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NOMAD Evaluation Report V1

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Document description:	The document describes the results from the 1st round of the NOMAD pilots, along with the performed activities, involved actors and the initial evaluation results gathered, in order to properly prepare the upcoming rounds.

Document History

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EXECUTIVE SUMMARY

WP7 of NOMAD project concerns the piloting and evaluation of the produced systems and services in real conditions, through three (3) pilot users, e.g. Critical Publics (*CP*), Hellenic Parliament (*HeP*) and Austrian Parliament (*AuP*). Each user has been carefully selected to work on different domains of interest (e.g. *Allergy*, *Energy*, *Open Data*), and in different languages / countries (e.g. *English*- UK, *Greek*- GR, *German* -AU), so that the produced platform to be thoroughly tested in various environments, dimensions and circumstances, ultimately aiming at revealing all the needs and the added-value of such a platform on the policy making lifecycle.

In this context, after the identification of the specifics for each pilot, that have been carefully presented on deliverable D7.2, it was decided to have not just one but three pilots rounds and workshops, in order to apply, monitor and evaluate the NOMAD platform functionalities and iteratively scrutinise and improve the end-user services, to be further aligned with their requests and desires. The figure below depicts the overall pilots' procedures workflow in a timeline, from the domain and policy introduction to the scenario application and monitoring through the workshop organisation and results evaluation. Finally, the tools adaptation and enhancement, based on the cumulative feedback is the last step of each round and the first one of the next one.

