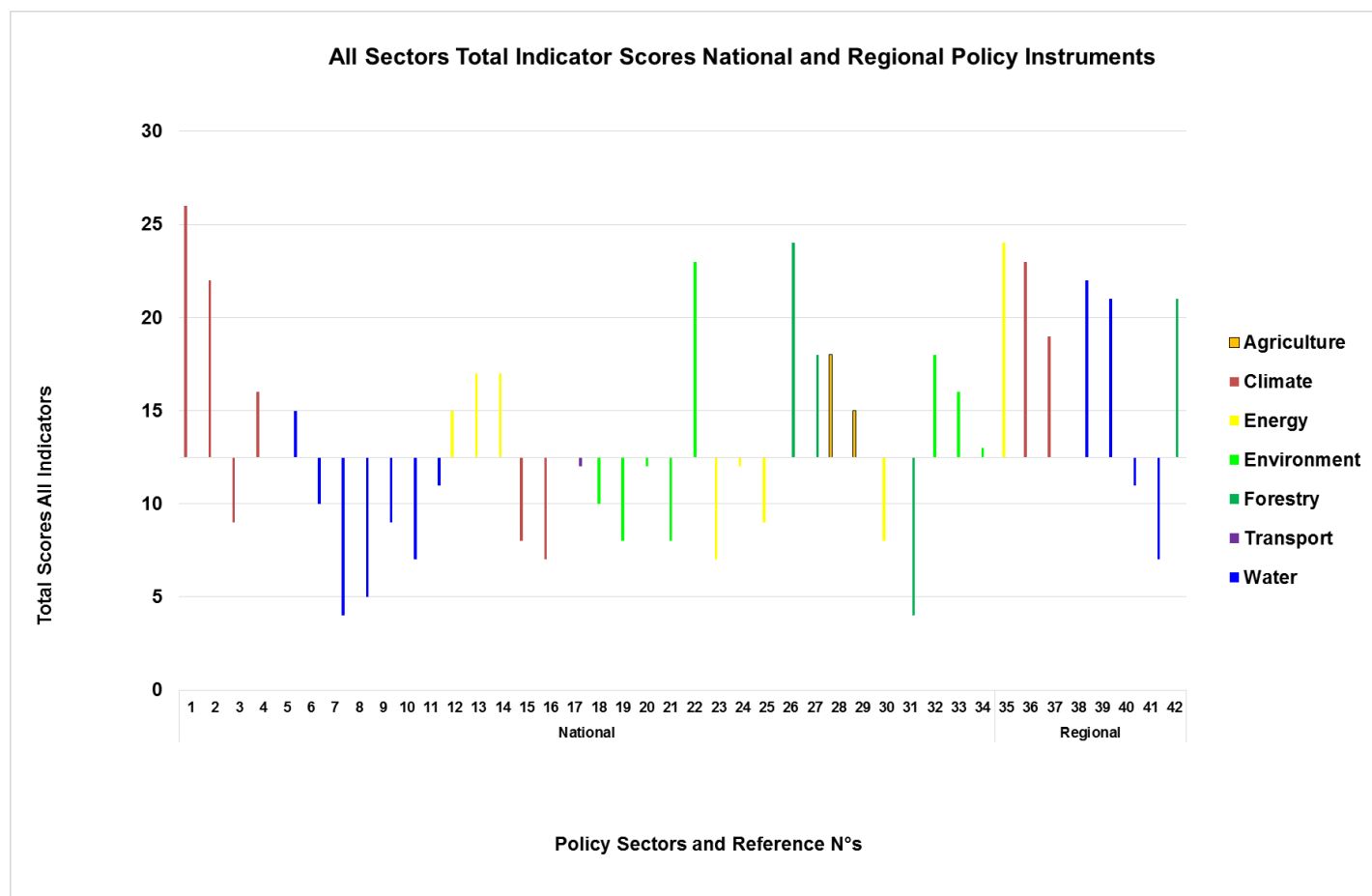
Figure 26 presents the distribution of policy instruments over time. The Water and Environment Sector policy instruments are distributed from the mid-1990's to the present, with one policy instrument from the Water Sector dating back to 1986. All Energy sector policy activity from our list for Spain occurs between 2009 and 2013. The Climate Sector is present from 2006 until the present and the most recent policy instruments from 2015 arise from the Water, Climate and Environment policy sectors in our list.

Figure 26 Spain All Sectors Total Indicators and Timeline



Regional policies play an important role in Spain, which, in the BeWater project, focusses on Catalonia. The distribution of Regional and Catalan policy instruments is presented in Figure 27. Within the Regional or Catalan policy instruments, 6 out of 8 total have high scores of ≥ 12.5 , whereas only 14 out of 34 National instruments score above the median of 12.5. This is an indication of the climate - friendly content of Catalan policy instruments for support to adaptation to water management activities.

Figure 27 Spain All Sectors Total Indicators Scores National & Regional



3.2.1 Specific Descriptive Indicators

A total of 36 out of 42 National policy instruments are EU-related, including all 11 Water Sector policy instruments, all Climate and Environment sector instruments and 6 out of 8 Energy sector policy instruments. In Figure 28, Non-EU-related National policy instruments are presented and include three instruments from the Forestry policy sector, two from Energy and one from Environment. The Energy sector policy instruments score below our median of ≥ 12 indicators per instrument. The non EU-related policy instruments address procedures such as guidelines or reporting, except for the one Environment Sector instrument, which addresses climate and adaptation actions in the Instrument of Ratification of the Convention on Access to Information, Public Participation in Decision-making and Access to Justice in Environmental Matters, Aarhus (1998).

Figure 28 Spain All Sectors Total Scores with non EU-Related Policy Instruments

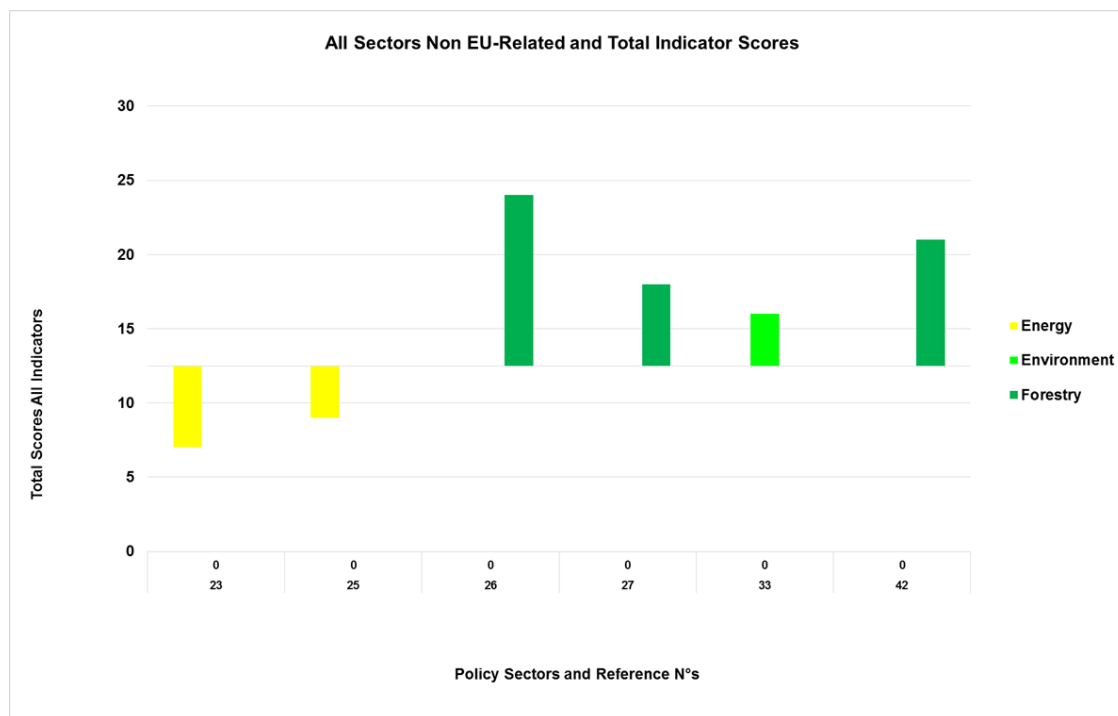


Figure 29 presents policy instruments linked to the WFD. It includes only Water Sector policy instruments, of which 8 out of 11 are linked to the WFD. Six out of the eight Water Sector instruments have low Total Indicator scores and include prescriptive guidelines or procedures for dealing with hydraulic supply, urban waste and discharge.

Figure 29 Spain All Sectors Total Scores with WFD-Related Policy Instruments

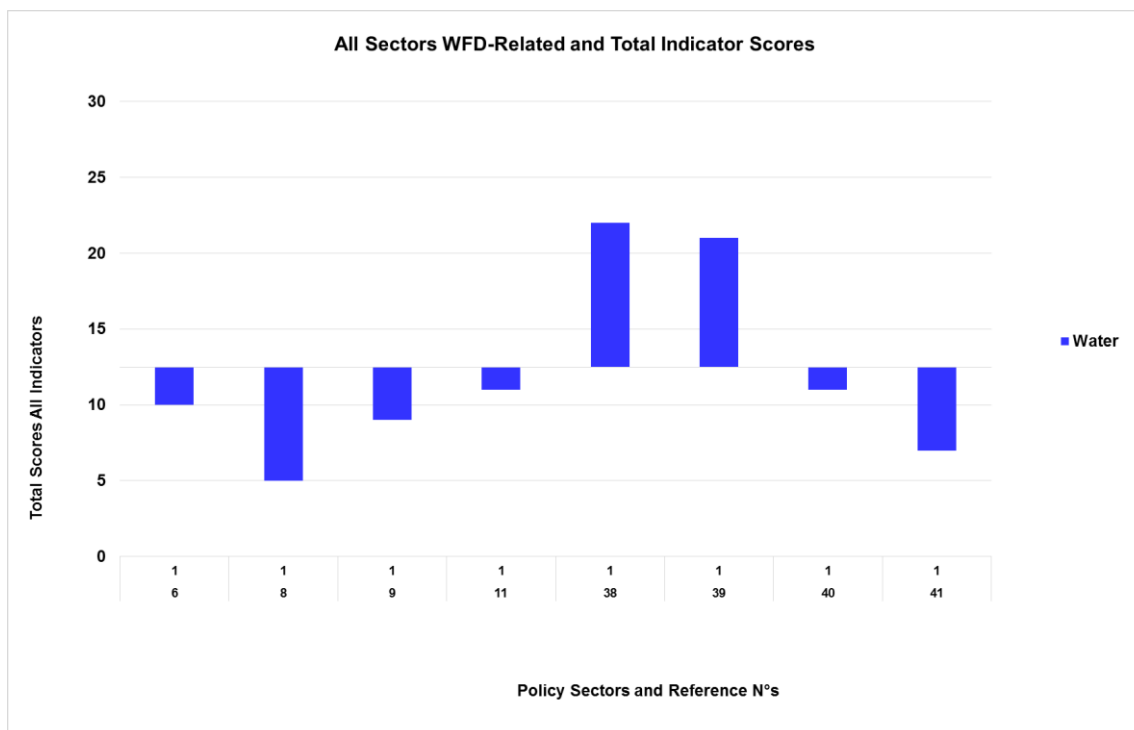
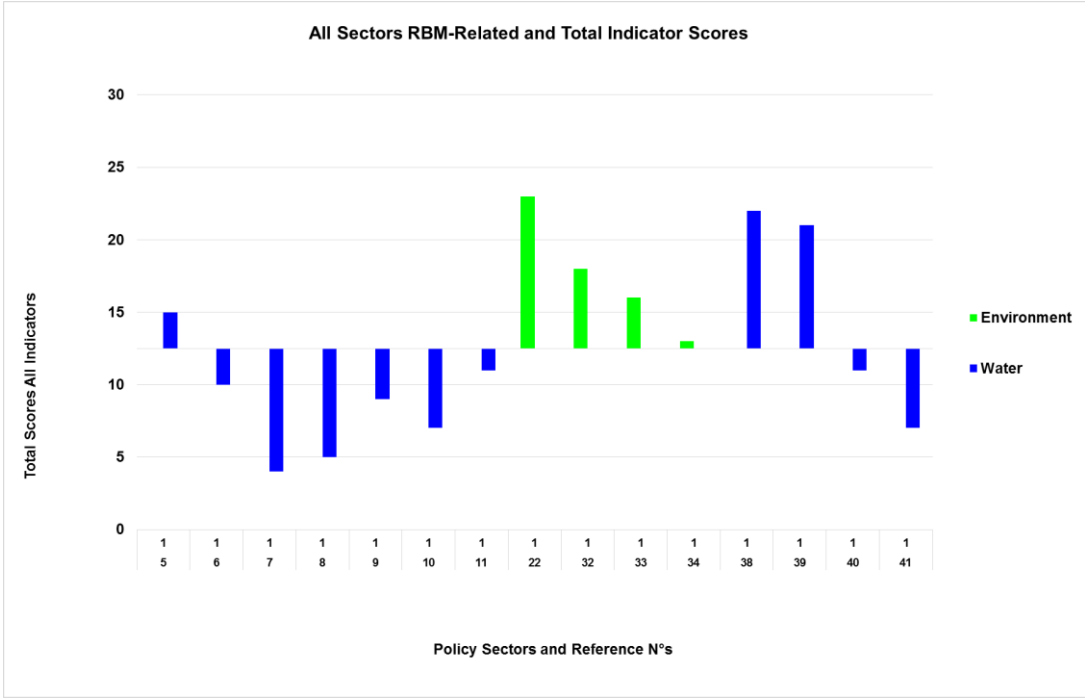


Figure 30 presents the distribution of policy instruments linked to RBM and includes all 11 Water Sector policy instruments and 4 instruments from Environment. The 4 Environment policy sector instruments which address RBM have high Total Indicator Scores.

Figure 30 Spain All Sectors Total Scores with RBM-Related Policy Instruments



3.3 Crosscutting Policies and Sectors

Figure 31 shows the occurrence and distribution of crosscutting indicators in the policy instruments. We see at the top of the y-axis with the largest indicator sets, that the Climate Sector of policy instruments are most prevalent with 5 out of 8 policy instruments containing ≥ 5 crosscutting indicators. For the smallest indicator sets, the Water sector is prominent with 6 out of 11 instruments crosscutting only with Environment, followed by Environment with 4 out of 8 policy instruments with only one crosscutting policy indicator of either Water, Health or Climate.

Figure 31 Spain All Sectors X-Cutting

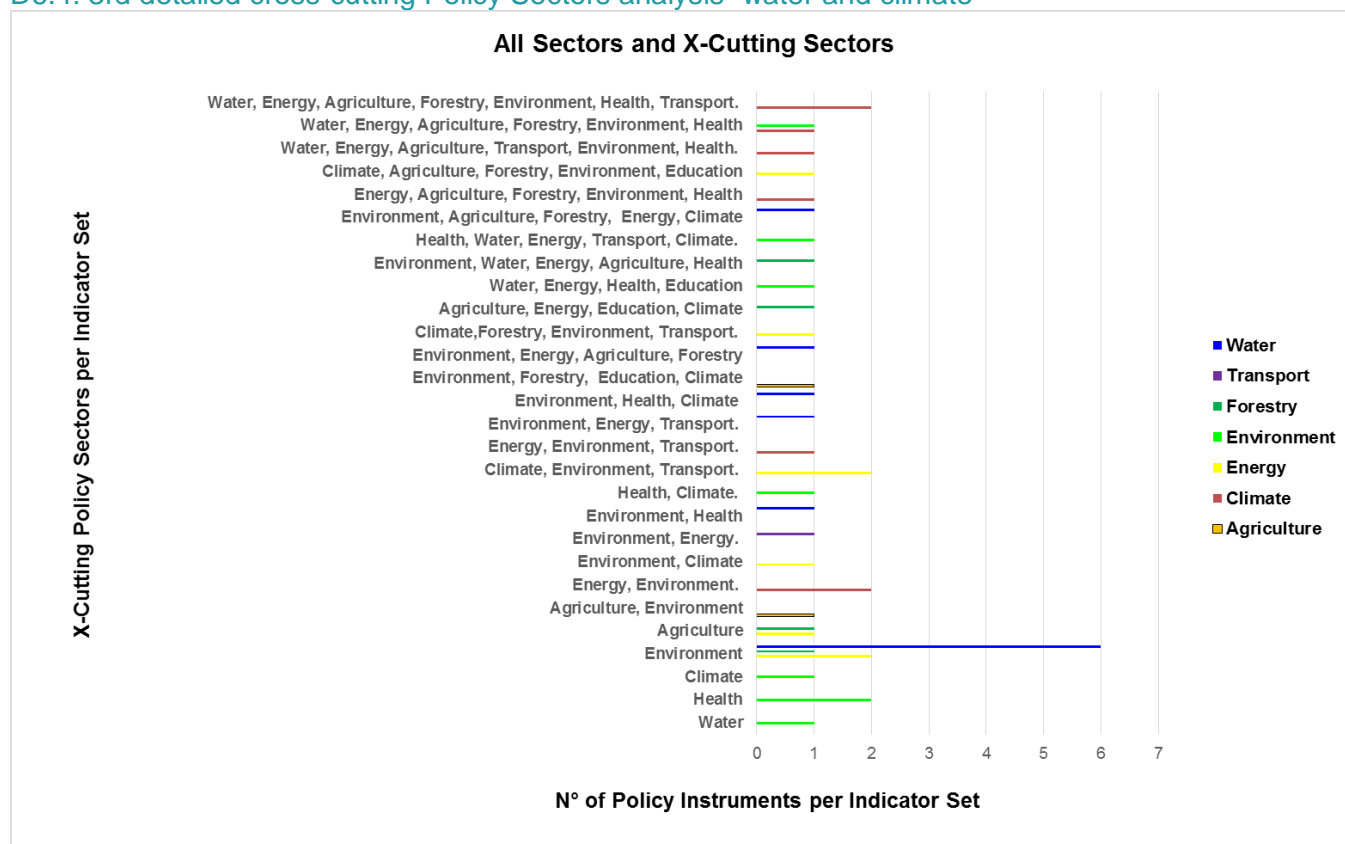
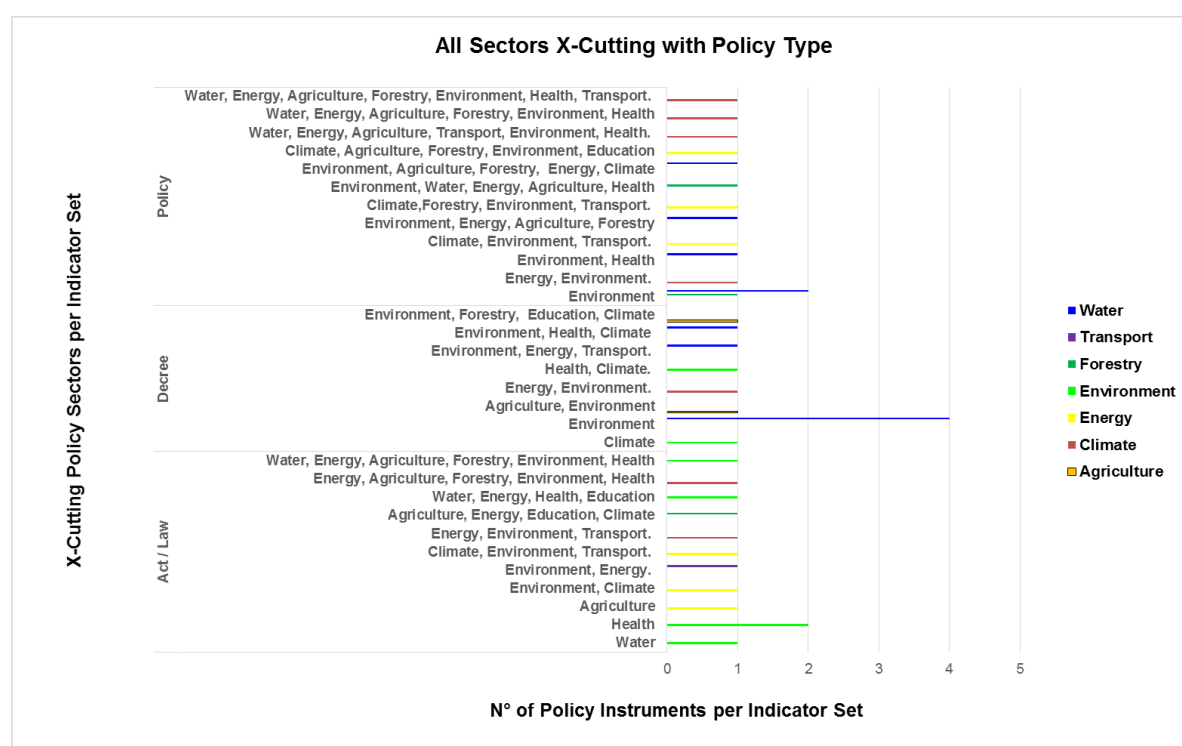


Figure 32 presents the distribution of policy instruments and crosscutting indicators within Types of Policy. All Policy Types contain indicator sets with only one crosscutting policy. Examples of high crosscutting policy instruments with ≥ 4 crosscutting indicators are found in 8 Policies followed by 4 Acts / Laws and only 1 Decree. In terms of Policy Type criteria, the policy instruments most open to address issues crosscutting with other policy sectors, the Acts / Laws provide the greatest likelihood, and Decrees the least.

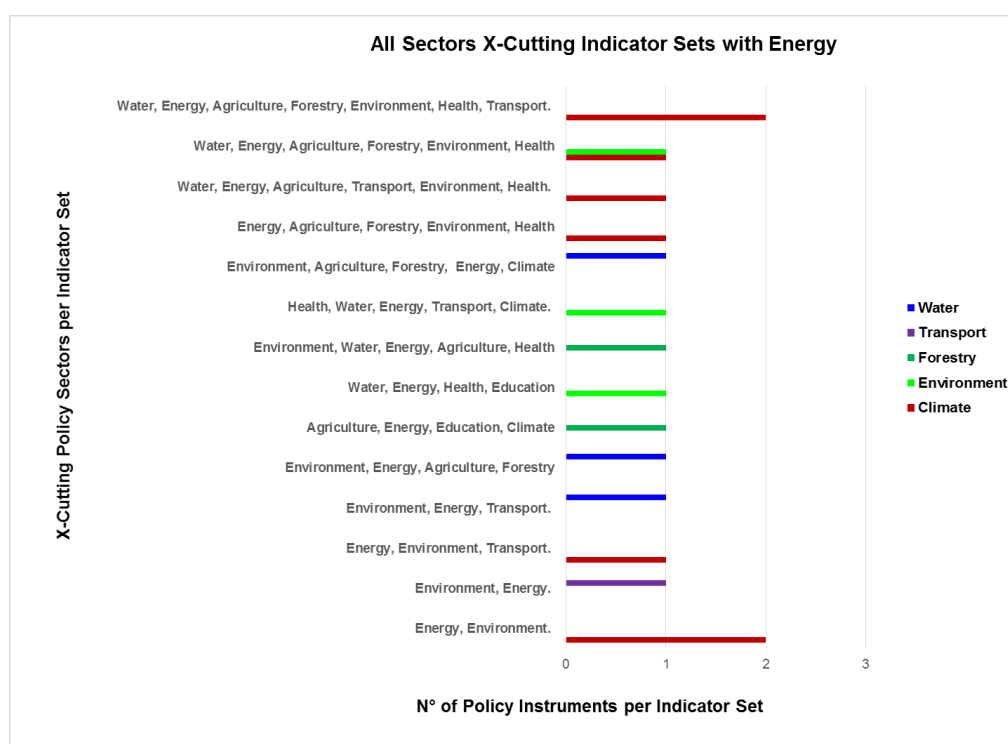
Figure 32 Spain All Sectors X-Cutting with Policy Type



3.3.1 Sector and Specific Crosscutting Indicator Comparisons

In this section, we look at the distribution of the specific indicators Energy, Climate and Water in the indicator sets, beginning with the crosscutting sector indicator of Energy in in Figure 33. Energy is present in 17 out of 34 possible policy instruments and Climate is the dominant policy sector with all 8 policy instruments addressing Energy. Both Environment and Water policy sectors follow with lower scores of 3 out of 8 and 3 out of 11 policy instruments respectively including Energy as a crosscutting indicator.