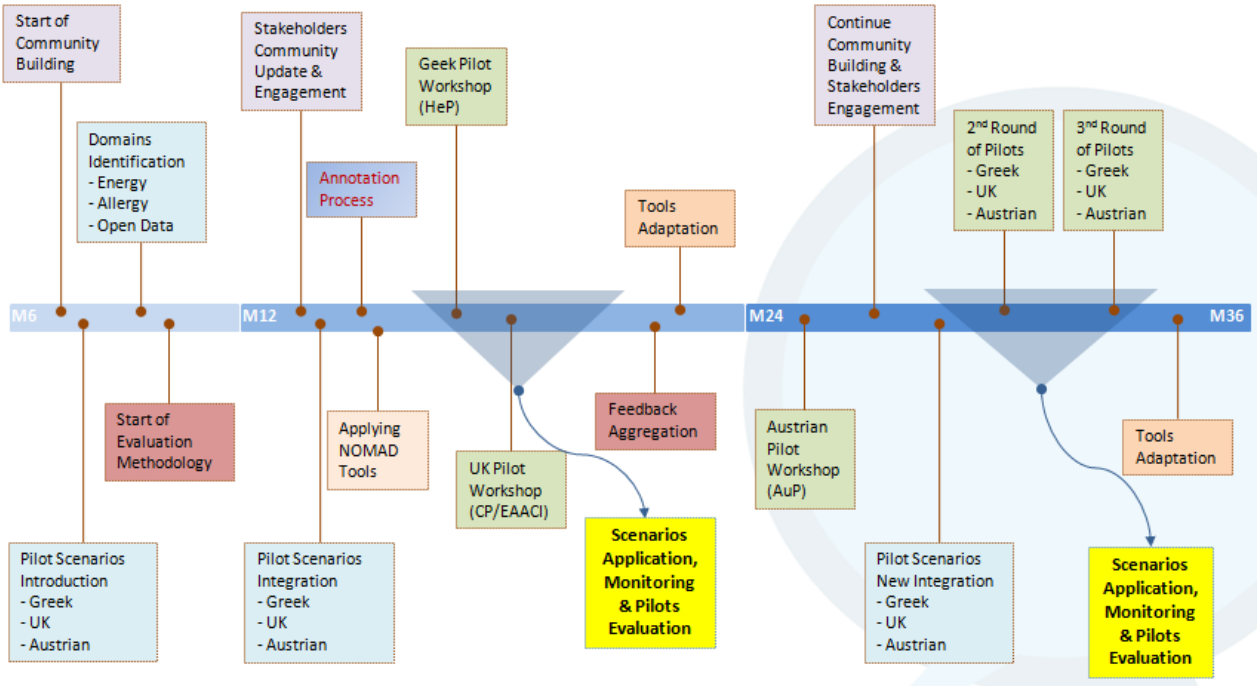

Figure 1: Overall Pilots procedures in a timeline

With the aim of the aforementioned procedures to be properly supported, a common methodology has been defined, namely "Pilots scenarios application methodology", to be followed by all three pilot users. This methodology identifies and provides the guidelines to the pilot users for realising their scenario application. More specifically, the first step is to import the defined scenarios within NOMAD Authoring Tool. Next comes the internal training of the pilots' users to the usage of the NOMAD tools and the first aggregation of the internal feedback on the platform usability and functionality. Later on comes the organisation of the workshop, from each pilot partner, which has to invite external stakeholders and make the appropriate preparation (e.g. material) for supporting the workshop implementation. Again here the same structure has been followed by all partners during the workshop for presenting and gathering the audience feedback for NOMAD Tools and vision. Afterwards, the overall internal and external evaluation results are being gathered in order to be provided to the technical partners and make the proper upgrades and improvements to the NOMAD system. Finally, this is the trigger step for the next pilot round to be initiated and so forth.

Each of the pilot partners, has successfully completed the 1st round of the scenarios application, ensuing the described methodology and the evaluation of this 1st pilots round has given an fruitful and insightful feedback on the correct direction to be followed for the NOMAD tools upgrade, in terms of usability and functionality, through three (3) different perspectives, i.e. technological, crowdsourcing and political.

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1. INTRODUCTION

1.1 Purpose and Scope

The purpose of the current deliverable is to describe in detail the activities performed during the 1st round of the pilots, in terms of tools adoption, workshop preparation and organisation, as well as the 1st evaluation results collected by the end user interaction with the NOMAD platform and of course the tools improvements from the technical partners in order to prepare the upgraded versions of the NOMAD tools and get ready for the upcoming rounds of the pilots.