Figure 33 Spain All Sectors Crosscutting with Energy



The distribution of Climate as a crosscutting sector indicator is presented in Figure 34, and is identified in 12 out of 34 policy instruments. Of interest is that the Energy Sector addresses Climate most prominently in 5 out of 8 Energy Policy instruments compared to Environment in 3 out of 8 or Water in only 2 out of 11 policy instruments. Figure 33 demonstrates strong crosscutting with Climate as an indicator in the Energy instruments of our list for Spain.

Figure 34 Spain All Sectors X-Cutting with Climate

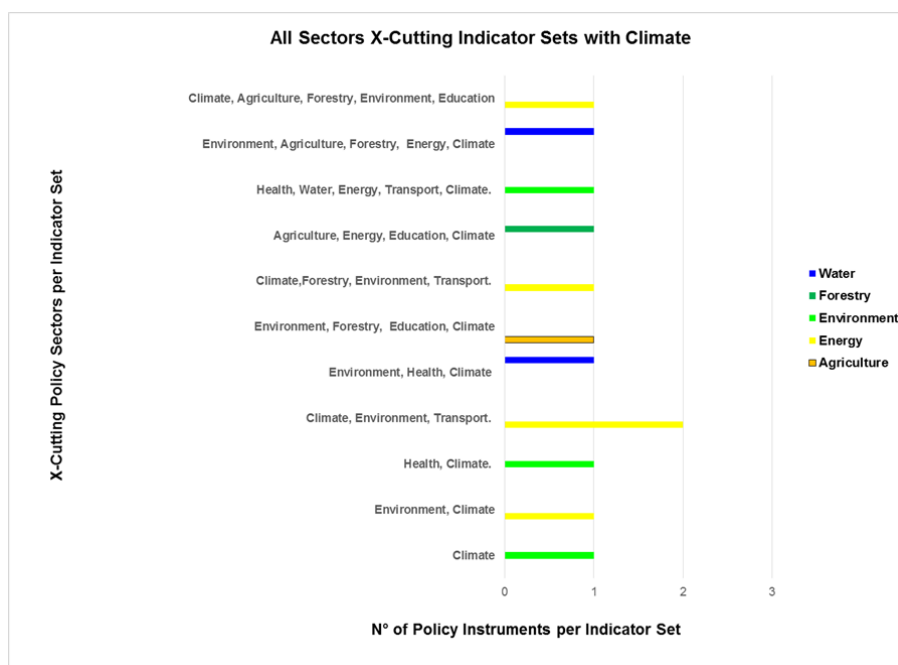
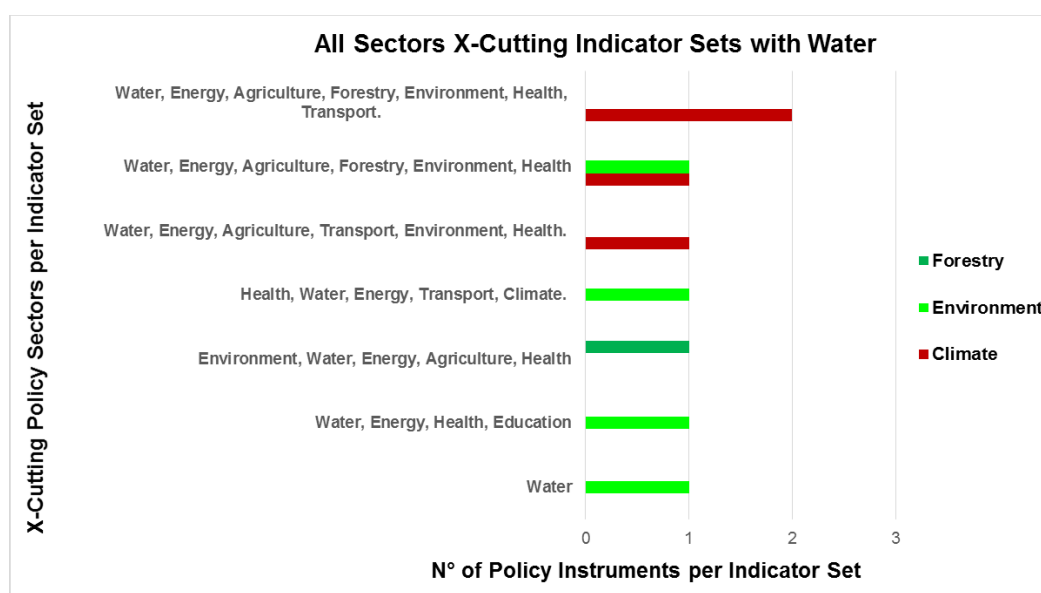


Figure 35 presents the occurrence and distribution of Water as a crosscutting indicator, being present in only 9 out of a possible 33 policy instruments in other policy sectors. This shows Water as being less of a priority as a crosscutting indicator than Climate or Energy. The main policy sectors addressing Water are Climate and Environment, both in 4 out of 8 policy instruments.

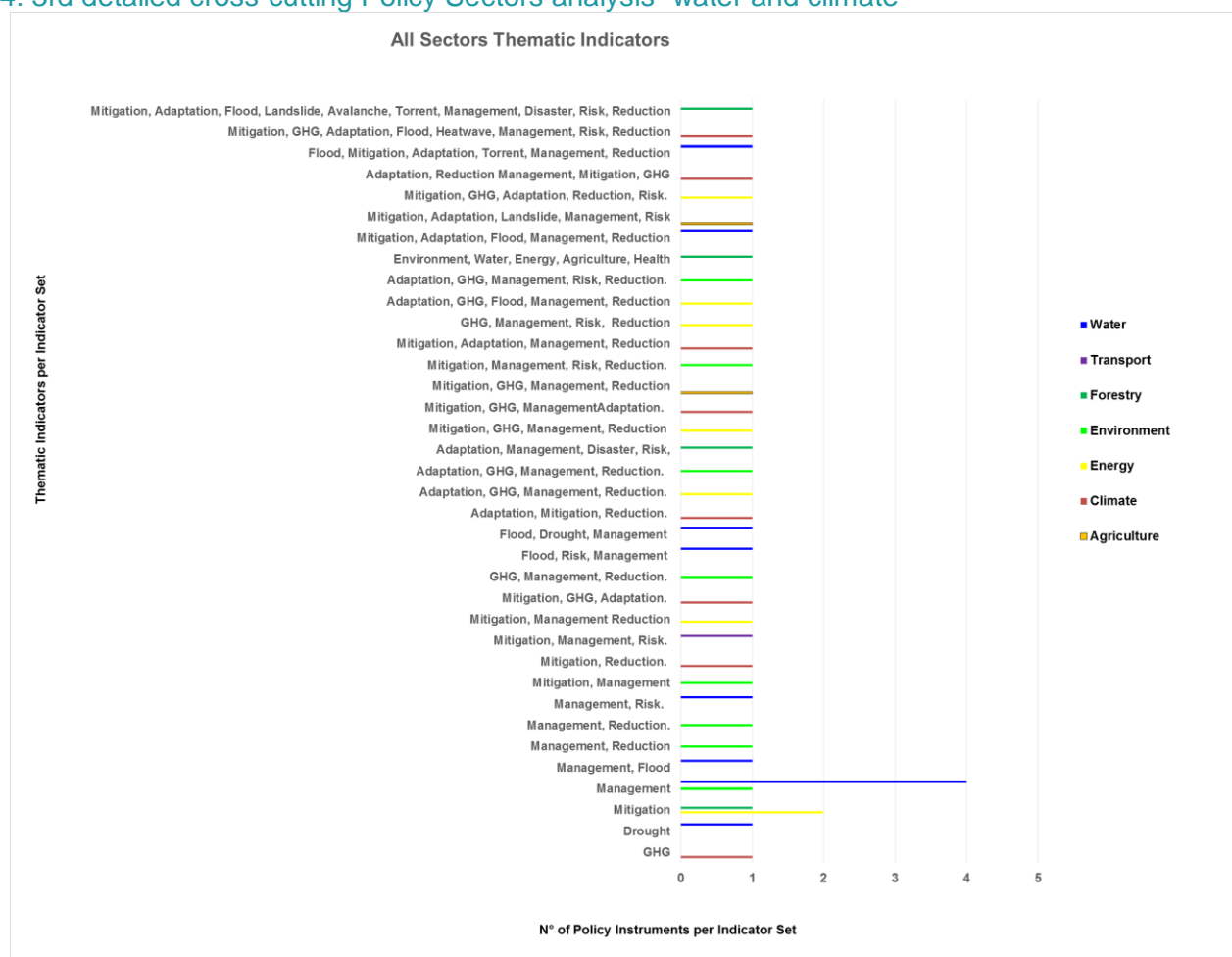
Figure 35 Spain All Sectors X-Cutting with Water



3.4 Thematic Indicators in Policies

This section presents the occurrence and distribution of Thematic indicators in Figure 36.

Figure 36 Spain All Sectors Thematic Indicators



The largest indicator sets of 8 and 9 are present in one Forestry and Climate sector policy instrument each. These 2 policy instruments are the Catalan Climate Change Adaptation Strategy 2012-2020 and the Spanish Forestry Plan 2002, which involves the development of a global framework compatible with national forest policies, and socioeconomic, cultural, political and environmental conditions of the country. For lowest scoring indicator sets with ≤ 2 indicators, 7 out of 11 are from the Water Sector, followed by 4 out of 11 Environment sector policy instruments.

3.4.1 Policy Sector and Thematic Indicator Specific Comparisons

This section presents the occurrence and distribution of the specific Thematic Indicators of Mitigation and Adaptation among the policy sectors. We begin with the indicator Mitigation in Figure 37 below.

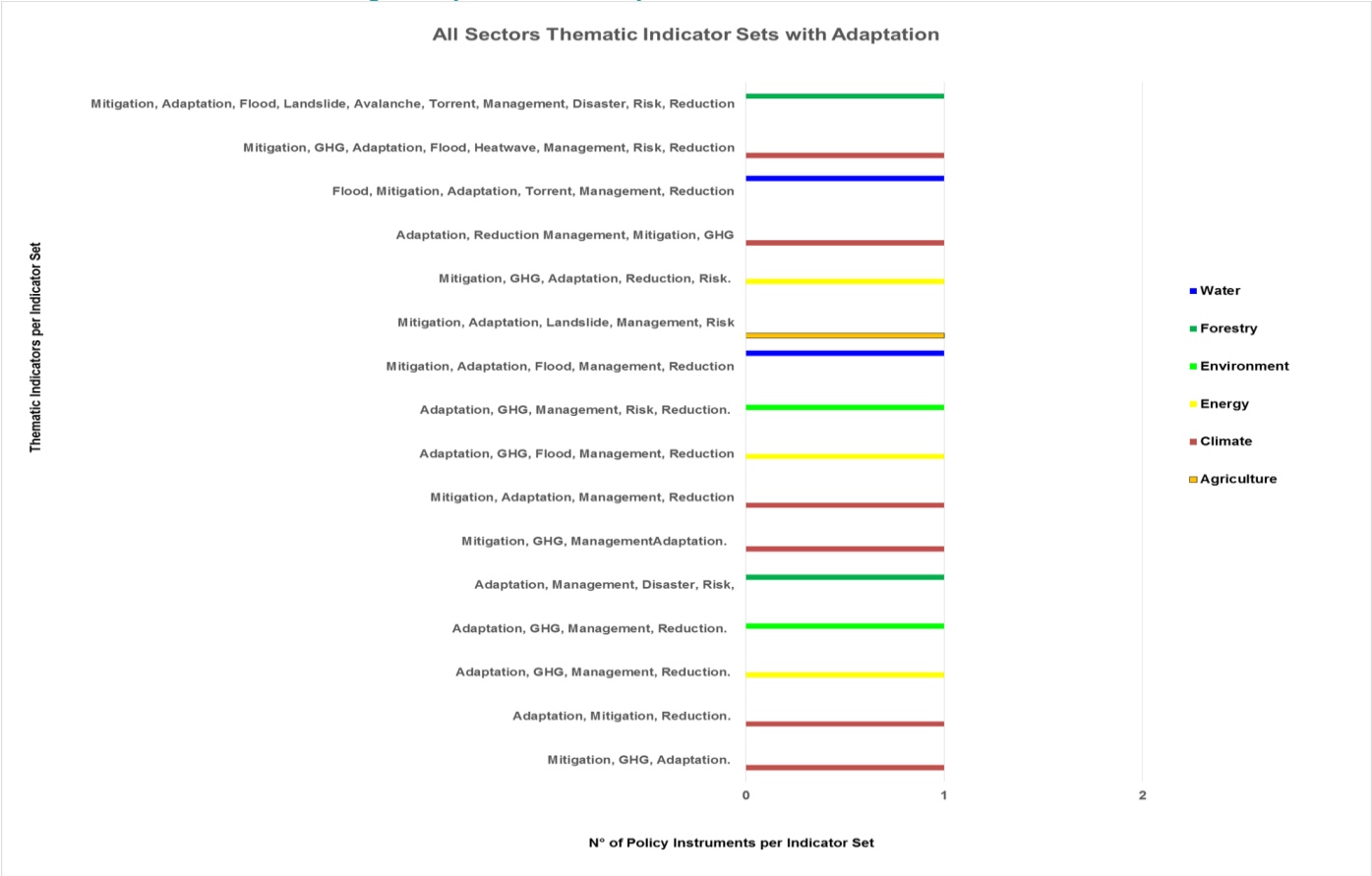
Figure 37 Spain All Sectors Thematic Indicators with Mitigation



Mitigation as an indicator is identified in 21 out of 42 policy instruments in our policy list for Spain; most notably present in 7 out of 8 Climate sector policy instruments and in 5 out of 8 Energy instruments. Mitigation is very limited as an indicator in Water (2 out of 11) and Environment (2 out of 8) sector policy instruments.

Adaptation in the policy instruments is presented in Figure 39, showing that Adaptation as a Thematic indicator is less present than Mitigation, being addressed in 16 out of 42 policy instruments. Adaptation is present in the Climate sector in 6 out of 8 policy instruments. Adaptation is present in 3 out of 8 policy instruments in the Energy Sector, whose indicators sets include Reduction and GHG indicators, suggesting that the adaptation orientation in the Energy Sector is towards pollution and not to other climate-related challenges such as flooding, drought, or temperature extremes. The Water Sector policy instruments only include Adaptation as an indicator in 2 out of 11 policy instruments. Overall, the Policy sectors of Climate and Energy most clearly address Mitigation and Adaptation in their policy instruments.

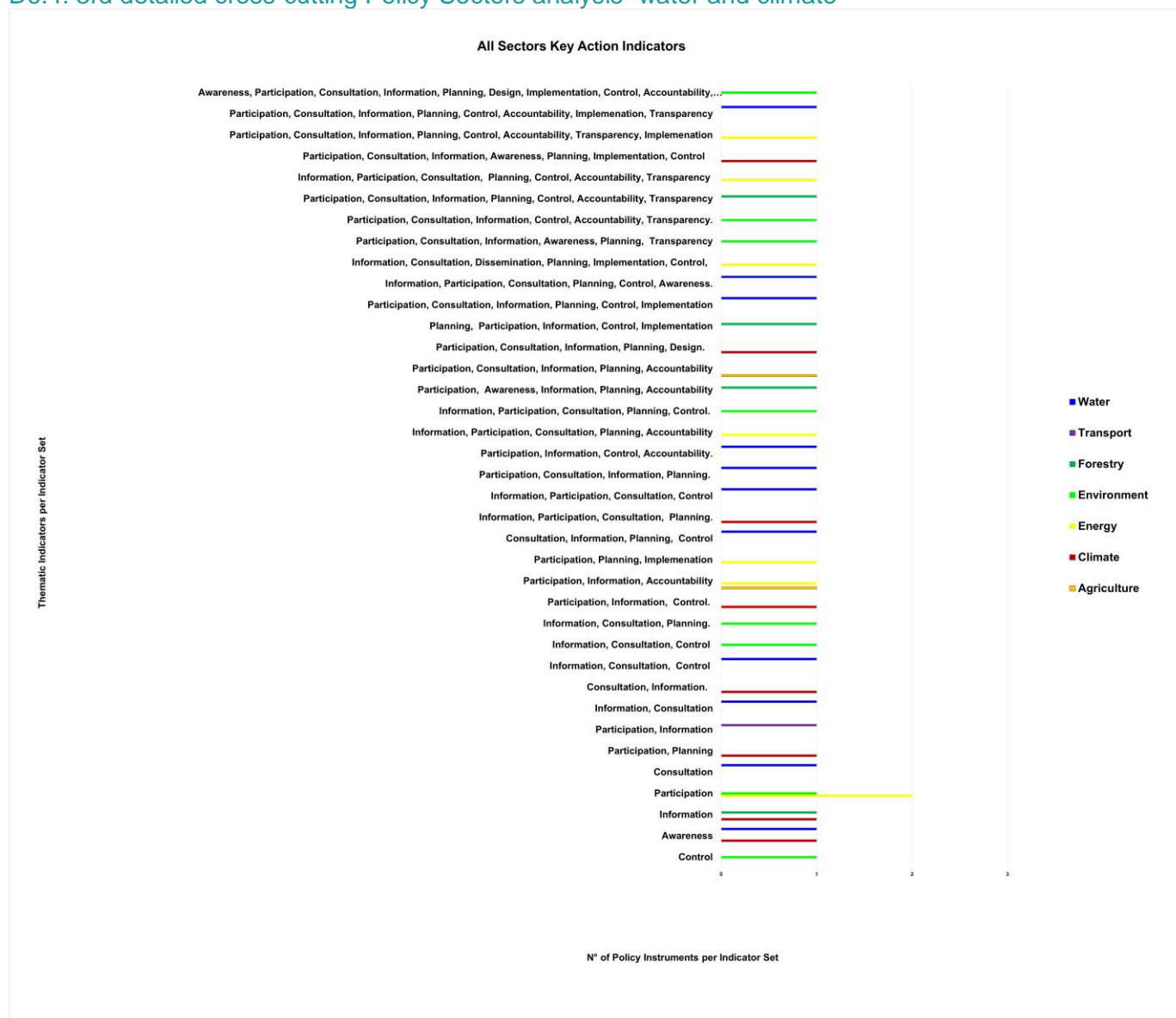
Figure 38 Spain All Sectors Thematic Indicators with Adaptation



3.5 Key Action Indicators

This section presents the occurrence and distribution of Key Action Indicators in the list of policy instruments, beginning with all indicator sets in Figure 39.

Figure 39 Spain All Sectors Key Action Indicators



All policy sectors are present in Key Action indicator sets with ≥ 4 indicators. The largest Key Action indicator sets ≥ 8 and are identified in the Energy and Climate policy instruments. Water Sector policy instruments contain the smallest indicator sets of only ≤ 4 Key Actions in 8 out of 11 policy instruments. For the 11 indicator sets with ≤ 2 indicators, the most prevalent policy sector is Climate with 4 out of 8 policy instruments. The main recurring Key Action indicators in the smallest sets are Information, Participation and Consultation suggesting that policy instruments with the most limited Key Actions are still potentially open to either the public or stakeholders.

3.5.1 Policy Sectors with Specific Key Action Indicators Comparison

This section presents the occurrence and distribution of the specific Key Action indicator Participation in Figure 40. Participation can be seen as a priority indicator, present in all policy sectors and in 29 out of 42

policy instruments. Most of the indicator sets contain ≥ 3 indicators, and only 5 policy instruments with less; 2 out of 8 from Energy sector policy instruments, and one each from Climate, Environment and Transport.

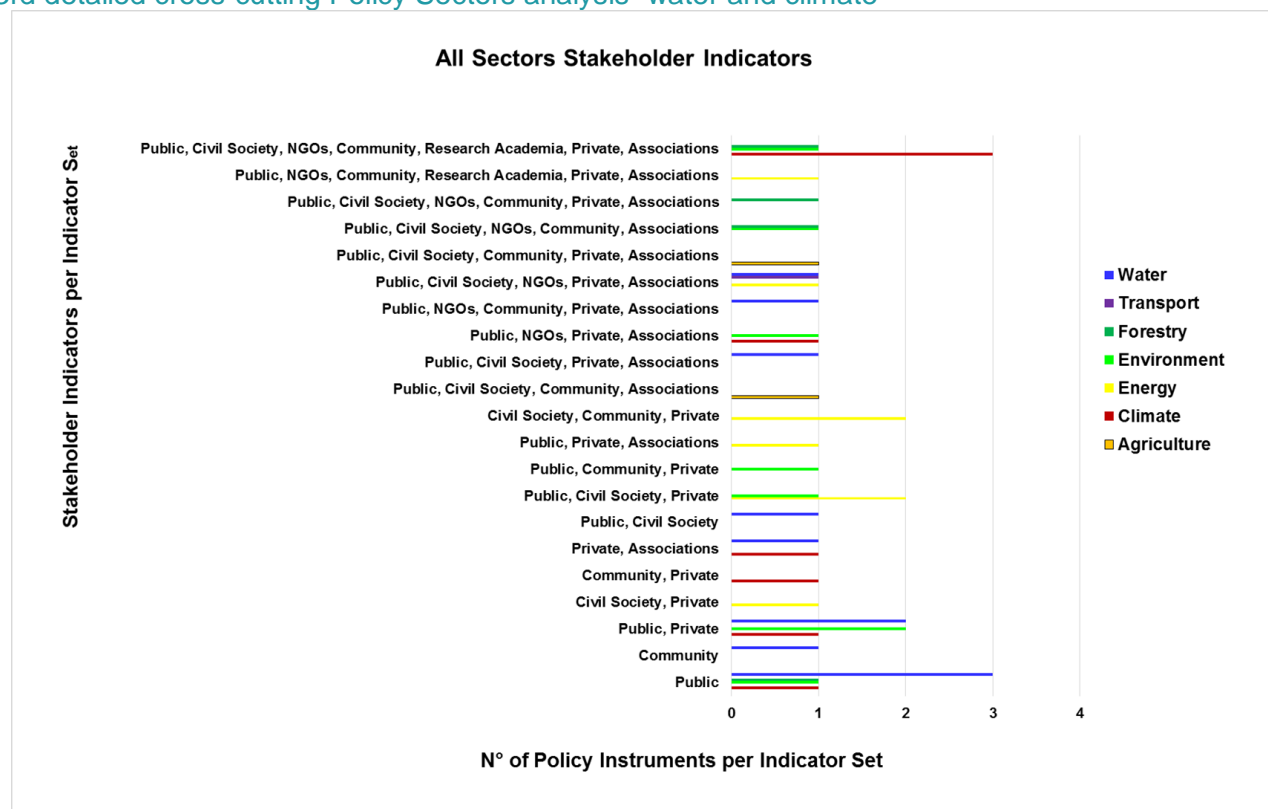
Figure 40 Spain All Sectors Key Actions with Participation



3.6 Stakeholders

This section presents the occurrence and distribution of Stakeholder indicators in our list of Spain's policy instruments, beginning with the distribution of Stakeholder indicators in all Policy sectors in Figure 41.

Figure 41 Spain All Sectors Stakeholders



The Climate Sector is most present with 3 policy instruments in the largest indicator set of 7 indicators. The 3 smallest indicator sets containing ≤ 2 indicators are found in 17 policy instruments; 8 out of 11 from the Water Sector, 4 out of 8 from Climate, 3 from Environment and 1 each from Energy and Forestry.

3.6.1 Sectors with Specific Stakeholder Comparison

This section presents the distribution of specific Stakeholder indicators, beginning with Community in Figure 42.

Figure 42 Spain All Sectors Stakeholders with Community



Community is present in all Policy sectors (except Transport) and in 17 instruments, including 4 out of 8 Climate policy instruments, and only 1 Water policy instruments. The smallest Stakeholder indicator sets of ≤ 2 indicators are in the Water and Climate sectors. The larger indicator sets containing Community as a stakeholder are most prominent in the Climate, Environment and Forestry sectors.

Figure 43 Spain All Sectors Stakeholders with Research Academia

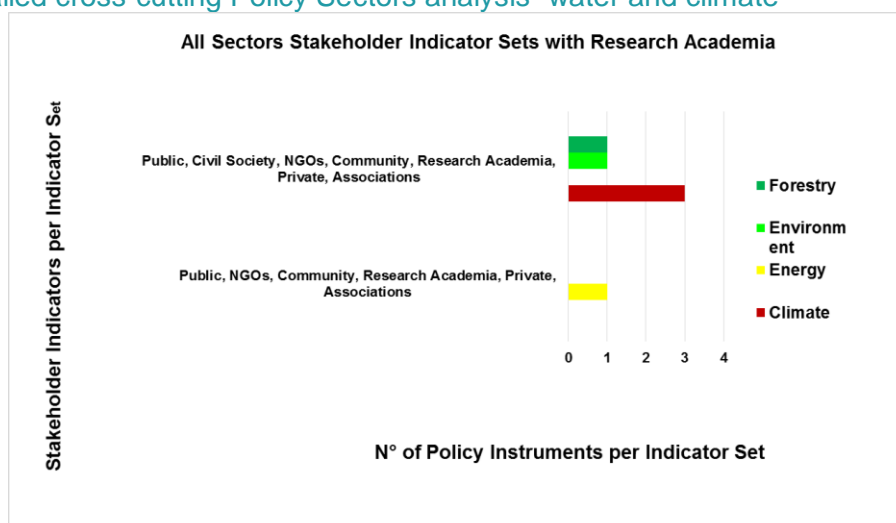
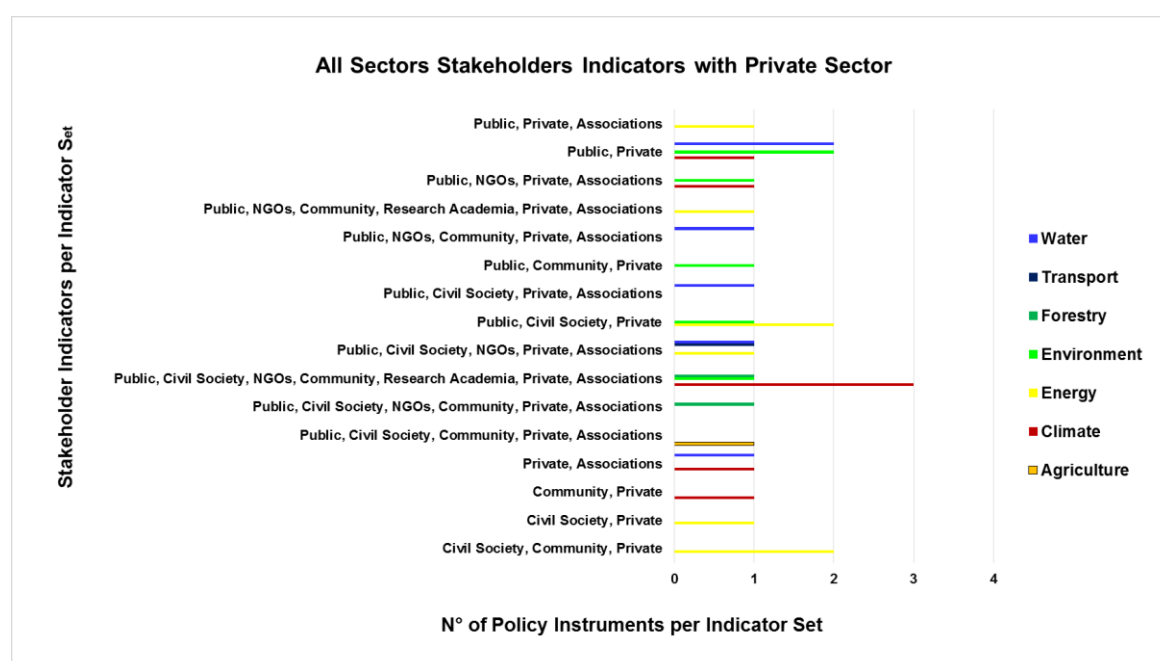


Figure 43 indicates that Research Academia is not a priority stakeholder in the policy list for Spain, being present in 3 out of 8 Climate Sector instruments, and only one policy instrument each for Environment, Forestry and Energy. Of interest to note is that the all indicator sets with Research Academia are also high scoring (6 and 7 indicators), being accompanied by a large number of other stakeholders in the policy instruments. The occurrence and distribution of the stakeholder Private Sector is presented in Figure 44.

Figure 44 Spain All Sectors Stakeholders with Private Sector



The Private Sector indicator is present in 31 policy instruments, the highest in our list of Stakeholder analyses for Spain. It is present in all 8 Energy sector policy instruments, 7 out of 8 in the Climate sector, followed by 6 out of 8 Environment instruments and 5 out of 11 Water Sector policy instruments; making the Private Sector a prominent stakeholder in Energy, Climate and Environment policy instruments.

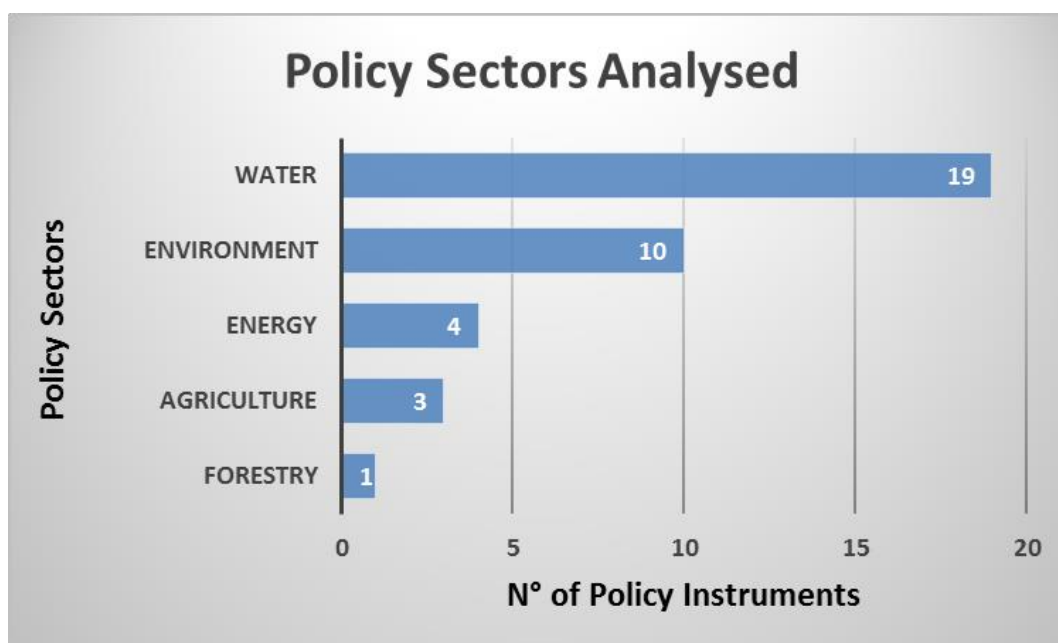
4. Cyprus

4.1 Policy Sectors and Description of Policies

For Cyprus, 37 policy instruments were analysed from 5 policy sectors. Figure 45 presents the distribution of these instruments, with the largest list from the Water Sector with 19 instruments, followed by Environment

with 10 instruments and smaller lists from Energy, Agriculture and Forestry. Water and Environment will be the two main Sectors for comparative analysis between sectors, but all sectors will be analysed for specific indicators.

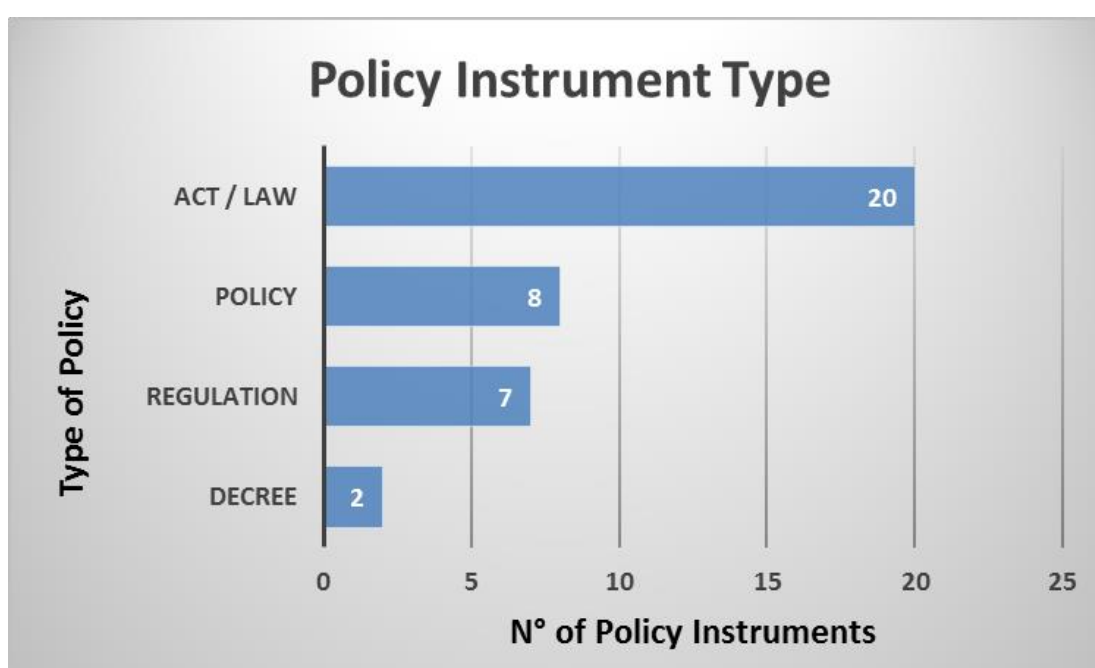
Figure 45 Cyprus List of Policy Sectors Analysed



4.1.1 Types of Policy Instruments

In Figure 46 we see that the majority of policy instruments in our list are 20 Acts/Laws, followed by an almost equal breakdown of 8 Policies and 7 Regulations and 2 Decrees.

Figure 46 Cyprus Types of Policy Instruments

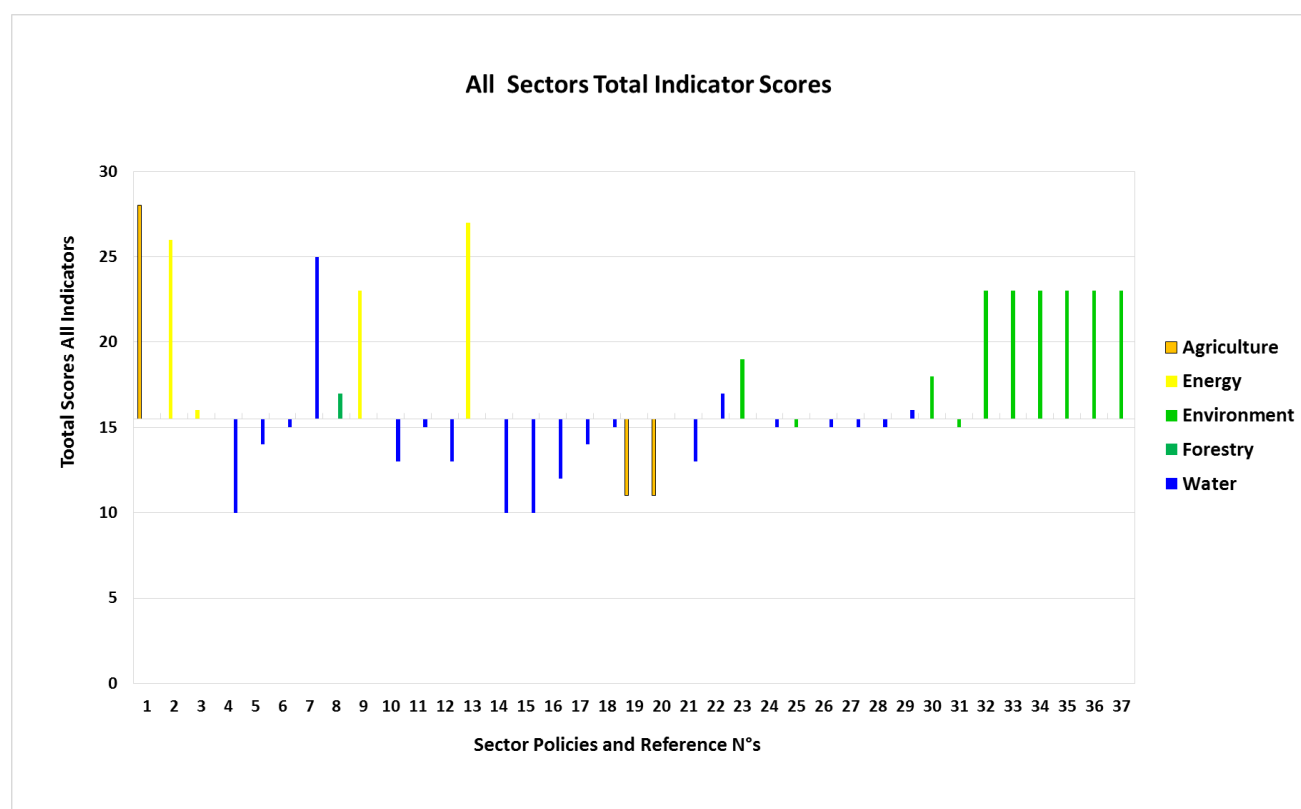


4.2 Policy Instruments and Total Indicator Scores

Figure 47 presents the occurrence and distribution of Total Indicator Scores for the policy instruments in the list. The highest total indicators score comes from the Energy and Agriculture Sectors with a score of 29 each, followed closely by Water with 26 and 6 examples of Forestry with 25 total indicators. The bar for high

indicator scores is set at the statistical median of ≥ 15 . Water Sector instruments are high scoring in only 3 out of 19 instruments, all 10 from the Environment Sector, all 4 instruments from our Energy Sector list, 1 of 3 from Agriculture and in the only Forestry instrument. The Environment Sector policy instruments are clearly dominant for high indicator scores. The top 4 total indicator scores are for 2 Energy, 1 Agriculture and 1 Water sector instruments. The high scoring Energy Sector policy instruments include the Third National Energy Efficiency Action Plan of Cyprus (2014) and the National Renewable Action Plan (2010). The Agriculture instrument is the Rural Development Programme 2014-2020 (2014) and the Water Sector instrument is the Cyprus River Basin Management Plan (2011).

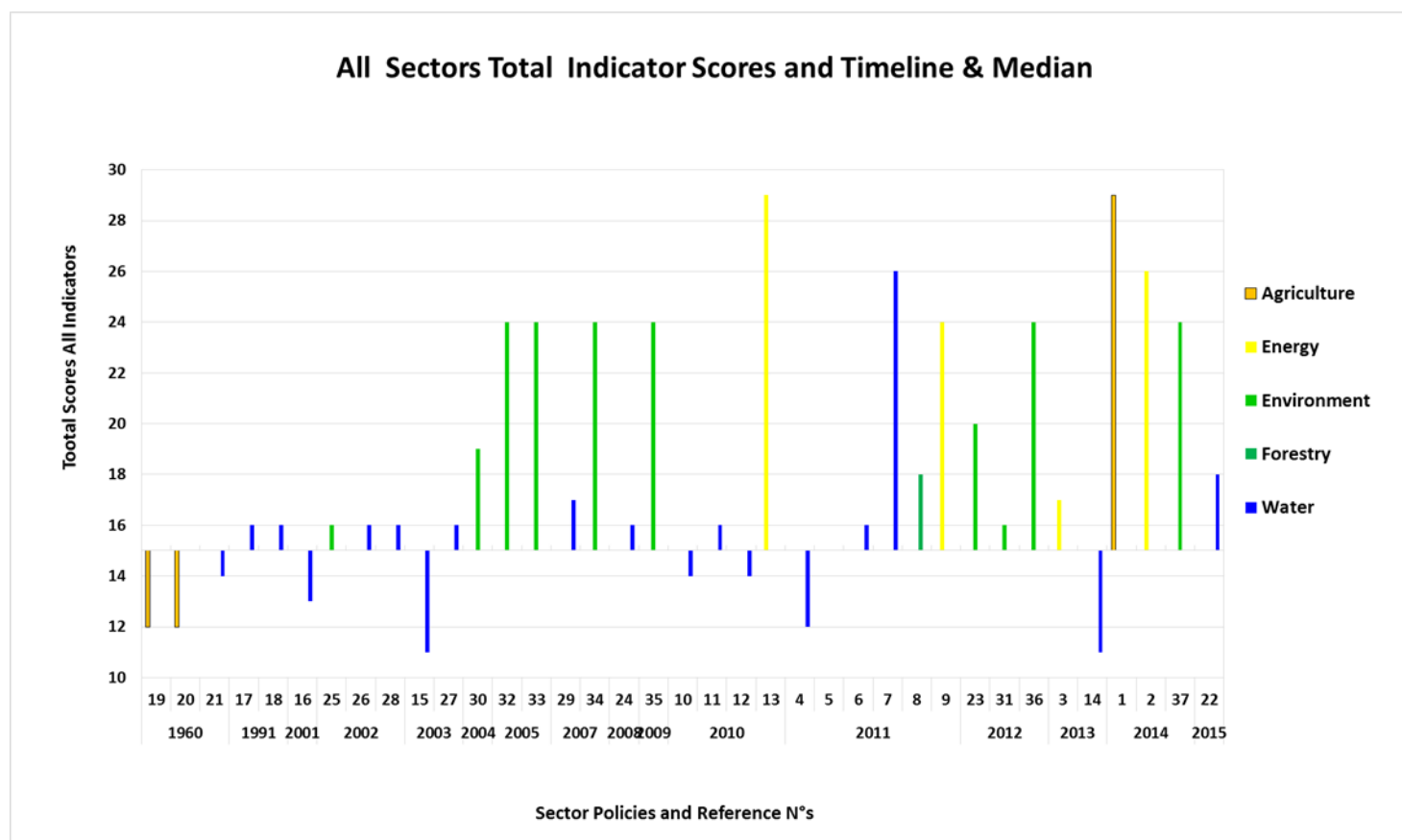
Figure 47 Cyprus All Sectors Total Indicator Scores



The timeline distribution of policy instruments is presented in Figure 48 and shows a wide distribution for the Water Sector from 1960 to present (2015) with 2 clusters for the Environment Sector of 2004 to 2009 and 2012 to 2014. The four Energy Sector instruments are distributed evenly from 2010 to 2014. The most recent

policy instruments of 2014-15 are all high scoring with Total Indicators and the two highest total indicator scoring instruments (indicator score of 29) are from the Energy and Agriculture policy sectors.

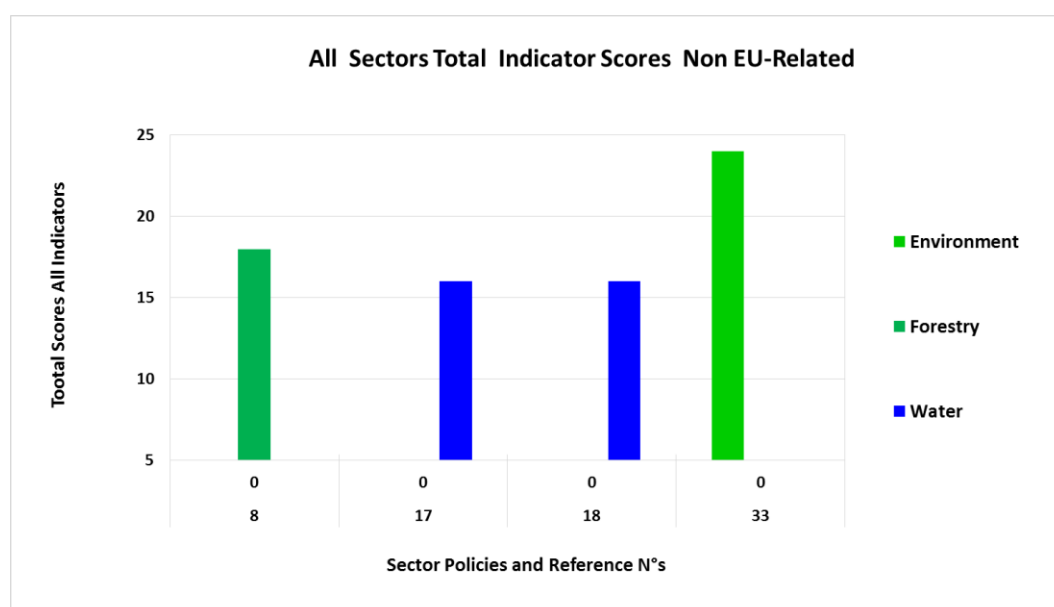
Figure 48 Cyprus All Sectors Total Indicators & Timeline



4.2.1 4.2.1 Specific Descriptive Indicators

This section will look at specific descriptive indicators of all sectors, beginning with non EU-Related National policy instruments in Figure 50.

Figure 49 Cyprus All Sectors Total Scores with non EU-Related Policy Instruments



The majority of the Cyprus list of instruments, 33 out of 37, are EU-related. Figure 49 presents the distribution of non EU-related National policy instruments, which is a short list of 2 policy instruments from the Water Sector and one each from Forestry and Environment. The policy instruments include the Water Conservation

(Special Measures) Law and the accompanying Regulations of 1991, the Cyprus National Forest Programme of 2011 and the 2005 Act/Law on the Assessment of the Effects of Specific Plans and Programmes on the Environment.