The three pilot partners, CP, HeP and AuP, have worked together and in close collaboration with Aegean and the rest of the technical partners, so as to be fully prepared for the smooth operation of their scenarios within the NOMAD platform, each one on its own domain, i.e. CP & EAACI on Allergy domain, HeP on Energy domain, while AuP on Open Data domain. As such, the proper background has been set for providing to the invited stakeholders of the workshops all the knowledge needed on the NOMAD concepts and workshop objectives, ultimately aiming at the best possibly feedback aggregation. To this end, the added value of the current deliverable lies in reporting the following tasks in the project progress:

- Adopt the defined scenarios by the pilot partners within NOMAD platform
- Test and evaluate the tools performance, functionality and usability by the pilot partners
- Involve potential stakeholders through the workshops to further evaluate the NOMAD system and approach
- Gather, analyse and evaluate the overall aggregated feedback, based on the defined methodology
- Elaborate and implement the decided improvements for launching new version of tools, close to user needs
- Prepare for the next workshop rounds and trigger the aforementioned steps for each round

1.2 Approach for Work Package and Relation to other Work Packages and Deliverables

WP7 is all about piloting in real life conditions the project's outcomes and evaluating the cumulated feedback from the involved stakeholders, aiming at improving the provided services of the platform and bringing closer its features to the policy makers ' needs , so as to let NOMAD become a valuable asset in the decision making lifecycle.
To this end, the current deliverable is closely related mainly with "D7.2 Description of the Pilot Scenarios" from where the pilot scenarios have been retrieved in order to be applied, and their specifications have been converted to the input entered to the NOMAD Authoring Tool. It is also related with "D7.1 Description of the NOMAD Community Network" as it provides the guidelines and the lists of the potential stakeholders that can be invited and engaged in the organised workshops and rest pilot activities. Furthermore, it is closely related with "D7.3 Description of the Nomad Evaluation Methodology" where the evaluation methodology is described and here the results from its implementation for the users' feedback analysis are presented. Finally, the results reported in the current document have provided input in all development tasks, namely tasks "T3.1 Visual tool for policy argumentation modelling", "T4.2 Linguistic Analysis", and "T5.3 Visualization prototypes for result summarization" within WP3, WP4 and WP5
Concluding, as already noted in the previous deliverables of the current work package, WP7 pilot scenarios have been built in accordance with the technical and non-technical specifications established in WP2, WP3, WP6, and used as input in WP8.