Figure 50 Cyprus All Sectors Total Scores with WFD-Related Policy Instruments

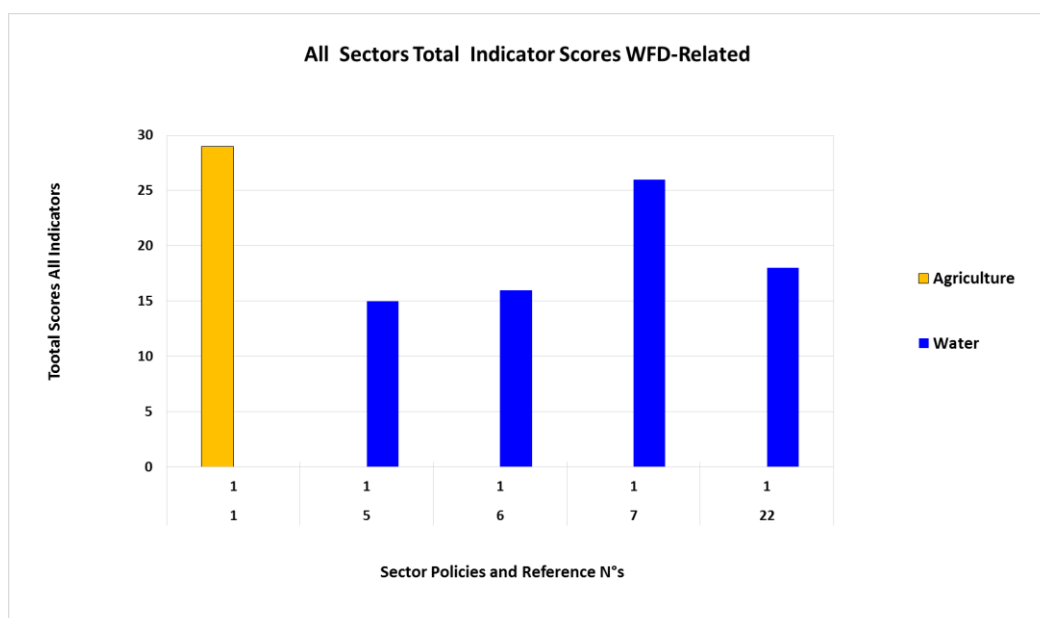
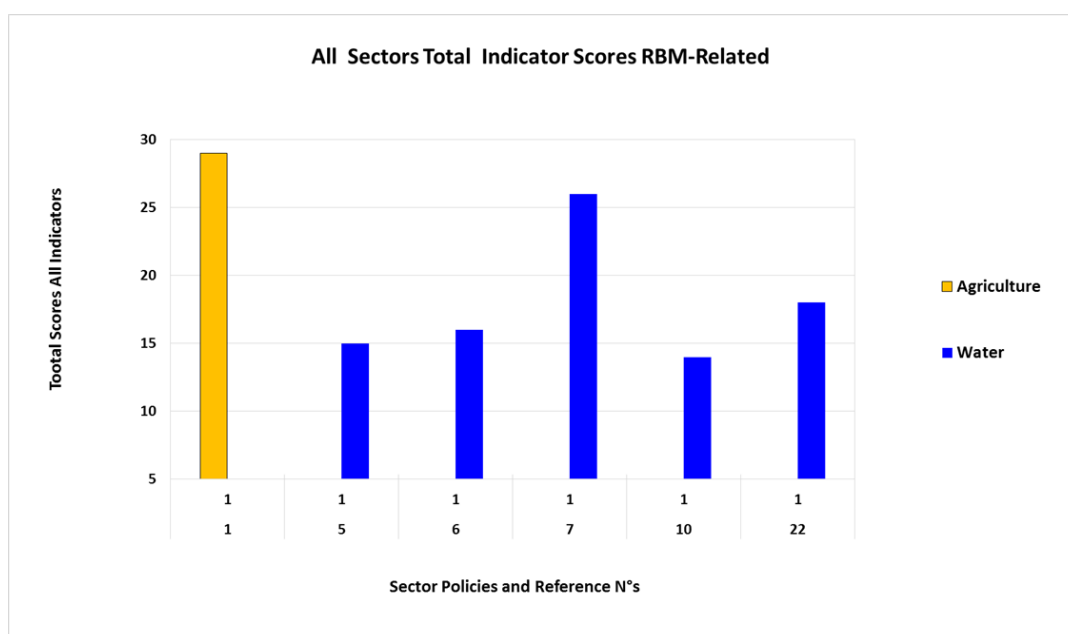


Figure 50 presents the policy instruments related to the WFD. While 17 out of 19 Water policy instruments are linked to EU policy, only 4 of those are related to the WFD. There is one Agriculture policy instrument relating to the WFD and that is the Rural Development Programme 2014-2020. Figure 51 presents RBM as an indicator and is identified in 6 out of 37 instruments; 5 out of 19 instruments occurring in the Water Sector instruments and 1 out of 3 for Agriculture. The single Agriculture policy instrument is the same as identified in Figure 50. The Water Sector instruments are the Water Resources Strategy, the Final Drought Management Plan, the Cyprus River Basin Management Plan of 2011, the Law on the Evaluation, Management and Administration of Flood Risk of 2010 and the Water Protection and Management (Amended) Law of 2015.

Figure 51 Cyprus All Sectors Total Scores with RBM-Related Policy Instruments



4.3 Crosscutting Policy Sectors

Figure 52 shows that all policy sectors have at least one crosscutting policy sector addressed in their policy instruments, with the largest indicator sets represented in Energy and Water sector policy instruments.

Figure 52 Cyprus All Sectors with X-Cutting Sectors

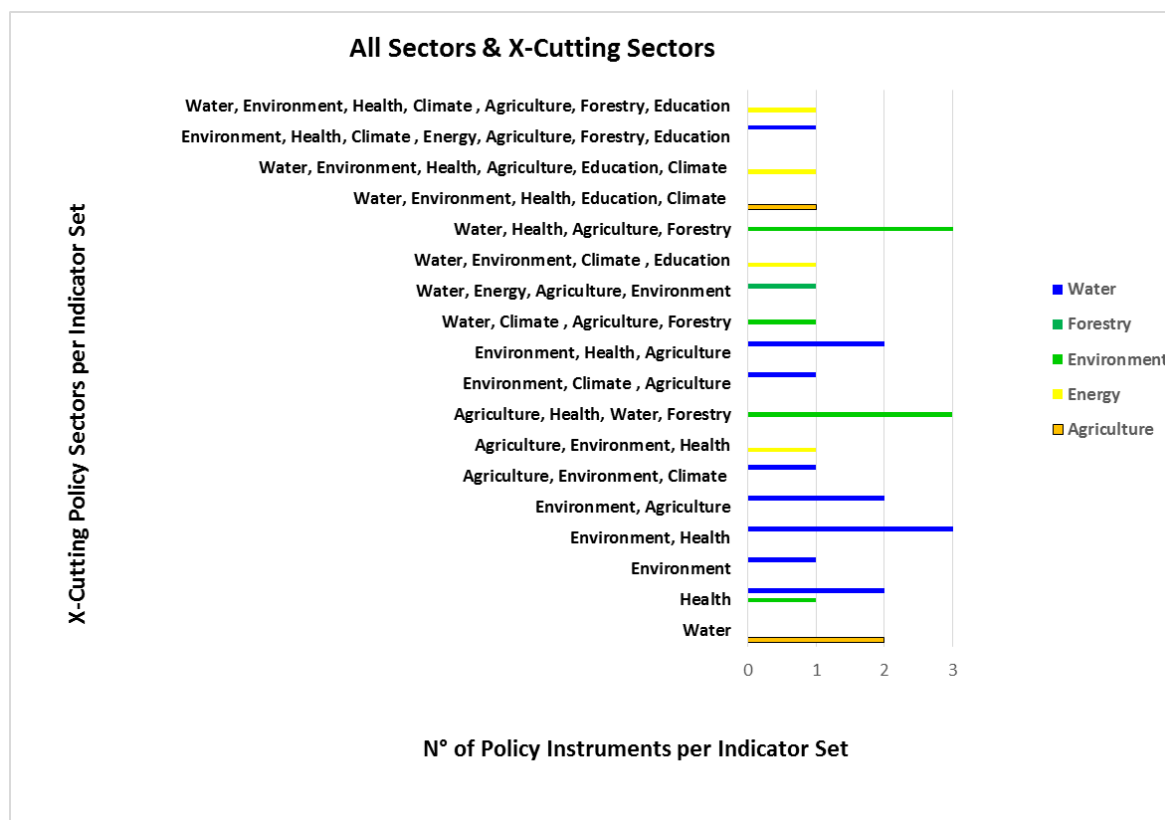
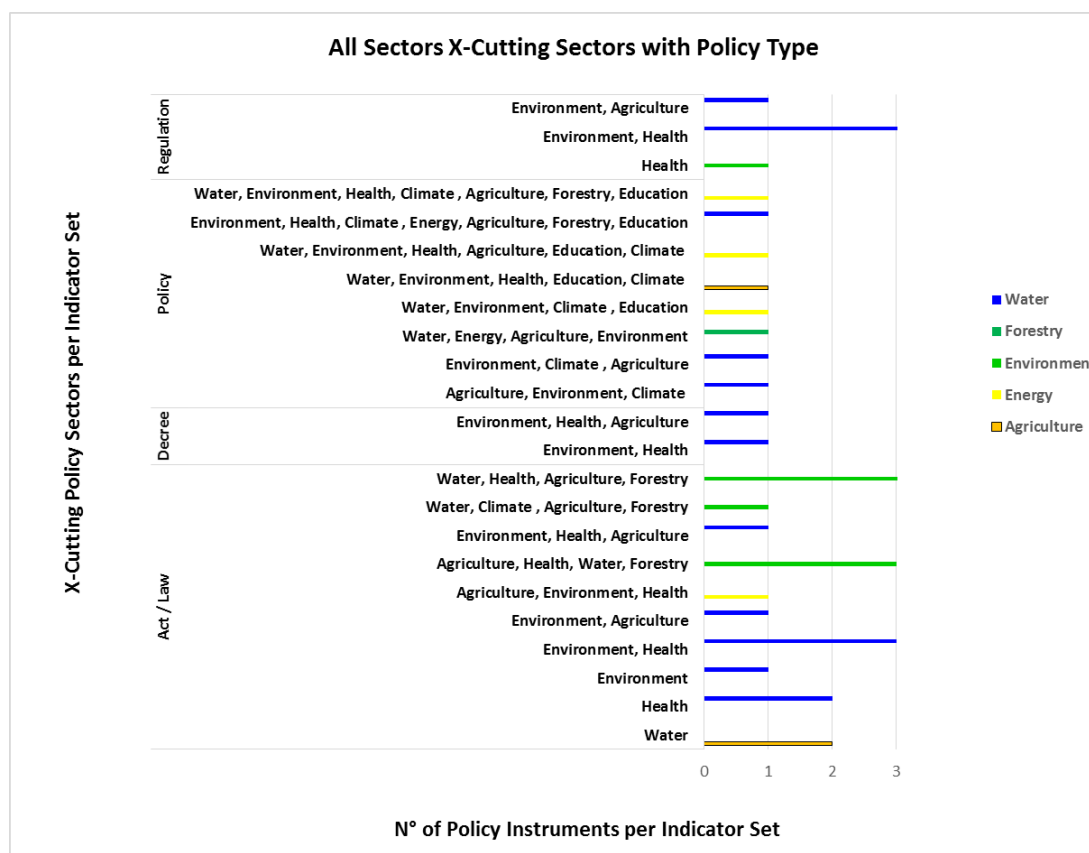


Figure 54 presents the distribution of crosscutting policy indicators within Policy Types.



The majority of policy instruments in the list for Cyprus are Acts / Laws and Policies, with the largest crosscutting indicator sets being identified in Policies as a type of instruments

4.3.1 Sector and Specific Crosscutting Indicator Comparisons

This section presents the distribution of specific crosscutting indicators in the policy sectors and instruments, beginning with occurrence and distribution of Climate as indicator in Figure 53.

Figure 53 Cyprus All Sectors X-Cutting with Climate

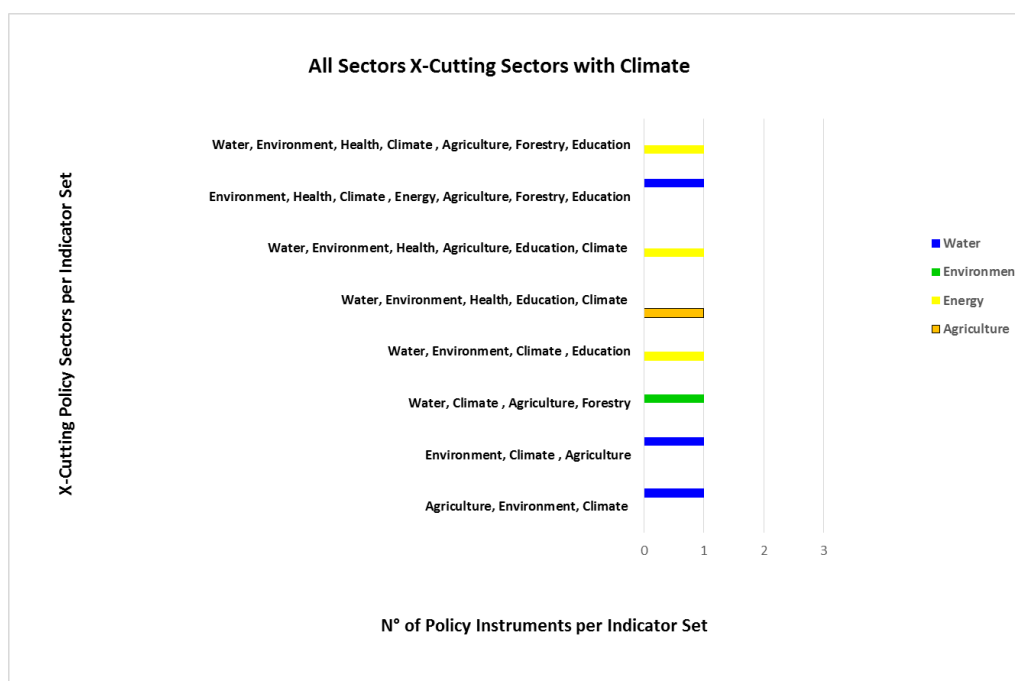


Figure 53 shows that only 8 out of 37 policy instruments include Climate as an indicator, with 3 instruments each for the Water and Energy Sectors and one each for Environment and Agriculture. The Water Sector the instruments are; the Water Resources Strategy, the Final Drought Management Plan and the Cyprus River Basin Management Plan of 2011. Energy Sector instruments crosscutting with Climate include the 3rd National Energy Efficiency Action Plan of Cyprus (2014), the National Renewable Action Plan Based (2010) and the 2nd National Energy Efficiency Action Plan of Cyprus (2011). The Environment Sector instrument is the Act/Law for Voluntary Participation by Organisations in Community Eco-management and Audit (2012) and for Agriculture the Rural Development Programme 2014-2020 (2014).

Figure 54 Cyprus All Sectors X-Cutting with Energy

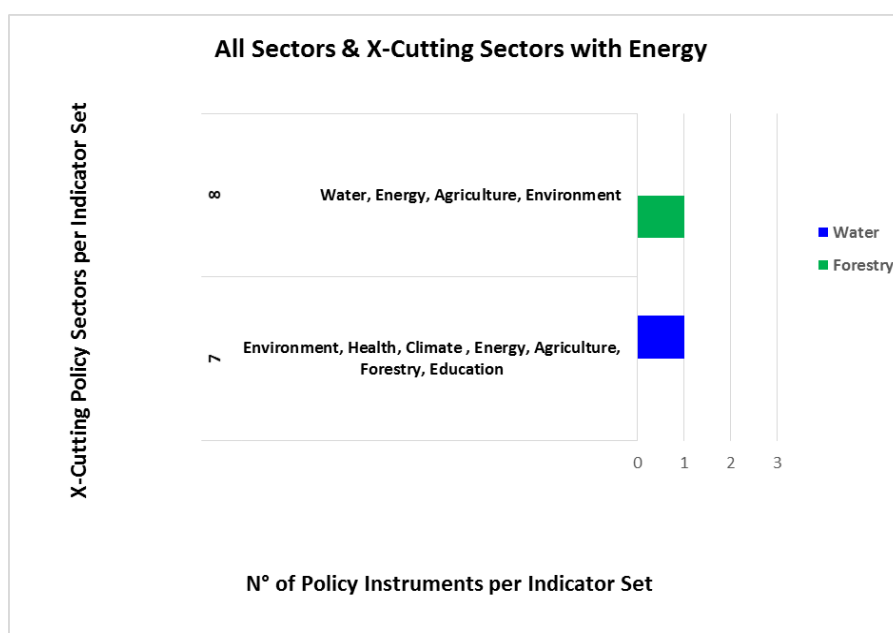
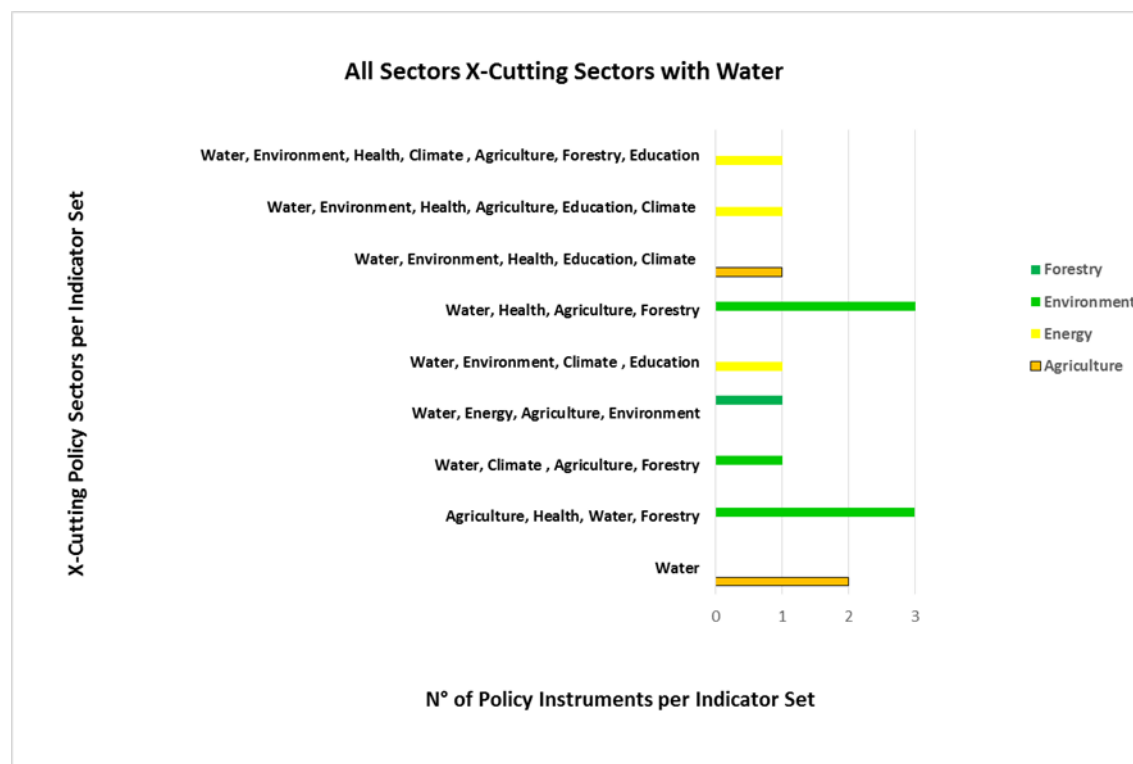


Figure 54 shows that only 2 policy instruments, one each from Water and Forestry policy sectors, identify energy as a crosscutting indicator, showing it as a low priority. These policy instruments are the Cyprus River Basin Management Plan and the Cyprus National Forest Program, both of 2011. Figure 55 below shows the occurrence of Water as a crosscutting sector in 14 out of 18 policy sector instruments and most of the indicator sets with ≥ 4 indicators per sets, showing Water to be the highest priority of crosscutting sector indicators in our analysis.

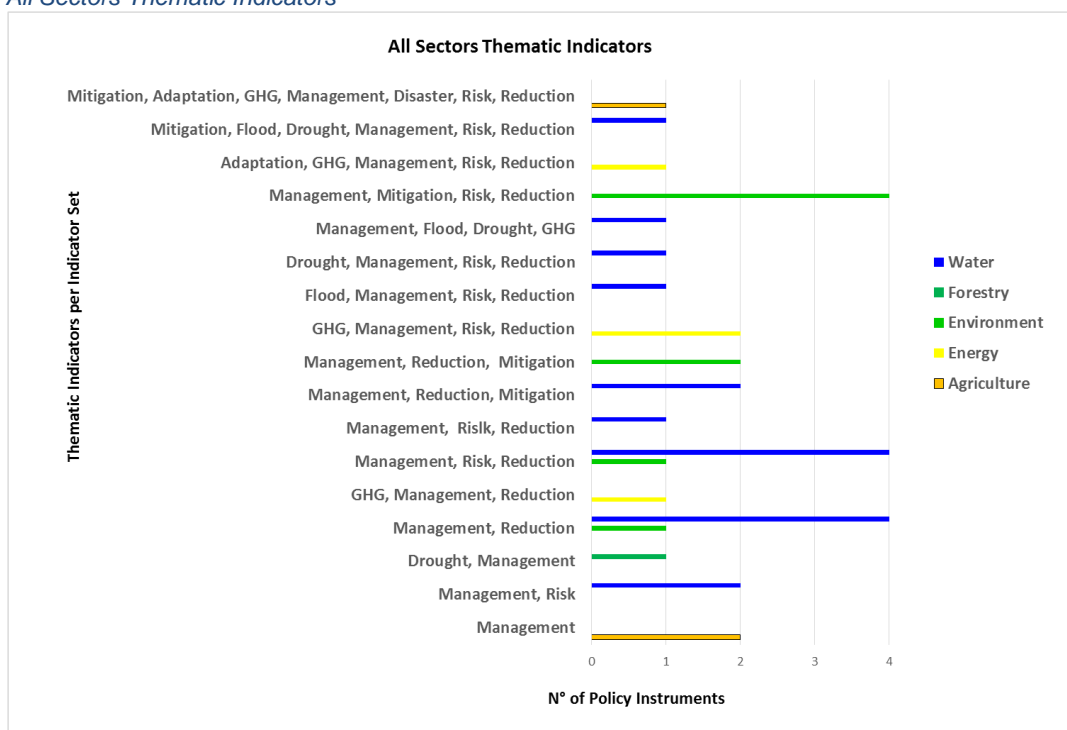
Figure 55 Cyprus All Sectors X-Cutting with Water



4.4 Thematic Indicators

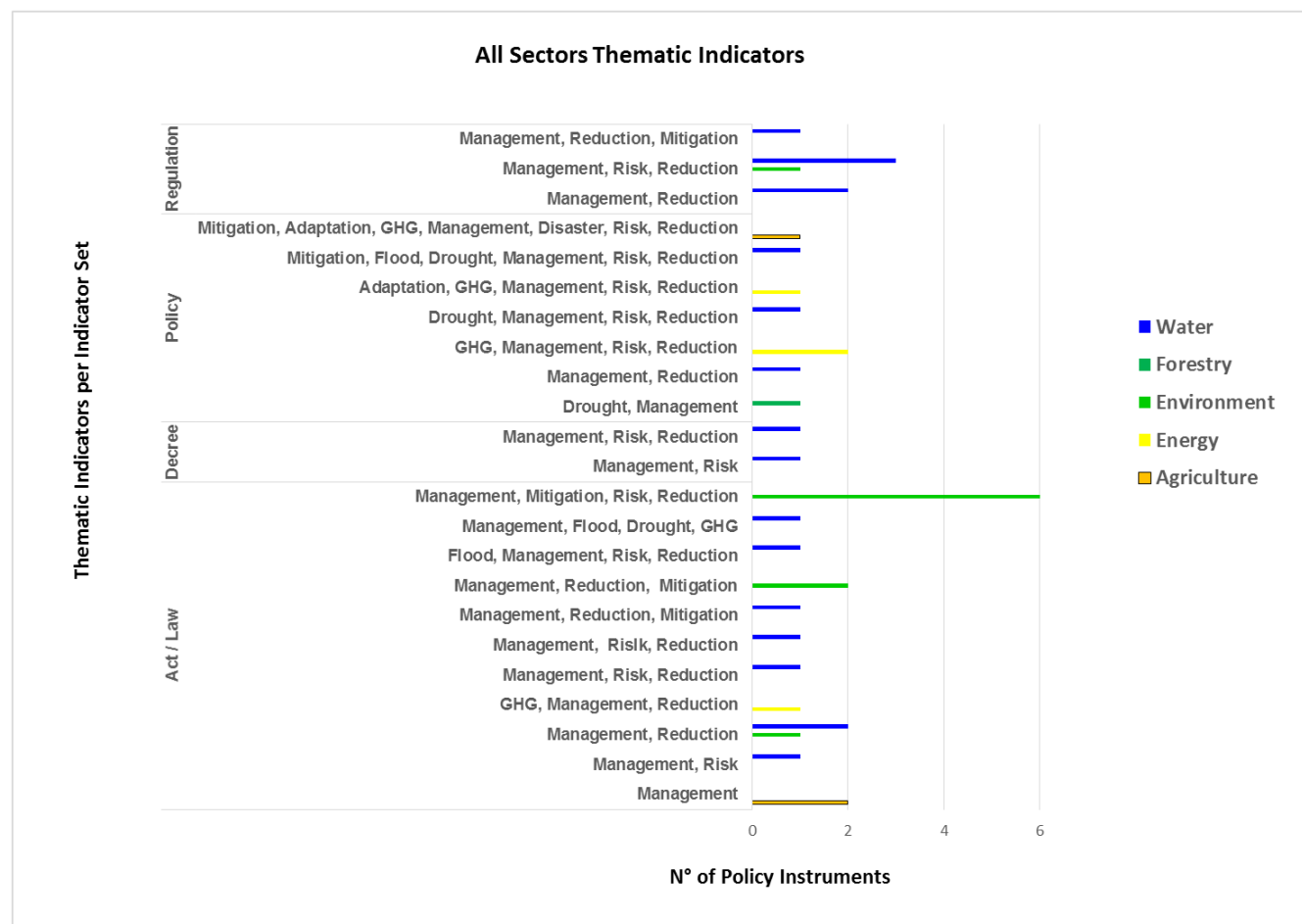
This section analyses the occurrence and distribution of Thematic Indicators in the Cyprus list of policy instruments, beginning with all policy sectors in Figure 56.

Figure 56 Cyprus All Sectors Thematic Indicators



The lowest indicator score with the one Thematic indicator of Management is for two Agriculture policy instruments. These are the Irrigation (Private Water) Associations Law and the Irrigation Divisions (Villages) Law, both from 1960 and they have a tight focus on management. The next lowest score of 2 thematic indicators is found in 7 policy instruments from the Water Sector and one each from the Forestry and Environment policy sectors. Figure 57 presents the distribution of Policy Type. The majority of policy instrument types with larger indicator sets are Policies and Acts/Laws and those with ≥ 4 indicators are policy instruments from the Environment Sector.

Figure 57 Cyprus All Sectors Thematic Indicators with Policy Type



4.4.1 Sector and Thematic Indicator Specific Comparisons

This section presents the occurrence and distribution of specific Thematic Indicators beginning with Mitigation in Figure 58.

Figure 58 Cyprus All Sectors Thematic Indicators with Mitigation

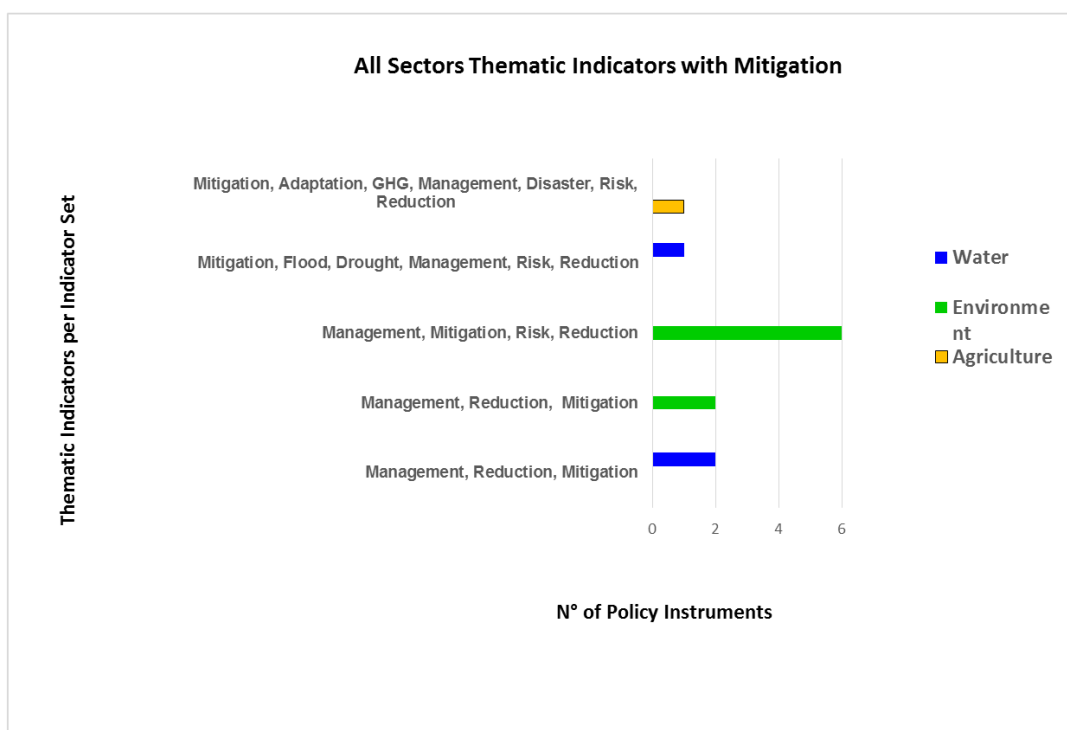
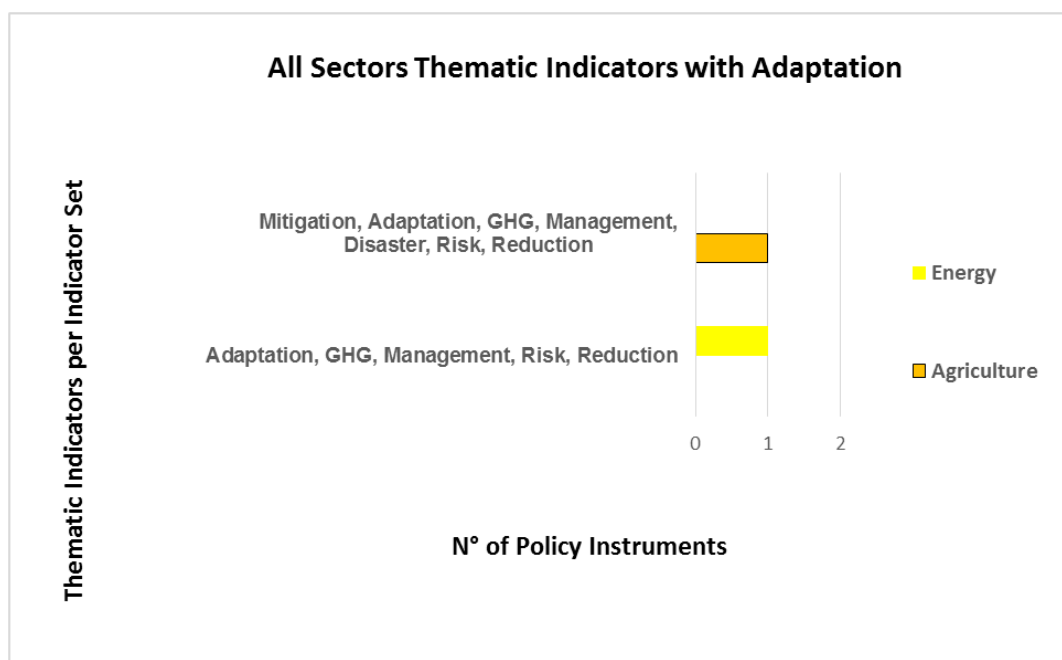


Figure 59 Cyprus All Sectors Thematic Indicators with Adaptation



We can see that 11 policy instruments from the Water, Agriculture and most notably Environment sectors address Mitigation. In Figure 59 analysis shows only one policy instrument each from Agriculture and Energy Sectors which include the indicator Adaptation. The latter two instruments are recent, dating from 2014, and comprise the Rural Development Programme 2014-2020 and the 3rd National Energy Efficiency Action Plan of Cyprus.

4.5 Key Action Indicators

This section presents the occurrence and distribution of Key Action indicators among policy sectors and within policy instruments, with all sectors in Figure 60.

Figure 60 Cyprus All Sectors Key Action Indicators

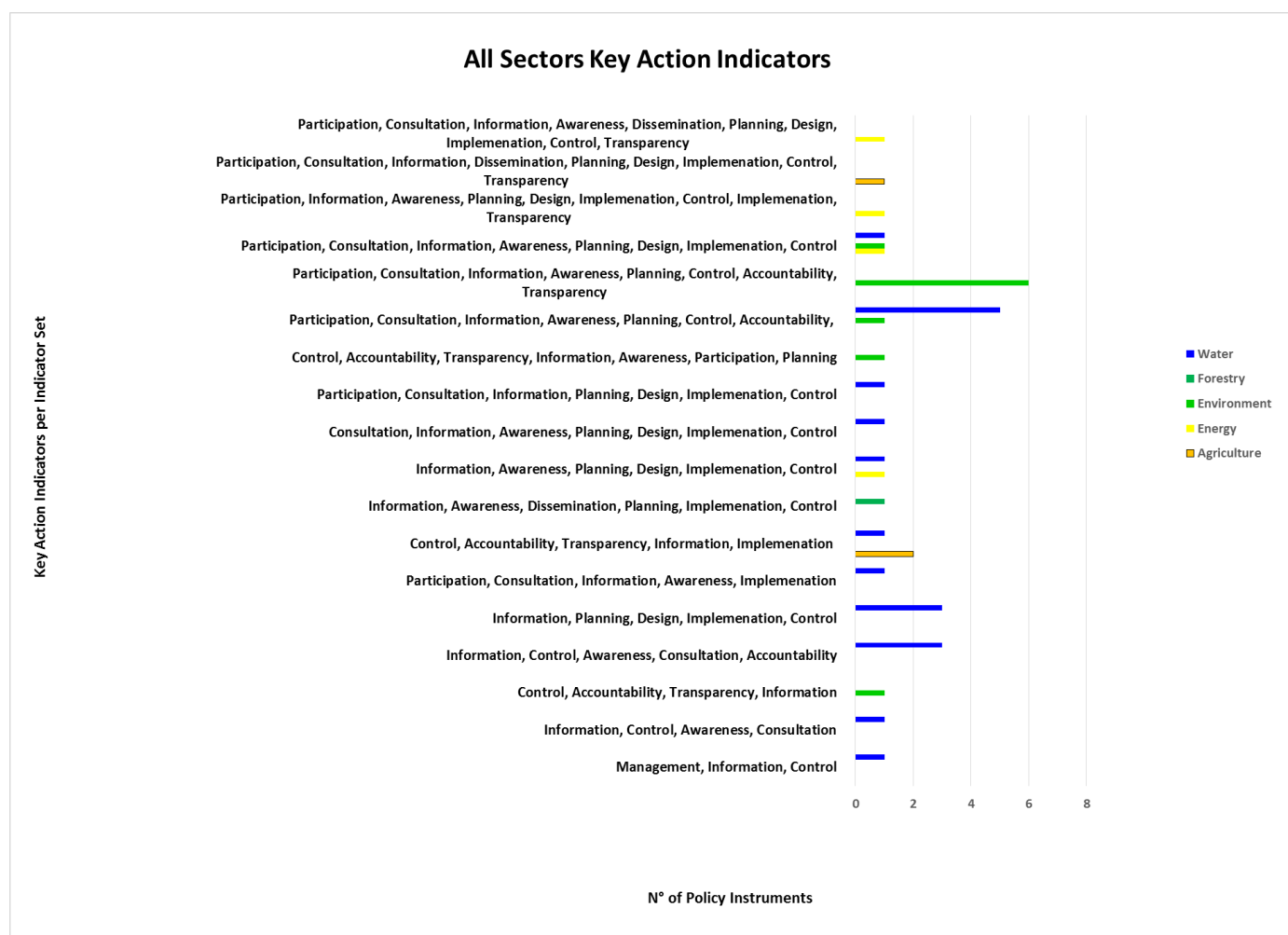
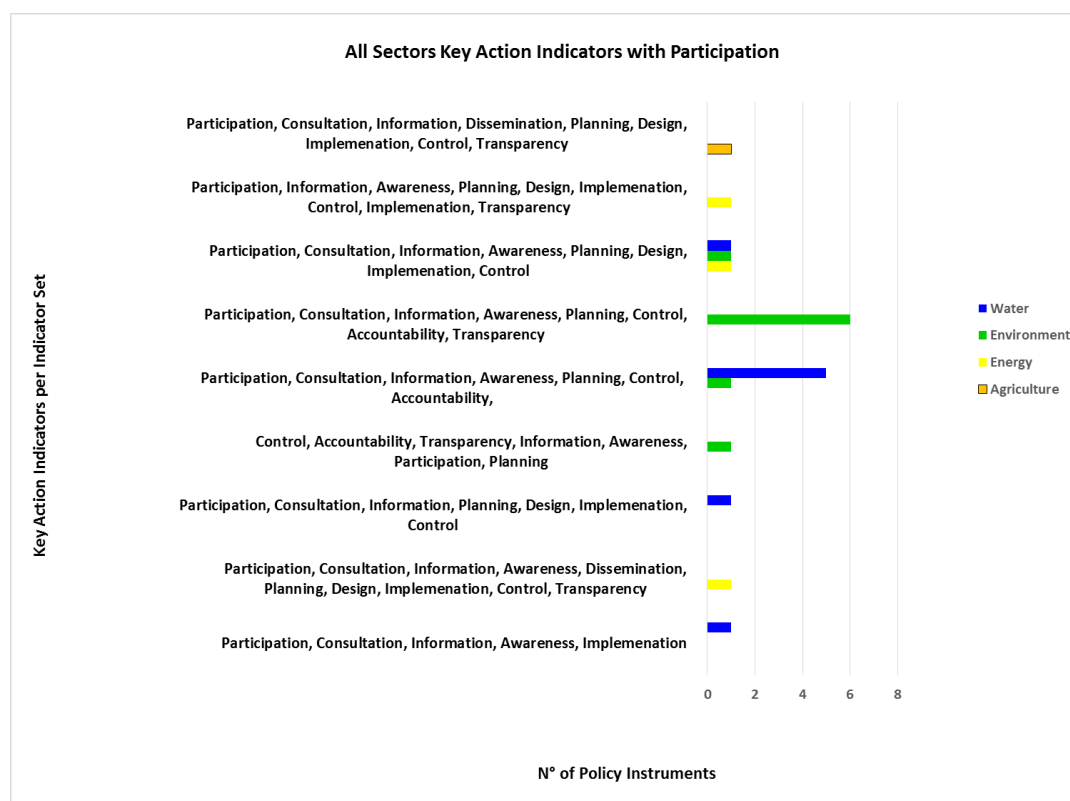


Figure 60 shows that the Key Action indicator sets are large, with numerous indicators, for the Cyprus policy instruments, ranging from 3 to 10 indicators per set. In the larger indicator sets, policy instruments with ≥ 7 indicators are found in 9 out of 10 Environment policy instruments, 8 out of 19 Water policy instruments, 3 out of 4 Energy and 1 of 3 Agricultural policy instruments. With Key Action indicators as a criteria, the Environment Policy Sector is the most receptive for identifying climate-friendly policy instruments.

4.5.1 Sectors with Specific Key Action Indicators

This section presents the occurrence and distribution of the Key Action indicator Participation. Figure 61 shows that all Sectors, except the only Forestry policy instrument, address this indicator in 21 out of 37 policy instruments.

Figure 61 Cyprus All Sectors Key Action Indicators with Participation

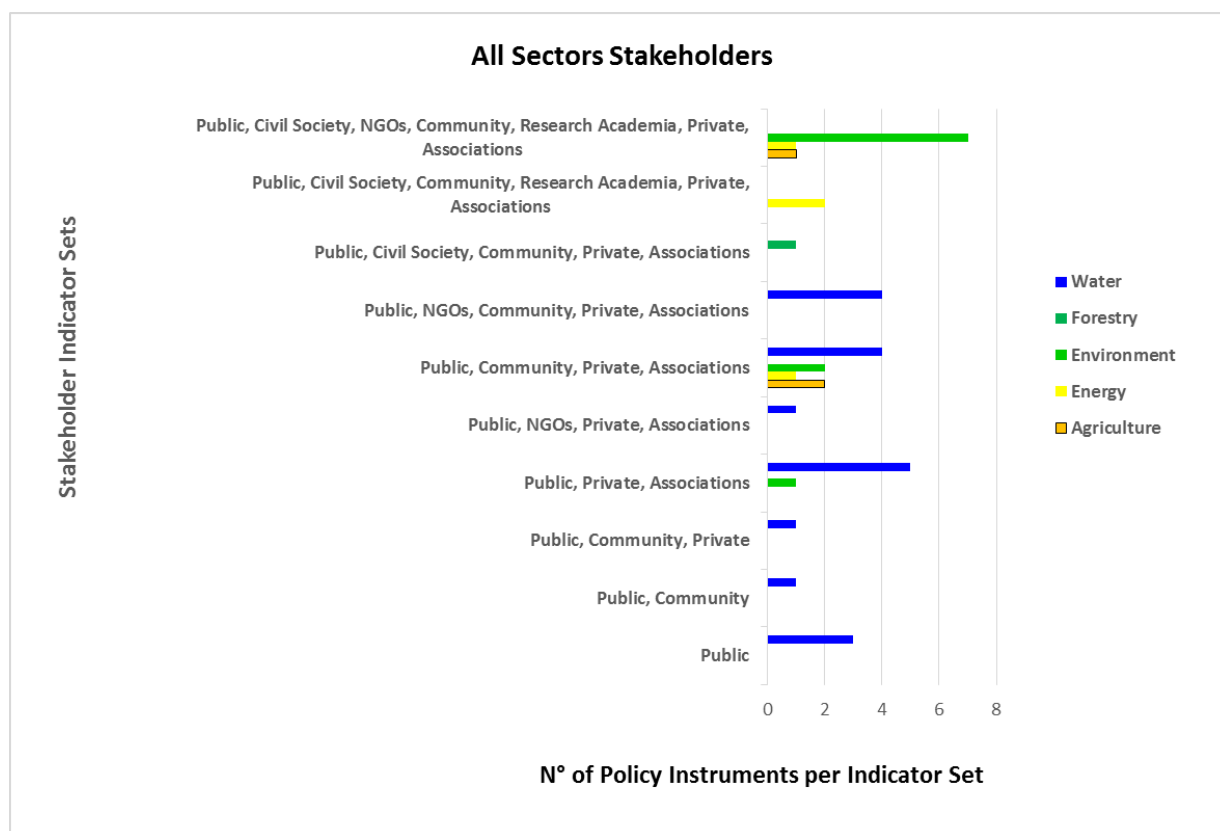


Compared to other policy sectors in the list for Cyprus, the largest representation of the indicator Participation is from the Environment Sector with 9 out of 10 policy instruments, followed by Energy with 3 out of 4 and then much less with 8 out of 19 from the Water Sector. While we need to examine more Energy instruments to see if Participation is a trend, it is clear that in our policy list the Environment Sector addresses Participation more than the Water Sector.

4.6 Stakeholders

This section presents the occurrence and distribution of Stakeholders across policy sectors and in policy instruments in the Cyprus list. Figure 62 shows that Stakeholder Indicator sets are not large, compared to the previous indicator analysis with Key Actions in section 4.5. The policy sector with the highest number of stakeholder indicators is the Environment Policy Sector with 7 out of 10 policy instruments and 7 Stakeholder Indicators per set. All Energy and Agriculture Sector policy instruments have stakeholder indicator sets ≥ 4 indicators. The policy sector with the lowest scoring and smallest stakeholder indicator sets is Water, with 10 out of 19 instruments ≤ 3 indicators per set.

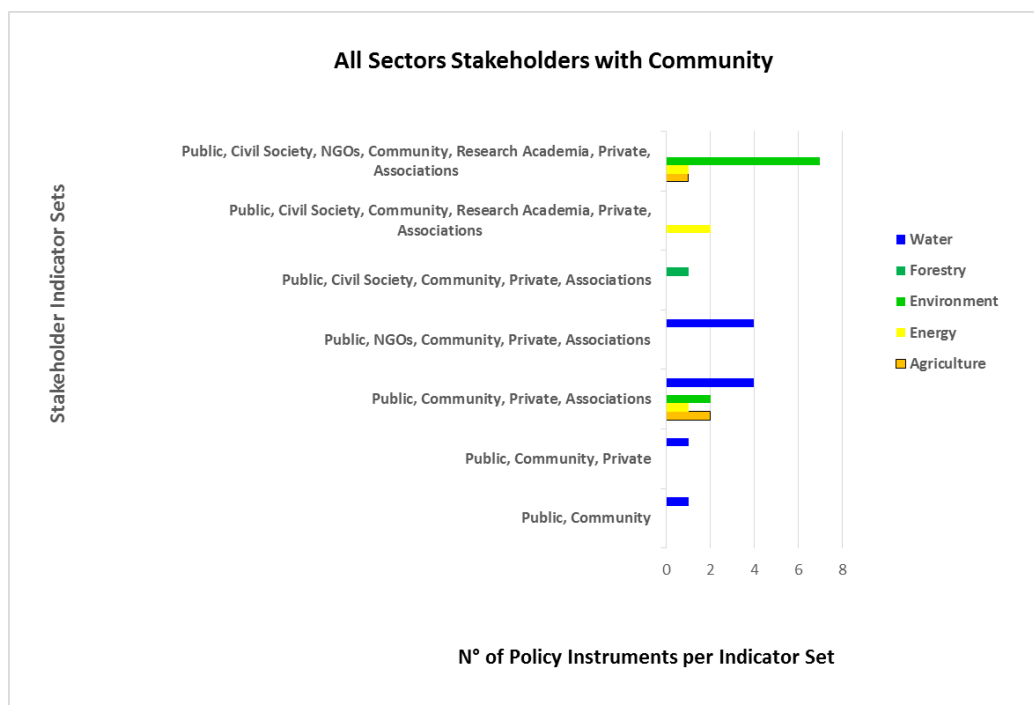
Figure 62 Cyprus All Sectors Stakeholders



4.6.1 Sectors with Specific Stakeholder Comparisons

This section presents the occurrence and distribution of specific Stakeholder indicators, beginning with Community in Figure 63.