1.3 Methodology and Structure of the Deliverable

In order to achieve the objectives of current deliverable, meaning the application and assessment of each of the pilot scenarios through the activities organized by the pilot partners and evaluate the stakeholders needs and suggestions, a four stage methodology has been followed, which is illustrated in the figure below.
Initially, chapter 2 "Pilots Scenarios Application Methodology" describes the procedures and steps followed for the scenarios application and validation from all three pilot partners, from the platform adoption until workshop organisation and 2nd round of pilots specification.
In the next chapters 3, 4 and 5, the scenario application details of each pilot (UK, Greek and Austrian) are described, based on the methodology introduced in chapter 2. So here each pilot is presented in terms of the actions that have

been taken from his part; from tools interaction, scenarios import, internal training and evaluation until the workshop preparation with its material creation, participants engagement and results evaluation from actors' interaction with the NOMAD tools and concept. Each of these 3 chapters concludes with the intentions for the 2nd round of the pilots and provides a snapshot of the directions that each pilot partner will follow in the upcoming time.

Finally, in chapter 6, the first results of the evaluation analysis are presented in terms of cumulative data gathered from all the three pilots.

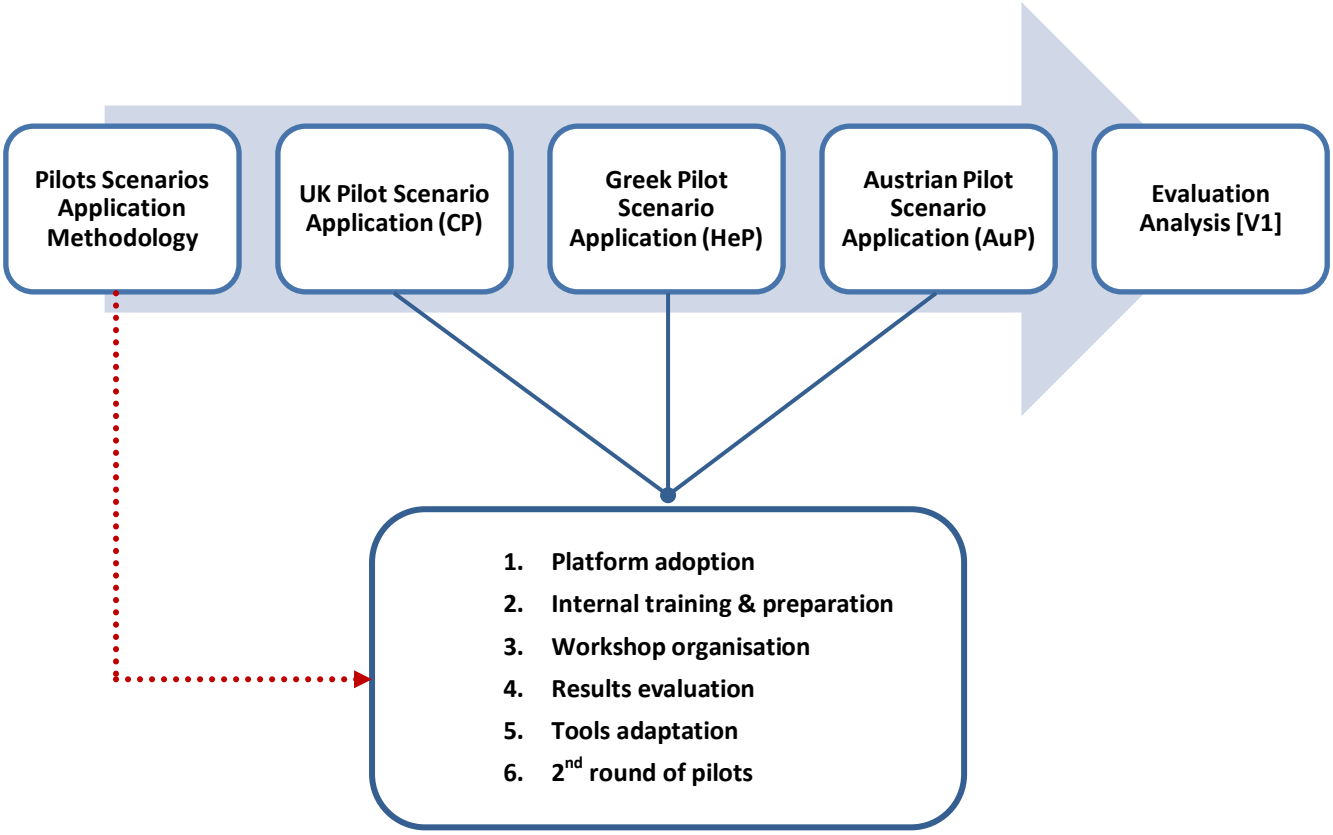


Figure 2: Methodological approach of Deliverable 7.4.1

2. PILOTS SCENARIOS APPLICATION METHODOLOGY

The methodology followed by all three pilot partners for their own scenarios application and validation was the same and is described laconically on the figure below.