Figure 63 Cyprus All Sectors Stakeholders with Community



Community appears to be an important indicator and is present in 27 out of 37 policy instruments. It is an indicator in all 4 Energy Sector policy instruments, 7 out of 10 Environment policy instruments and 10 out of 19 Water instruments. Figure 64 below presents the indicator Research and Academia, which appears to be less a priority indicator than Community, being present in only 11 policy instruments. Environment has the highest number of policy instruments with Research Academia in 7 out of 10, followed by 3 out of 4 instruments from the Energy Sector and 1 from Agriculture.

Figure 64 Cyprus All Sectors Stakeholders with Research and Academia

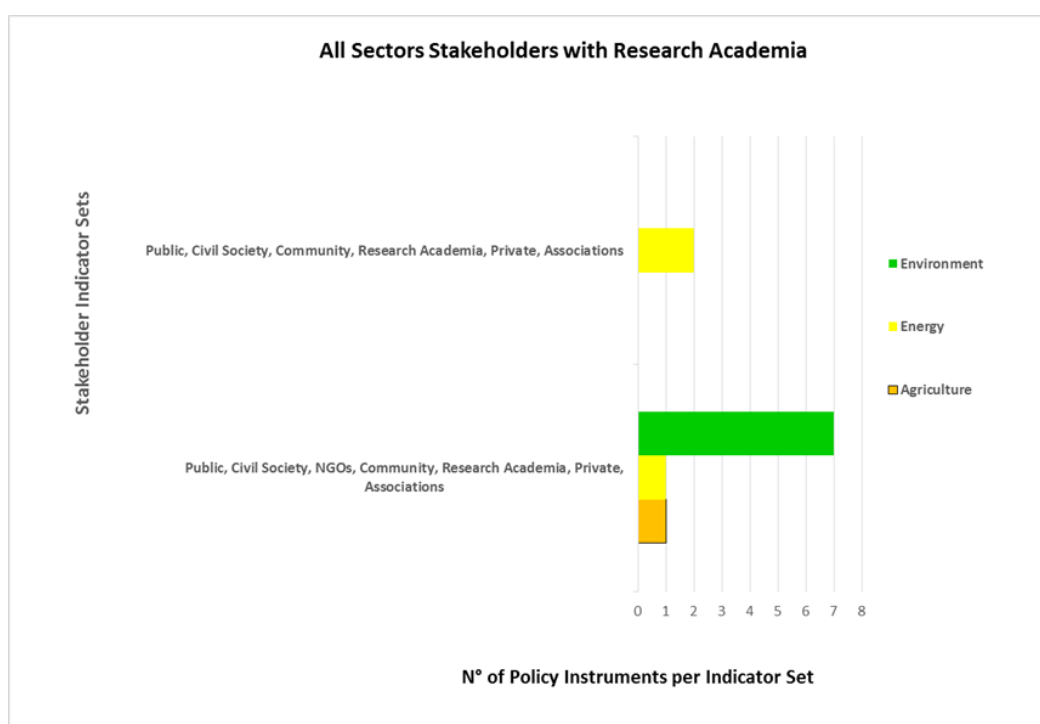
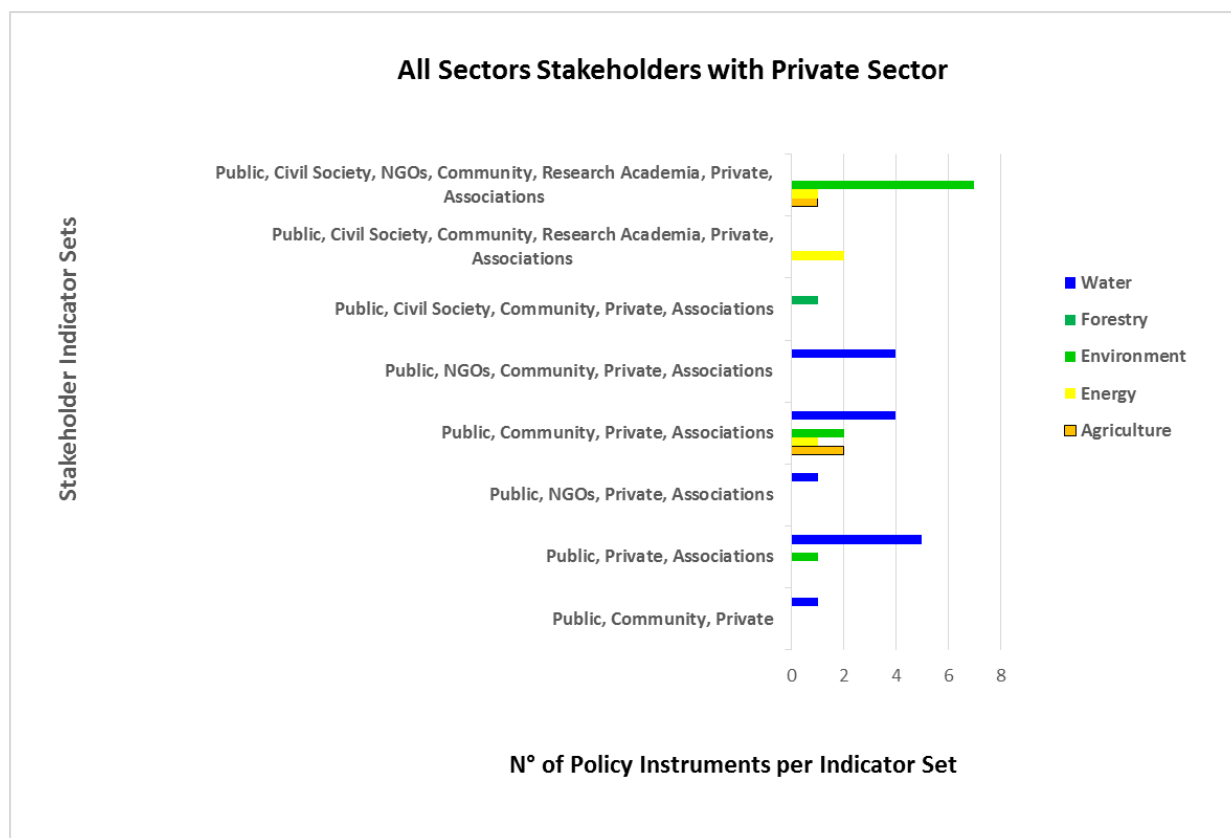


Figure 65 shows the occurrence and distribution of the indicator Private Sector in the policy sectors and instruments. Private Sector is well-addressed by all policy sectors in 32 out of 37 policy instruments. It is an indicator in 15 out of 19 Water Sector policy instruments, followed by all of the Environment Sector (10), all of the Energy Sector instruments (4) and all Agriculture (3). Of the three specific Stakeholder Indicators analysed in this section, Private Sector demonstrates the most importance in the policy instruments of the Cyprus policy list.

Figure 65 Cyprus All Sectors Stakeholders with Private Sector



5. Tunisia

5.1 Policies Sectors and Description of Policies

This chapter presents the results of data obtained from Tunisia, the only non-EU Member State partner in the BeWater project. The main difference in the data for Tunisia compared to the other CSRBS will be a lack of descriptive indicators referring to links to EU Policy and the Water Framework Directive. However the descriptive indicator of RBM remains valid and is included in the analysis.

Figure 66 Tunisia List of Sectors and Policies Analysed

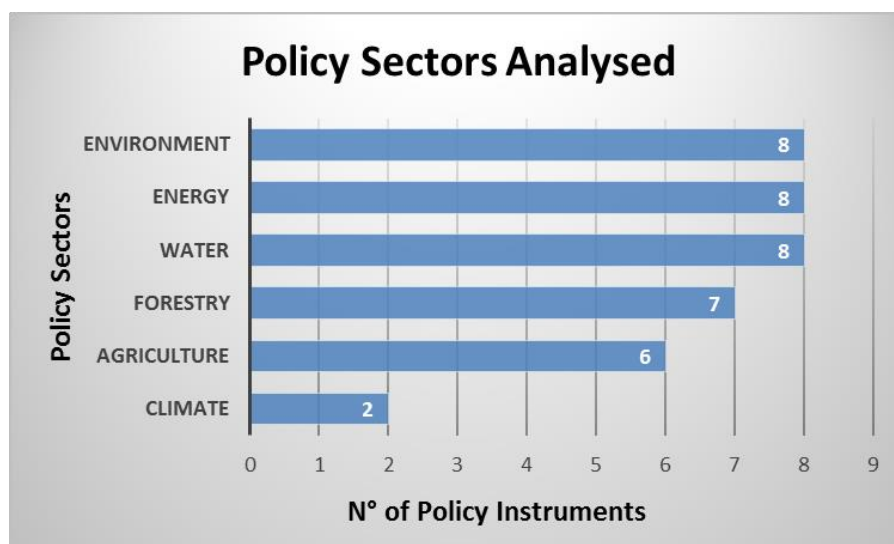
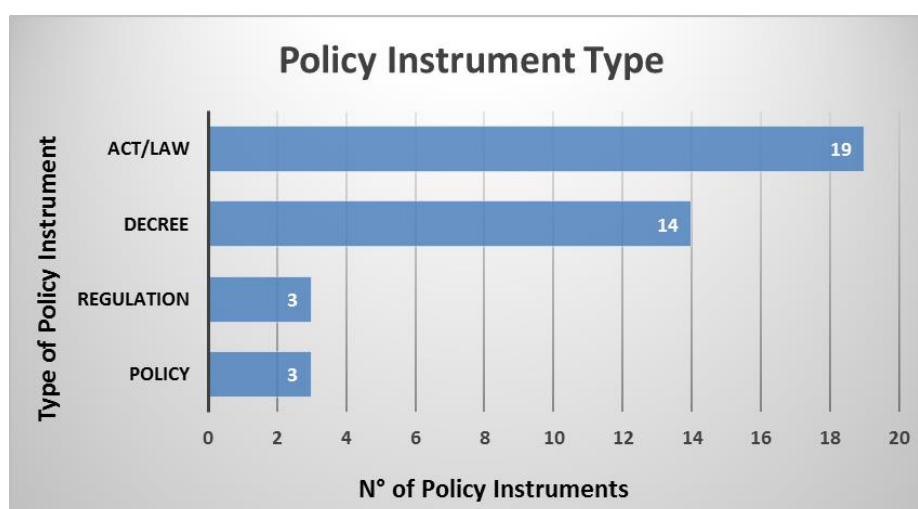


Figure 66 presents the list of policy instruments selected for analysis from Tunisia, with an almost equal distribution across 5 policy sectors (from 6 to 8 instruments per sector, except 2 for Climate) and a total of 39 policy instruments; 8 each for Environment, Energy and Water, 7 for Forestry and 6 for Agriculture. Figure 67 presents the breakdown of the Tunisia list into Types of Policy Instruments.

Figure 67 Tunisia Types of Policy Instruments



In the list of policy instruments for Tunisia the majority, 19 out of 39, are Acts/Laws followed closely by 14 Decrees and 3 each for Regulations and Policies. Unlike the other 3 CSRB Partners, with Tunisia not being an EU Member-state, there is little linkage directly between Tunisia and EU Policy.

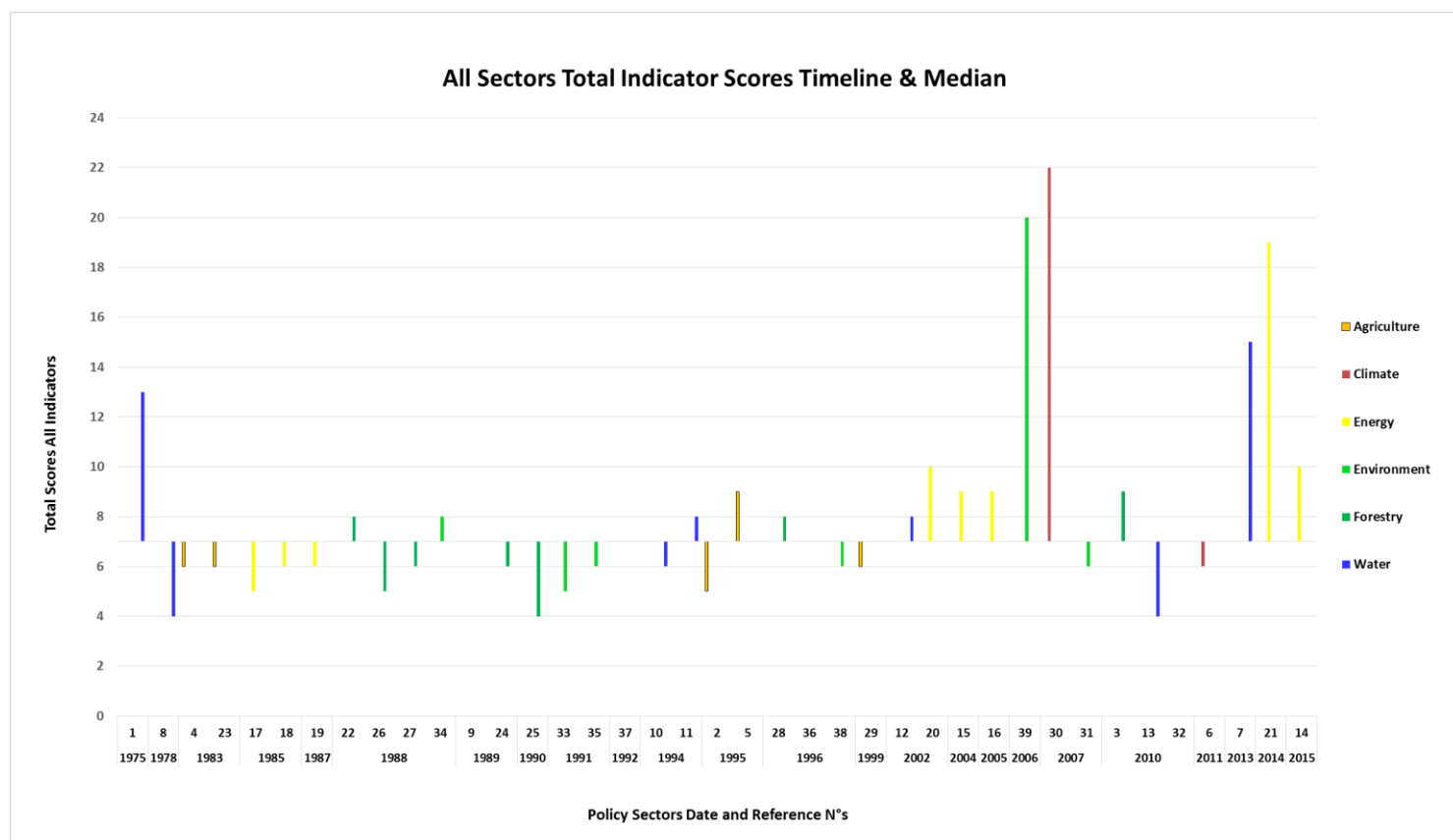
5.2 Policy Instruments and Total Indicator Scores

Figure 68 below presents the occurrence and distribution of total indicator scores of policy instruments in the Tunisia list.

Figure 68 Tunisia All Sectors Total Indicator Scores

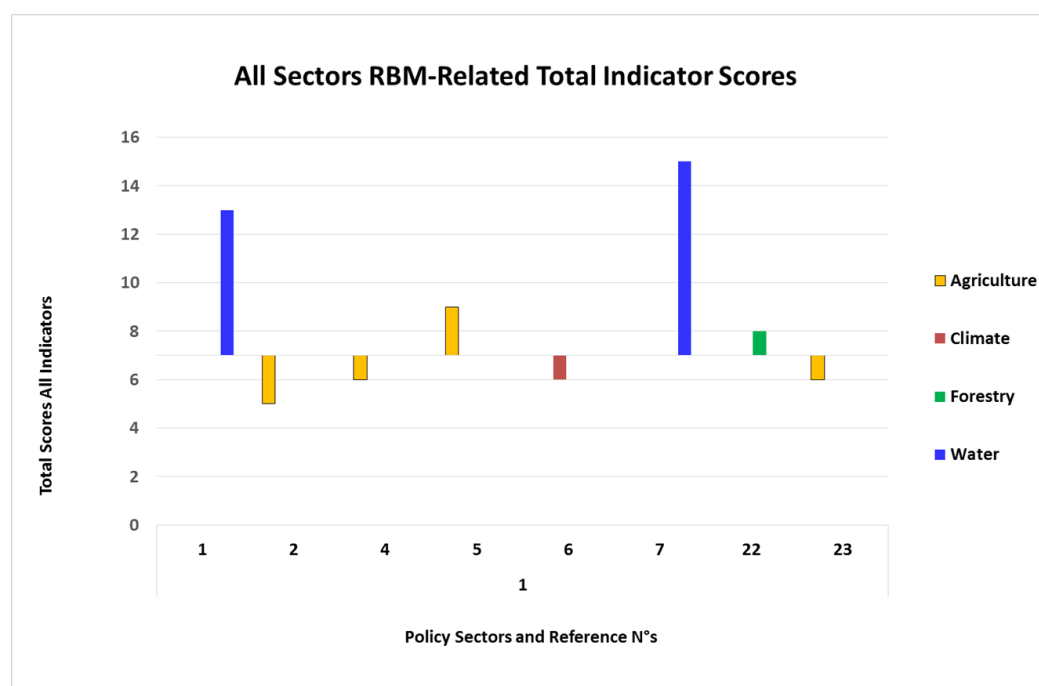


Figure 68 shows that Total Indicator scores range from 4 to 22, with the statistical median of 7 for delineating high Total Indicator scores. The highest score of 22 total indicators is for a Climate Sector Policy instrument, which is the 2007 National Strategy on Adaptation of Agriculture to Ecosystems and Climate Change. The Energy Sector has the most high-scoring instruments in 5 out of 7 instruments, followed by the sectors of Water with 4 out of 8 and Forestry with 3 out of 7 policy instruments. The Environment Sector has only 2 out of 8 high-scoring policy instruments. Figure 69 presents the timeline distribution of the policy instruments, which shows that in our list of policy instruments, the highest indicator scores are found in Environment, Climate, Energy and Water sector instruments post-2006. There is a gap in the formation of our Energy Policy Sector instruments between 1987 and 2002 and for the Agriculture Sector between 1983 and the 1995.



While there is no linkage between Tunisian and EU Policy, the descriptive indicator of RBM is relevant, with the results presented in Figure 77. Four policy sectors are implicated in RBM; Agriculture with 4 policy instruments, followed Water with 2 and Climate and Forestry with one each. The 2 Water Sector policy instruments have high indicator scores, and are the original Tunisia Water Act of 1975 and the Amended Tunisia Water Act of 2013.

Figure 70 Tunisia All Sectors Total Scores with RBM-Related Policy Instruments



5.3 Crosscutting Policies and Sectors

5.3.1 Sector and Crosscutting Indicator Comparisons

This section presents the occurrence and distribution of crosscutting policy indicators across policy sectors and within policy instruments for Tunisia, with the overall distribution in Figure 71.

Figure 71 Tunisia All Sectors Crosscutting Policies

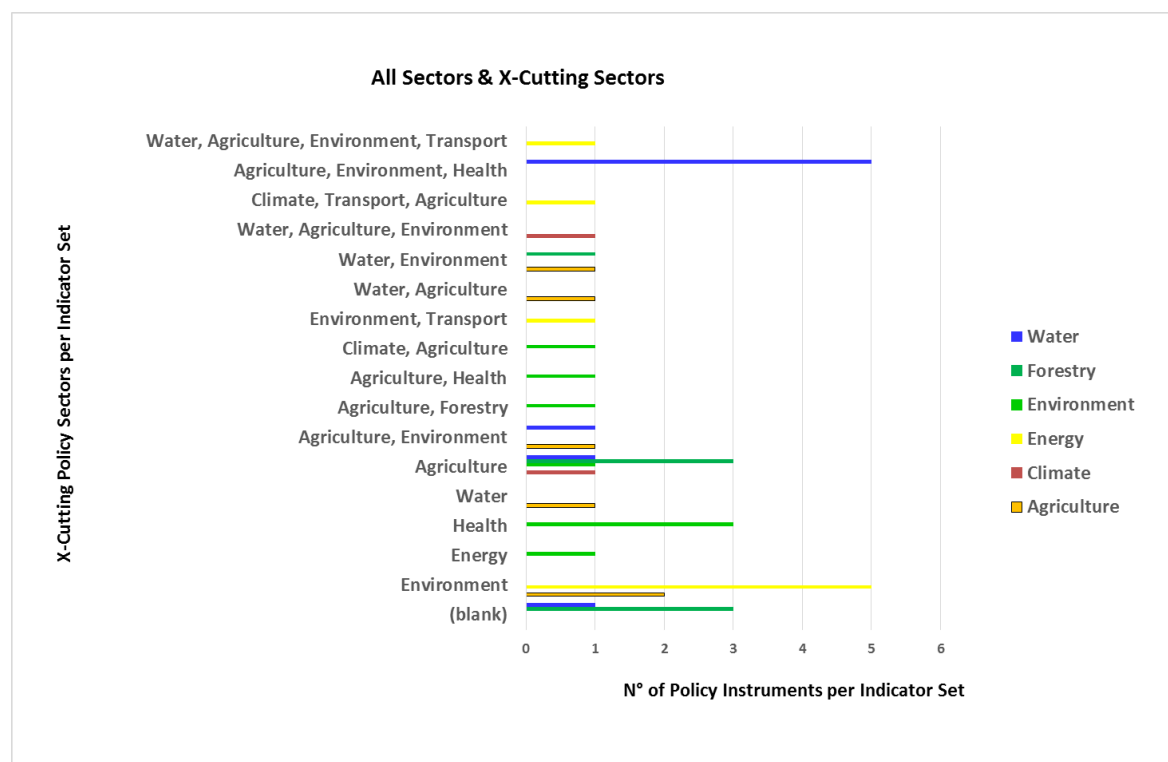
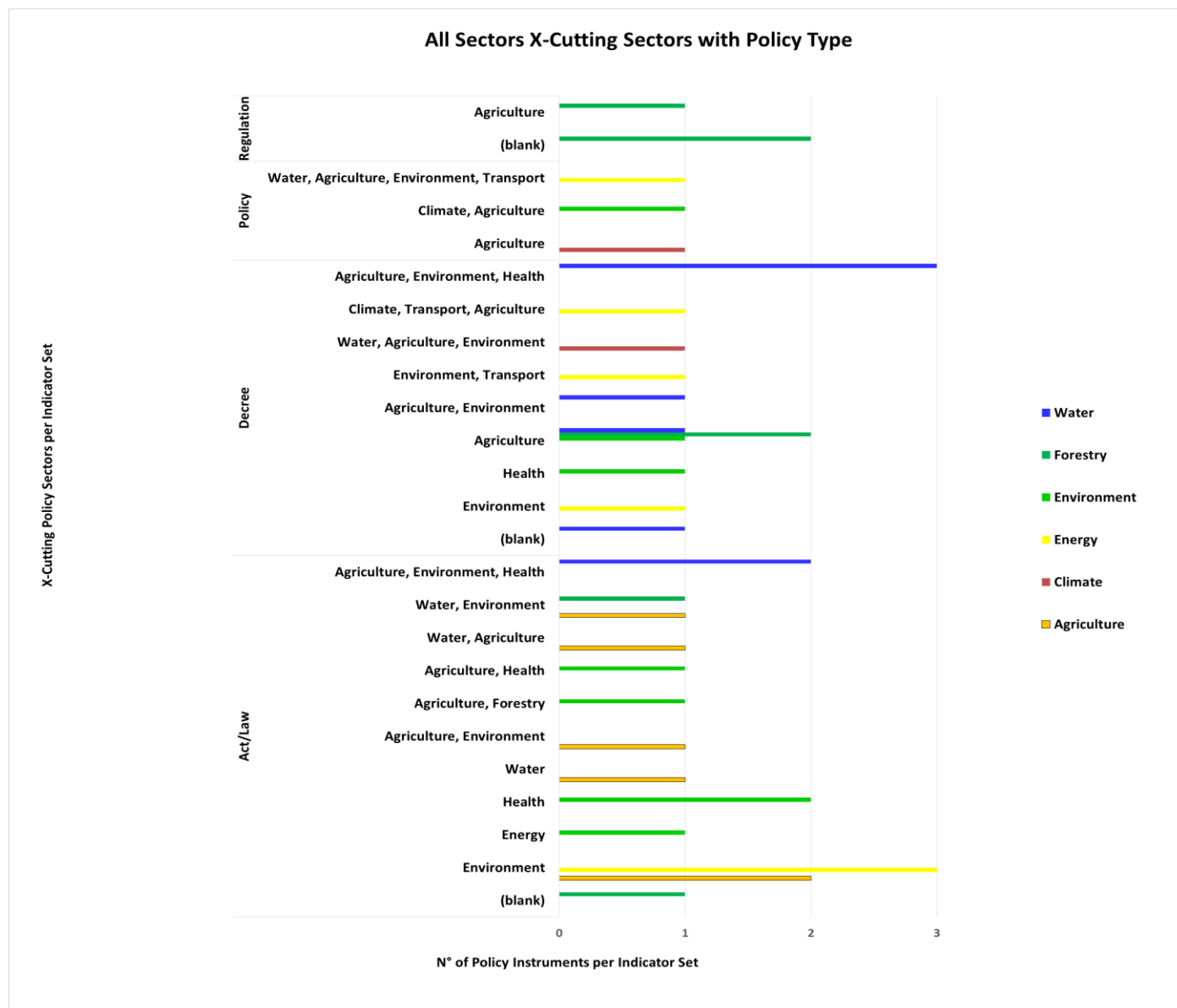


Figure 71 shows that compared to the policy lists from the other CSRB Partner Countries, the list of crosscutting sector indicators have comparatively smaller indicator sets ranging from no crosscutting indicators to a maximum of four. 14 out of 39 policy instruments have ≤ 1 crosscutting policies addressed in their content, most notably in the policy sectors of Energy, Forestry and Environment, and the largest crosscutting indicators sets are from Water and Energy Sector policy instruments.

Figure 72 presents the Types of Policy instruments and the distribution of crosscutting policy indicators. In the case of Tunisia, unlike the other CSRB Partner countries, the highest concentration of larger indicator sets with ≥ 3 indicators are found in the Decree policy type, with only one each for Act/Law and a Policy.

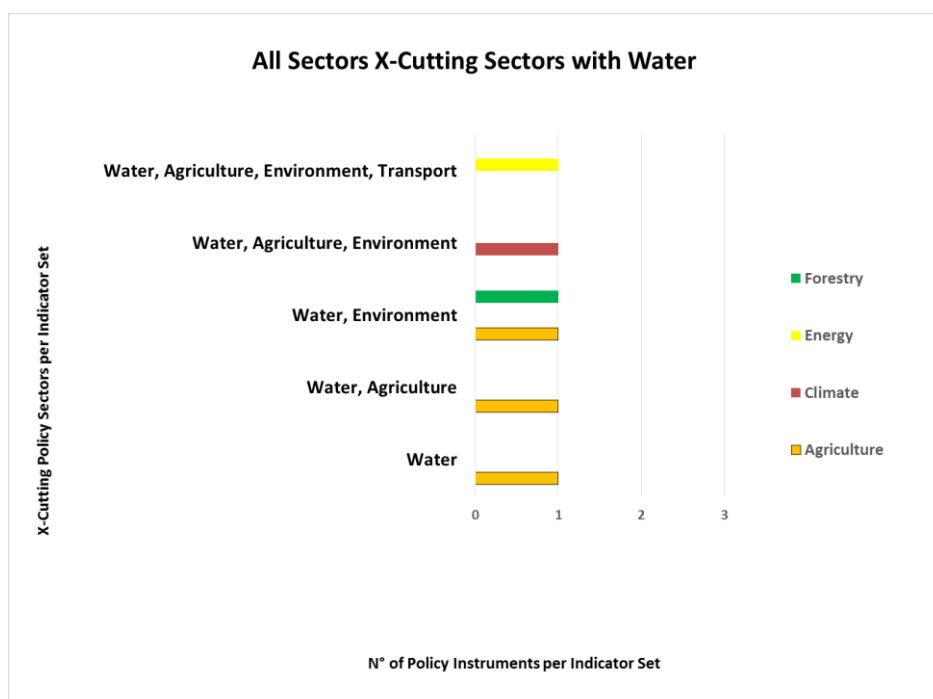
Figure 72 Tunisia All Sectors X-Cutting with Policy Type



5.3.2 Sector and Specific Crosscutting Indicator Comparisons

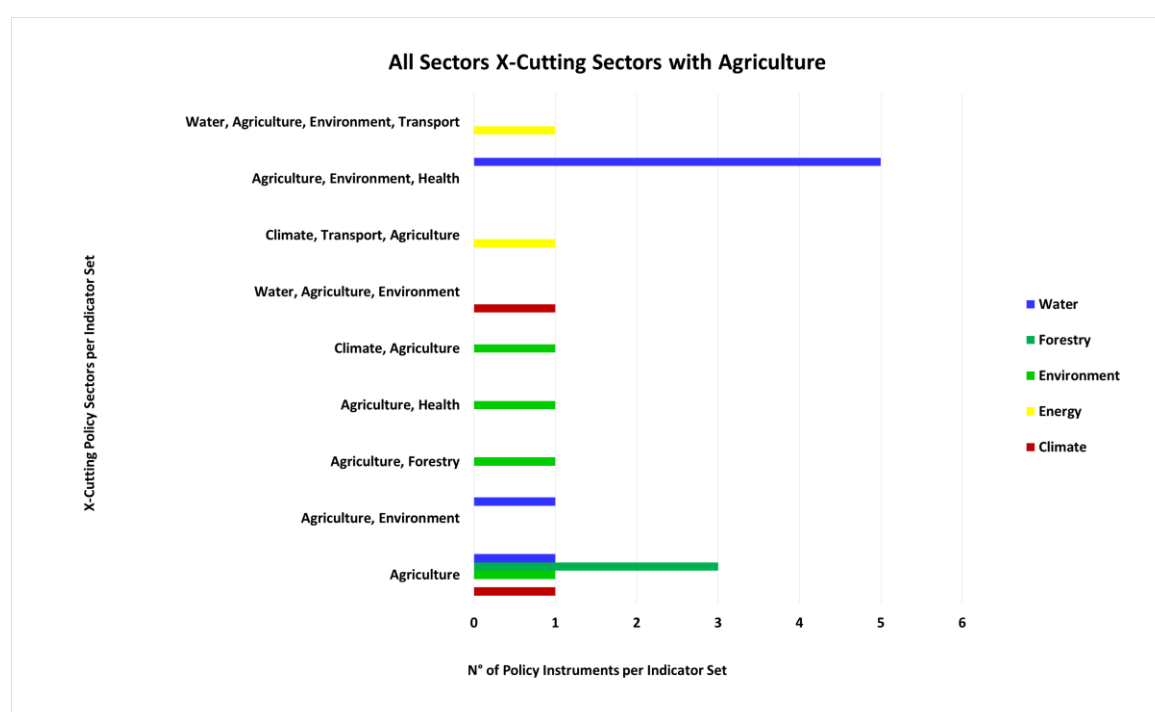
This section presents the distribution of the specific crosscutting indicators of Climate, Energy and Water. The data shows that only two policy instruments, one from Environment and one from Energy, address Climate and only one policy instrument includes Environment as a crosscutting indicator; so there is little to present in a graph or table. However, Figure 73 shows that Water, as an indicator, is more present in our Tunisian list of policy instruments than Climate or Energy.

Figure 73 Tunisia All Sectors Crosscutting with Water



While it is more present than Climate or Energy, Water appears as a crosscutting sector indicator in only 6 out of 39 policy instruments; 3 out of 8 for Agriculture and one instrument each for Forestry, Energy and Climate Sectors. If we look for the presence of other crosscutting indicators, the database indicates a stronger presence of Agriculture as a crosscutting policy indicator in other policy sectors and this is presented in Figure 74.

Figure 74 Tunisia All Sectors Crosscutting with Agriculture



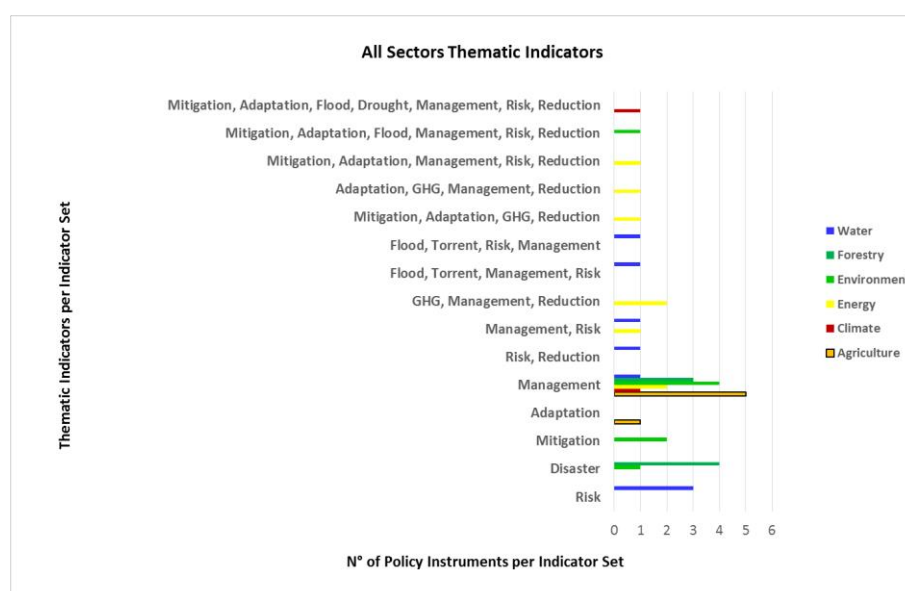
The indicator Agriculture is present in 18 out of 39 policy instruments, most notably with the Water Sector in 7 out of 8 policy instruments. Agriculture is also an indicator in 4 out of 8 Environment policy instruments, both Climate policy instruments and 2 of 8 Energy instruments.

5.4 Thematic Indicators

5.4.1 Sector and Thematic Indicator Comparisons

This section presents the occurrence and distribution of Thematic Indicators across all policy sectors and within policy instruments, beginning with all sectors presented in Figure 75. The largest thematic indicator sets of ≥ 4 indicators are present in the Energy, Environment, Water and Climate Sector policy instruments. Indicator sets with only one indicator are most prevalent, corresponding to either Mitigation, Management or Disaster. All 7 Forestry and all 6 Agriculture policy instruments address only one Thematic Indicator. There is clear cluster of 16 policy instruments with Management as the only Thematic Indicator.

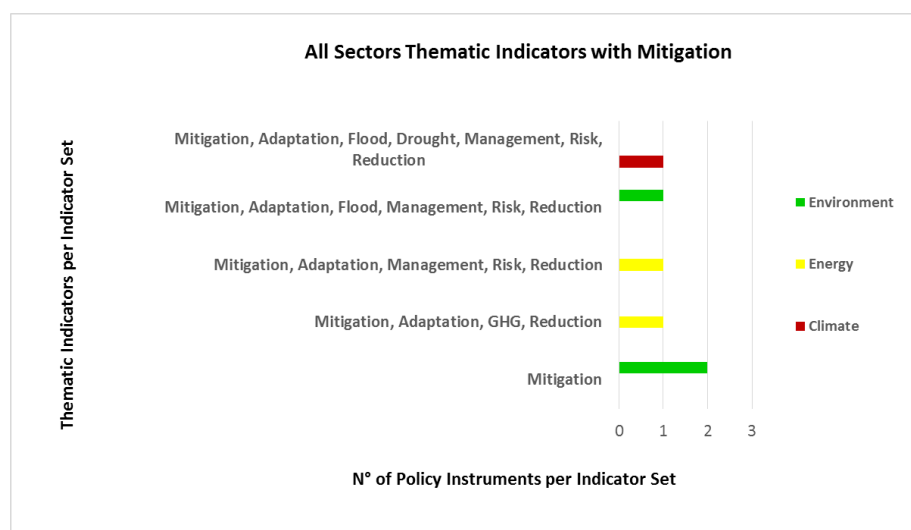
Figure 75 Tunisia All Sectors with Thematic Indicator



5.4.2 Sector and Specific Thematic Indicator Comparisons

This section presents the distribution of specific Thematic Indicators among the policy sectors and within policy instruments, beginning with Mitigation in Figure 76.

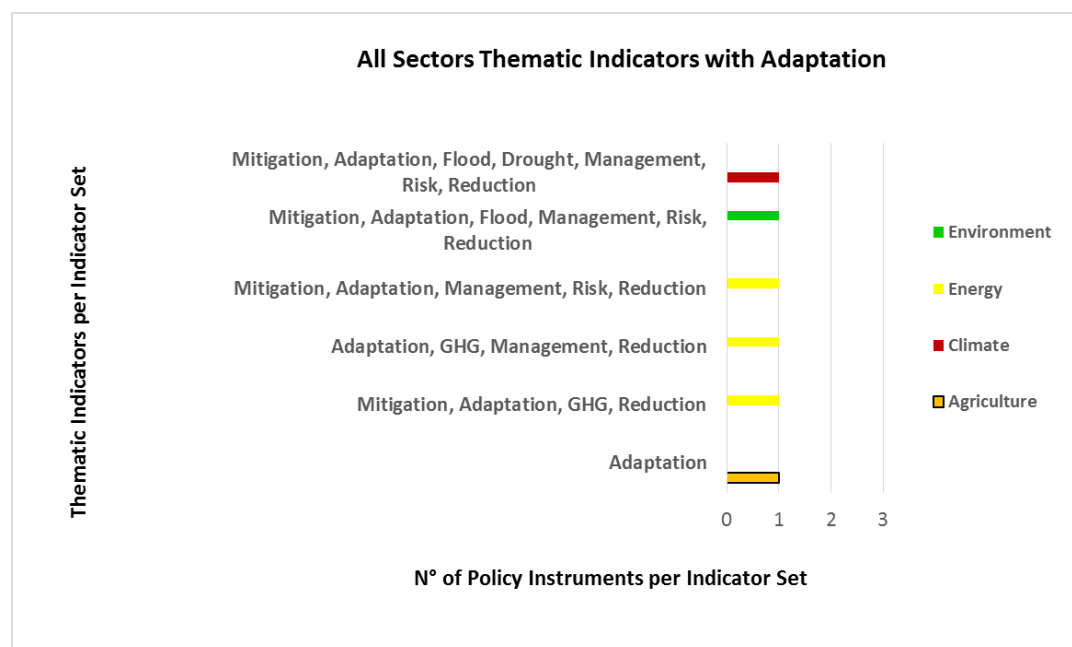
Figure 76 Tunisia All Sectors Thematic Indicators with Mitigation



Mitigation is a very limited indicator, present in only 6 out of 39 policy instruments; 3 for Environment, 2 for Energy and 1 for Climate. In Figure 77 we look at the distribution of Adaptation in the policy sectors. Like

Mitigation, Adaptation is not a main Thematic indicator and is only addressed in 6 policy instruments, with the majority appearing in 3 out of 8 for the Energy sector.

Figure 77 Tunisia All Sectors Thematic Indicators with Adaptation

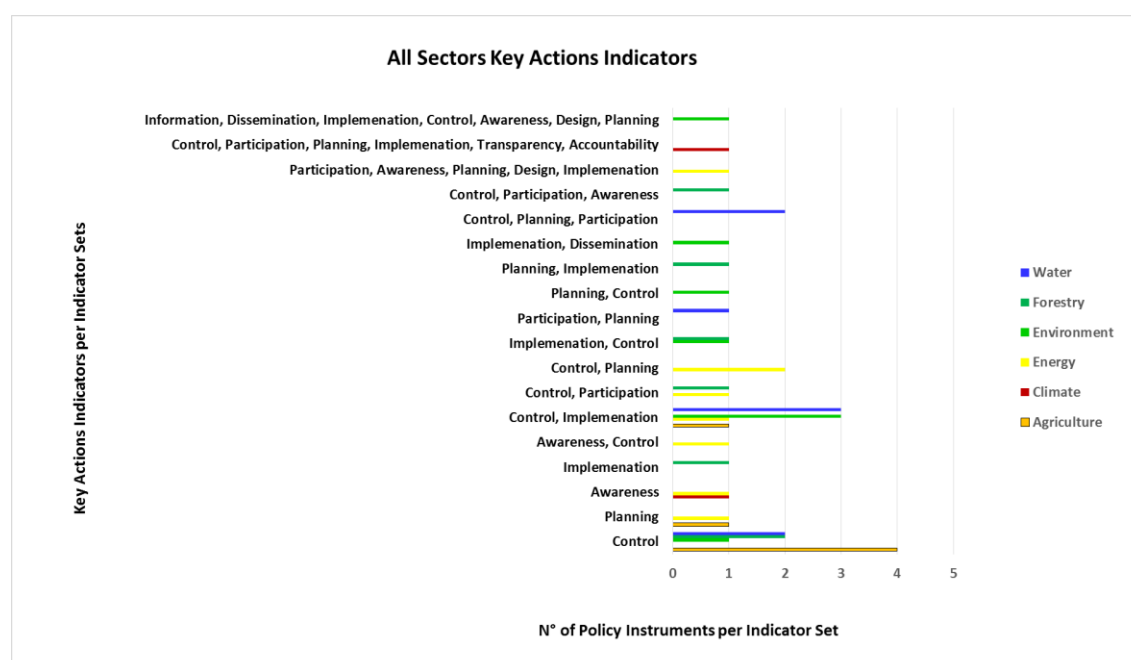


The presence of the Thematic indicators Mitigation and Adaptation in policy instruments, usually associated with climate-friendly policy, is very limited for Tunisia, with occurrence of these indicators highest in the Energy Sector policy instruments of our Tunisia list.

5.5 Key Action Indicators

This section presents the Key Action Indicators in our list of Tunisian policy instruments, beginning with the occurrence and distribution of these indicators among policy sectors in Figure 78. We can see that the largest indicator sets ≥ 5 indicators are found in the Environment, Energy and Climate Policy Sectors. For the smallest indicator sets with ≤ 2 indicators, we find the policy sectors Agriculture with all 6 instruments present followed by 7 out of 8 Energy instruments and 6 out of 8 from the Water Sector.

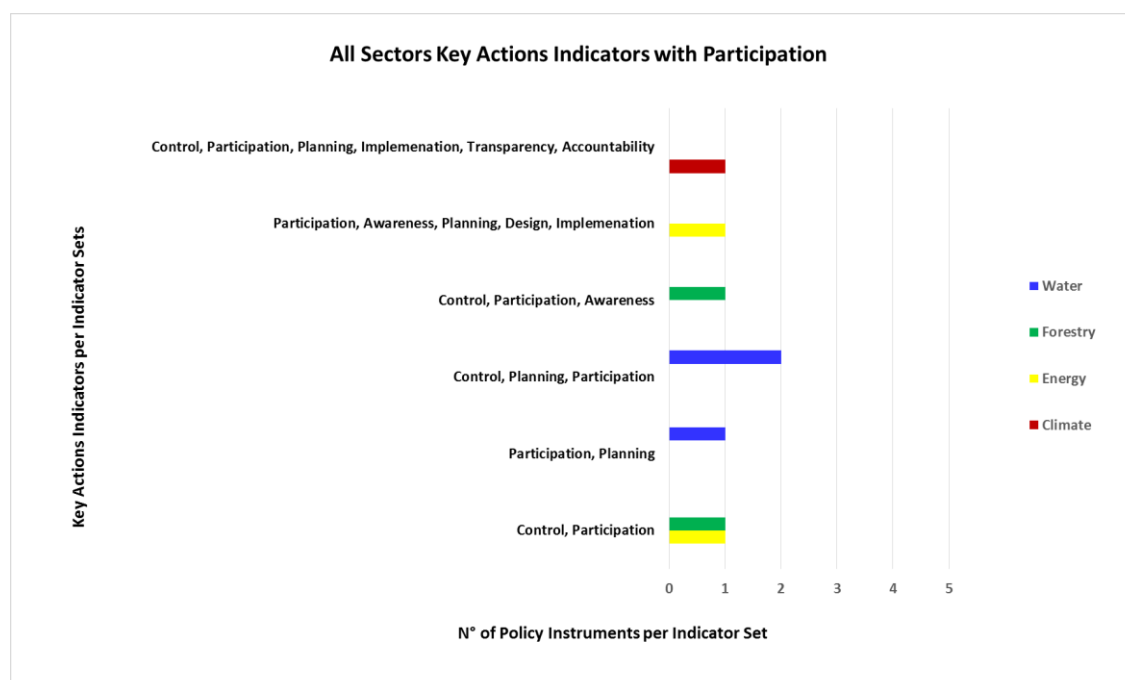
Figure 78 Tunisia All Sectors Key Action Indicators



5.5.1 Sectors with Specific Key Action Indicator Comparisons

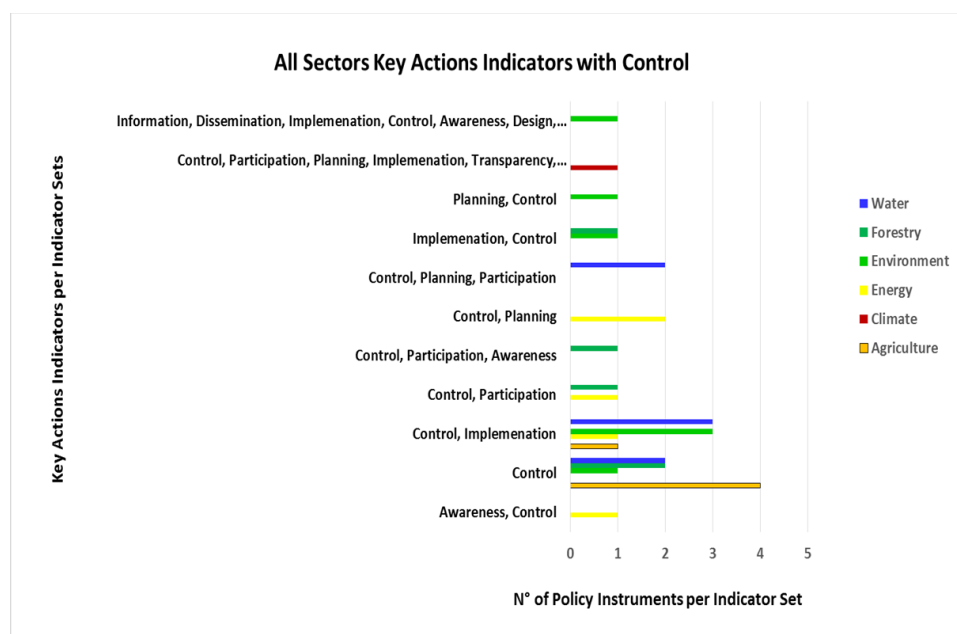
This section presents the distribution of Specific Key Action Indicators among the policy sectors, beginning with Participation in Figure 79.

Figure 79 Tunisia All Sectors Key Actions with Participation



Participation has a limited presence as a Key Action indicator, found in only in 8 out of 39 policy instruments. Figure 78 above suggests a strong presence of the indicator Control, and therefore we analyse its occurrence and distribution in Figure 80.

Figure 80 Tunisia All Sectors Key Actions with Control

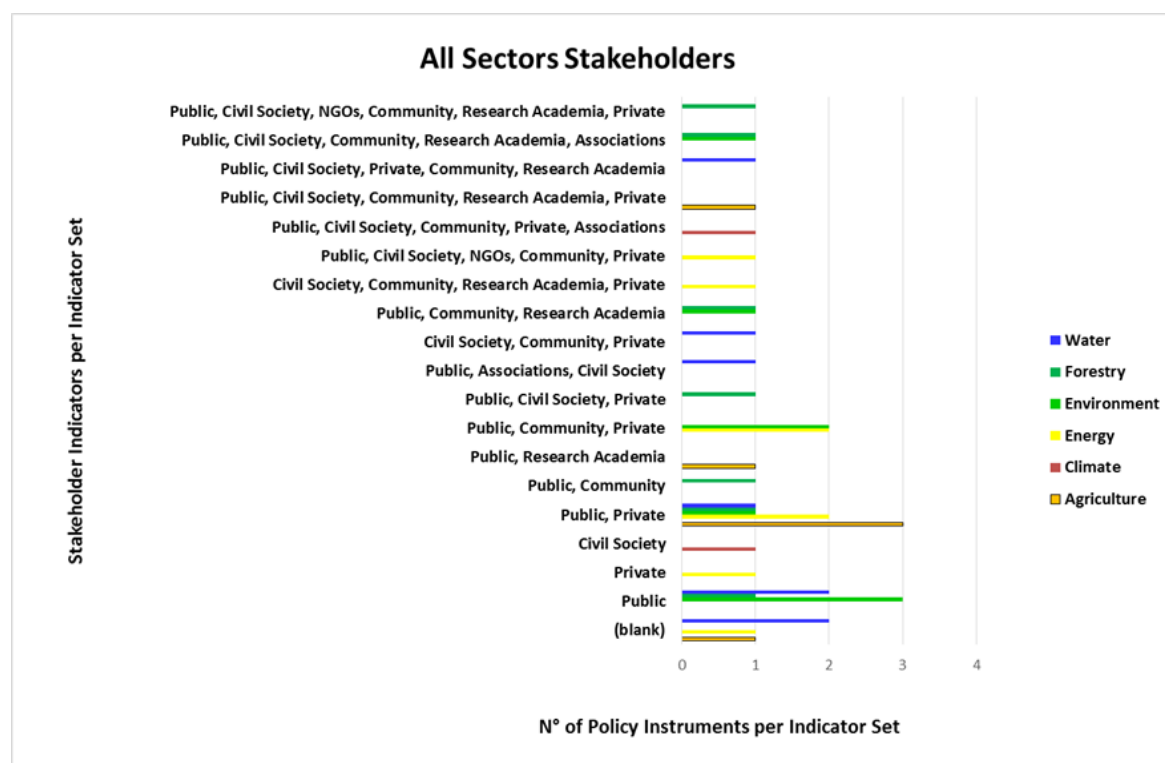


We find the Key Action indicator Control much more present than the indicator Participation in 30 out of 39 policy instruments. The Environment, Forestry and Water Sectors all address the Key Action of Control in 7 out of 8 policy instruments, followed by Environment and Agriculture with 5 instruments and 1 policy instrument from the Climate Sector.

5.6 Stakeholders

In this section we review the occurrence and distribution of Stakeholders indicators, beginning with the distribution across policy sectors in Figure 81.

Figure 81 Tunisia All Sectors Stakeholder Indicators



The majority of policy sectors address stakeholder indicator sets with ≥ 3 stakeholder indicators. The lowest scoring indicator sets occur within the Water and Environment Sector policy instruments, with only one or no stakeholder indicators. The policy instruments with the highest scoring stakeholder sets are two Forestry Sector policy instruments that contain up to 6 stakeholders in their indicator sets.

5.6.1 Sectors with Specific Stakeholder Comparisons

This section presents the occurrence and distribution of specific Stakeholder indicators across the policy sectors and within policy instruments. We begin with the indicator Community in Figure 82, which is present across all policy sectors and in 16 out of 39 policy instruments. This indicator is identified in 4 out of 7 Forestry instruments and in 4 out of 8 Energy and Environment policy instruments.

Figure 82 Tunisia All Sectors Stakeholders with Community



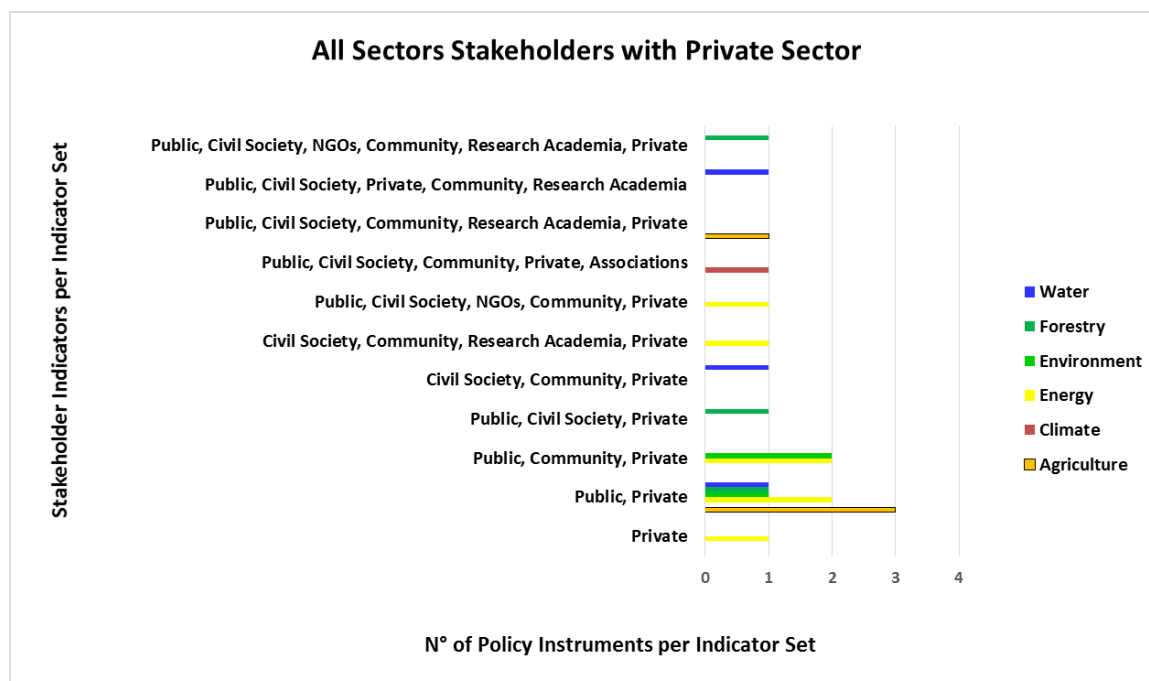
Figure 83 Tunisia All Sectors Stakeholders with Research Academia



The stakeholder indicator Research and Academia, shown in Figure 83, is present in 9 out of 39 policy instruments showing it as a low indicator priority compared to the indicator Community. It is identified in the Forestry Sector with 3 out of 7 policy instruments and 2 out of 8 instruments each for Environment and Agriculture Sectors. Water and Energy address Research and Academia in only one policy instrument, with the Climate sector being absent.

Finally, in Figure 84, we look at the occurrence and distribution of Private Sector as a stakeholder indicator in the policy sectors and we can see clearly that it is slightly more of a priority stakeholder than Community. It is present in 20 out of 39 policy instruments, most notably in the Energy sector with 7 out of 8 policy instruments, followed by 4 out of 6 for Agriculture and 3 out of 8 for Environment and Water.

Figure 84 Tunisia All Sectors Stakeholders with Private Sector



6. Comparative Analyses: Examples at inter-Country Level

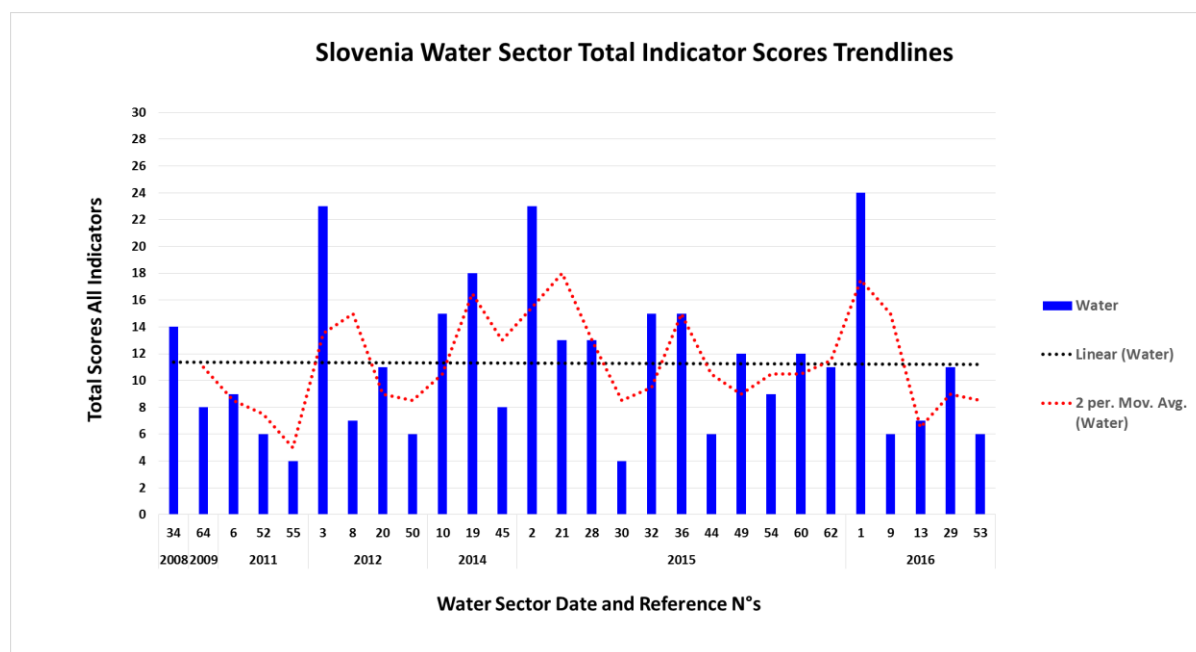
6.1 Methodology

In this chapter, we use the Policy Analysis Tool to perform brief comparative analyses between the 4 countries' results presented in the previous chapters. There has been a range of numbers of policy instruments and sectors contributed by each country study, but the most consistently large policy list for all countries is the Water sector. Consequently, that is the sector analysed in this comparison. It is beyond the scope of this chapter to perform comparative analyses between specific policy instruments and between countries, but the comparing sectors can be done with a trend analysis of the Total Indicator scores over time. Trendlines are applied over timelines on our data graphs of the Water sector in each country for this comparison. Two trendlines are applied; one which depicts a moving average that indicates the mean fluctuations of data over time and 2 data entries, and one a direct trendline that indicates the overall trend of the Total Indicator scores over the time duration of the analysis.

6.1.1 Slovenia Water Sector Trend

Figure 85 presents the trendline for the Water sector policy instruments from our Slovenian study.

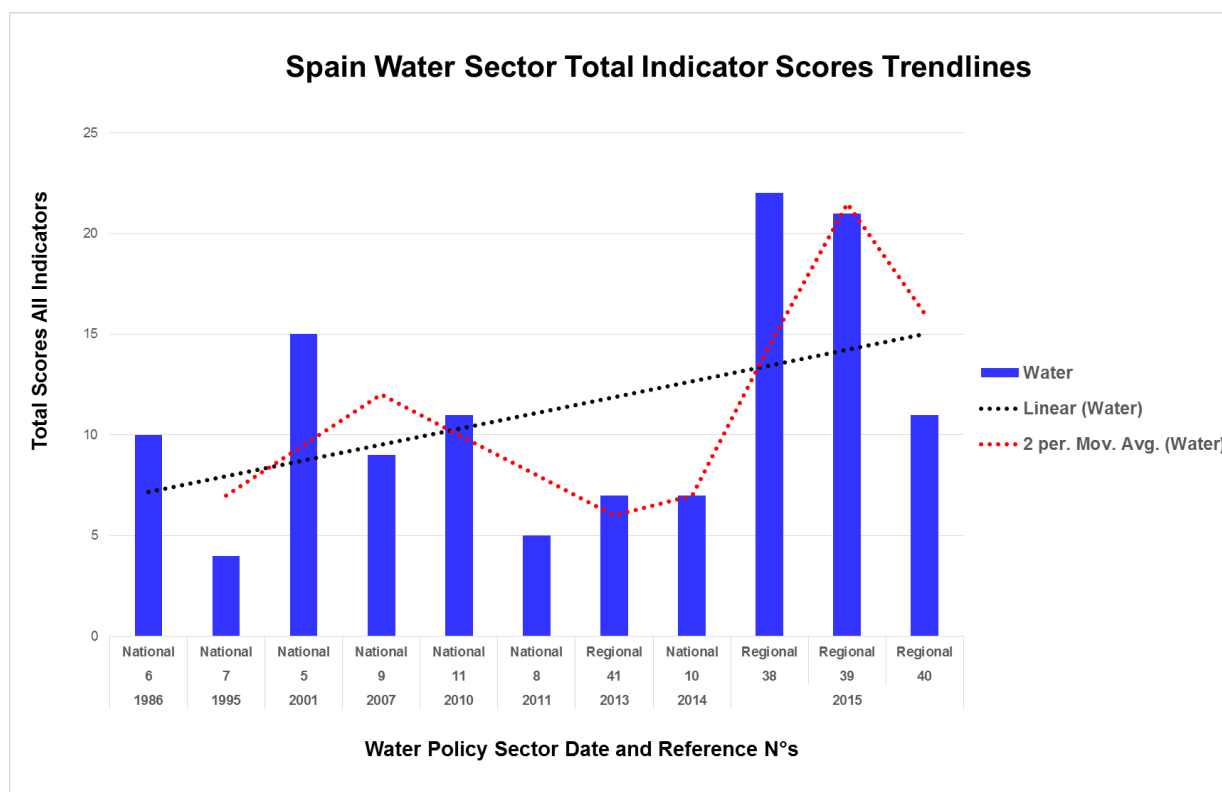
Figure 85 Slovenia Water Sector Total Indicators Trendlines



The period covered by the policy instruments in our list and for the Slovenia trendline is from 2008 up to 2016 and incorporates 28 entries. The moving trendline over 2 periods shows the most notable peaks of high indicator scores occurring in 2012, 2015 and 2016, with 2015 being the most active period for policy activity. In the overall trend, these peaks lift the overall mean scores. The result is that over an 8-year period of policy instruments surveyed, the overall trend remains constant at a mean Total Indicator score of 13.

6.1.2 Spain Water Sector Trend

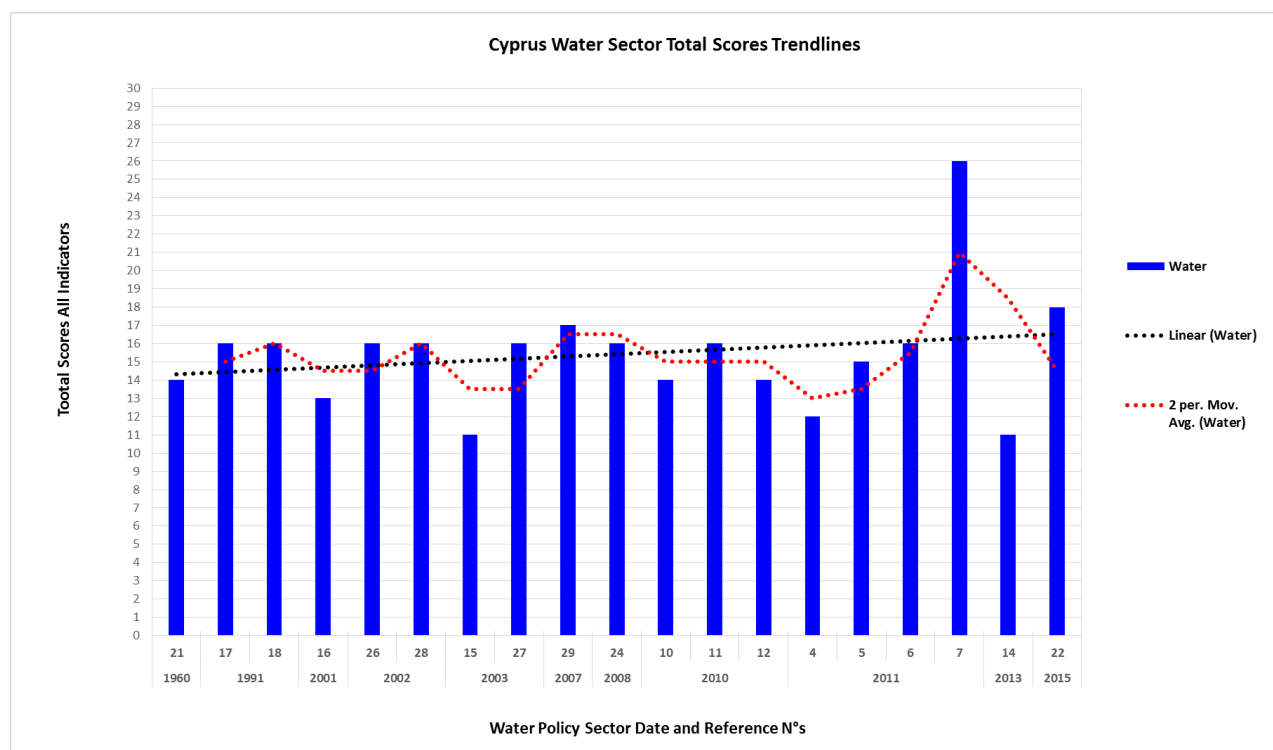
Figure 86 presents the trendlines for the Water sector policy instruments in our policy list for Spain. The period covered by the Water Sector policy instruments in our study and for the Spain trendline is from 1986 to 2015, incorporating 11 entries. The moving trendline over 2 periods shows 2 main peaks occurring in 2001 and 2015, with the lowest scores occurring in 1995 and 2011. Over a 29-year period of policy instruments surveyed, the overall trend for Spain is clearly showing an increase from a mean Total Indicator score of 7 to a more than double mean score of 15. The descriptive indicator of Policy Scale on the x-axis illustrates a role of recent Regional Policy instruments on the upward trend, showing the influence of the regional Catalan policy activity.



6.1.3 Cyprus Water Sector Trend

Figure 88 presents the Total Indicators score trendlines for the Water sector policy instruments from our Cyprus study. The period covered by the policy instruments for the Cyprus trendlines is from 1960 to 2015 and incorporates 19 entries. The moving trendline over 2 periods shows one main peak in 2011, with the lowest occurring in 2003 and 2013. Over a 45-year period of policy instruments surveyed, the overall trend for Cyprus is a slight increase of from a mean Total Indicator score of just over 14 to a slightly higher mean score of 16.5.

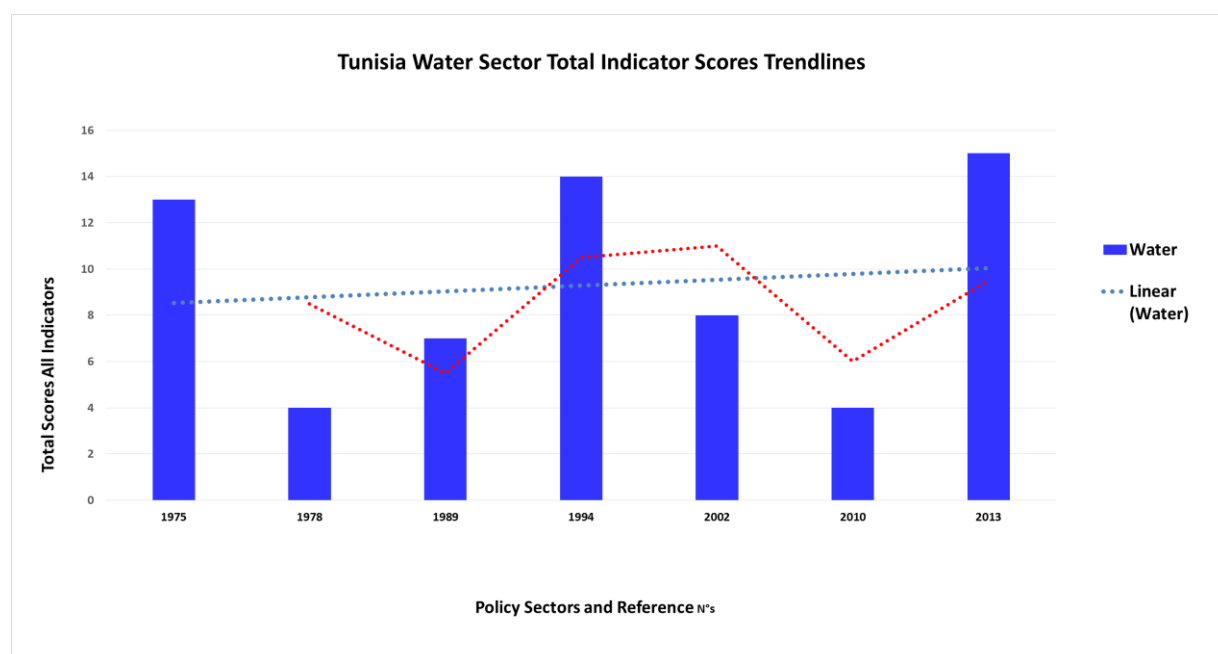
Figure 87 Cyprus Water Sector Total Indicator Scores Trendlines



6.1.4 Tunisia Water Sector Trend

Figure 87 presents the Total Indicators score trendlines for the Water sector policy instruments from our Tunisian study. The period covered by the policy instruments for the Tunisia trendlines is from 1975 to 2013 and incorporates 8 entries. The moving trendline over 2 periods shows 2 main peaks occurring in 1975 and in 2013, with the lowest occurring in 1978 and 2010. Over a 38-year period of policy instruments surveyed, the overall trend for Tunisia is showing a slight increase of from a mean Total Indicator score of 7 to a slightly higher mean score of 8.5.

Figure 88 Tunisia Water Sector Total Indicators Trendlines



7. Conclusions

Of the 4 countries' Water sectors studied, the 3 countries of Tunisia, Spain and Cyprus indicate an overall trend increase in their mean Total Indicator Scores. Slovenia presents a constant trend, although it also is applied over the shortest period of 8 years compared to 29 for Spain, 38 for Tunisia and 45 years for Cyprus. This difference in periods reflects to a certain degree the relative 'policy age' of the countries and certainly the historical wealth and depth of policy instruments that can be drawn upon for study. Cyprus and Tunisia both demonstrate a slight increase in mean Total Indicator scores but the most active increase is clearly for the country Spain with a very noticeable peak in 2015 due to policy instruments promulgated by the regional Catalan Administration.