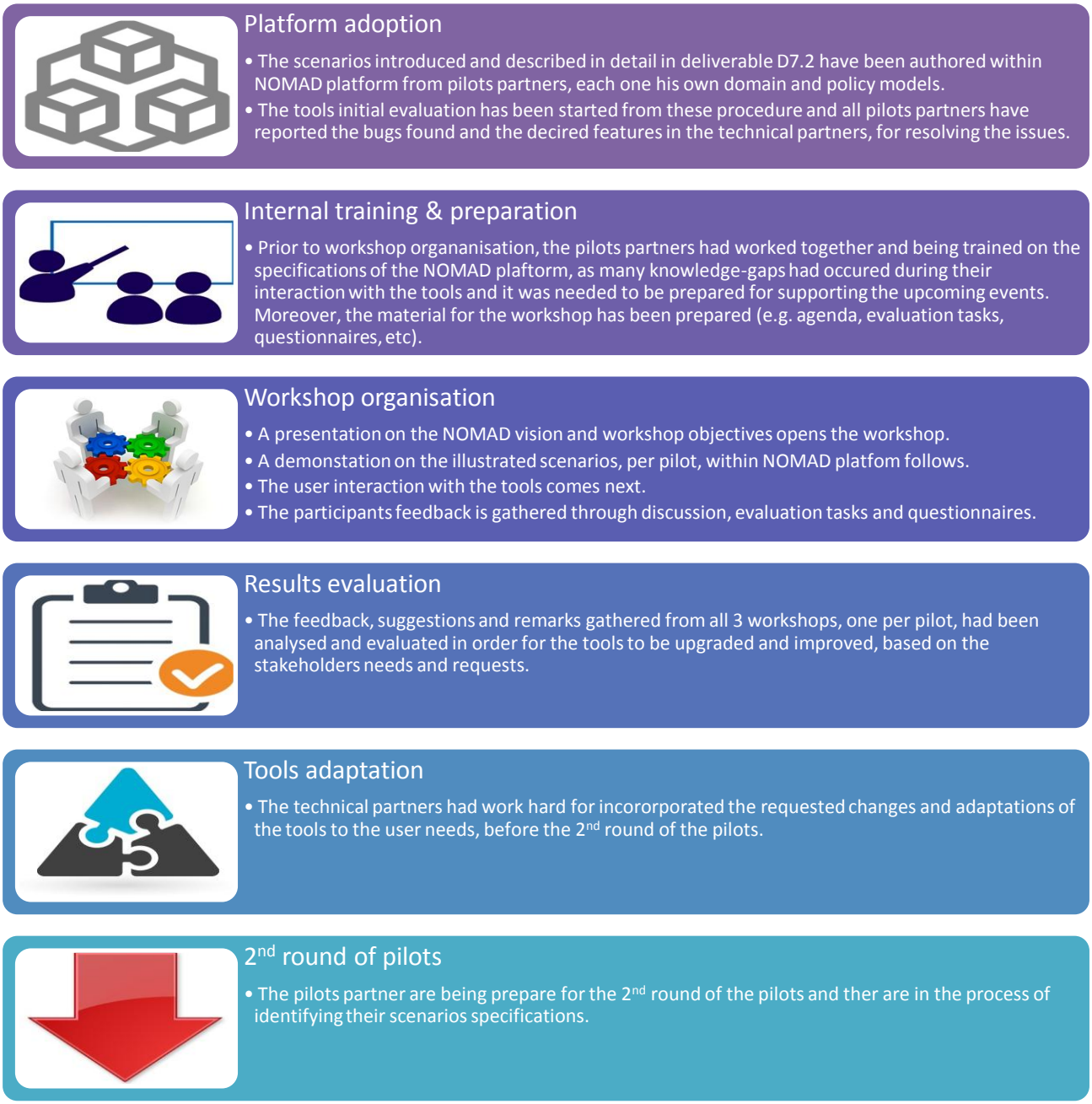


Figure 3: Pilots Scenarios Application Methodology

Following this methodology three successful workshops have been organised, one per pilot, and their specifics have been summarised in the table below, while their analysed in details in the respective sections of the current deliverable.

Table 1: Pilot summarised information

	GREEK PILOT	UK PILOT	AUSTRIAN PILOT
Partner (By)	HeP	CP and EAACI	AuP
Language	Greek	English	German
Theme	Greek Strategy for Energy Planning	Allergic Diseases Impacts & Immunotherapy Declaration	Open Government Data in Austria
Domain	Energy	Allergy	Open Data
Domain Entities	55	198	100
Policies / Policy components	4 / 7	2 / 6	11 /25
Arguments	42	110	86
Sources	52	137	24
Authors	Dimitris Koryzis (HeP), Christos Nychtis (CRES[1]), Kostas Anagnostopoulos (CRES)	Lampros Kalogiros (EAACI), Nikolaos Papadopoulos (EAACI), Barbara Kapourani (CP)	Schefbeck Günther (AuP), Gutsch Franz (AuP)
	WORKSHOPS DETAILS		
Workshop Date	22/11/2013 10:00 – 13:00	29/11/2013 15:00 – 18:00	17/02/2104 13:00 – 16:00
Workshop Place	Athens – Greece	Athens – Greece	Vienna – Austria
Participants No.	25	16	7
Stakeholders	Policy makers, Policy advisors, Policy researcher, Members of the Hellenic Parliament, Officers, Scientific assistants, Representatives from Greek political parties, NGOs	Policy makers, Policy advisors, EAACI president, Doctors, NGOs, Journalists, Political scientists, Researchers, Consultants, Strategists, Economists	Policy makers, legislation advisors, IT consultant, Digital media consultants, media documentation personnel, archives, documentation, and statistics officers
Material used	*(Same material in different languages)* Agenda Presentation Validation Scenarios Questionnaires		

[1] Renewable Energy Sources and Saving (CRES)

3. UK PILOT SCENARIO APPLICATION

3.1 Overview

The UK pilot, implemented by EAACI (European Academy of Allergy and Clinical Immunology) and CP (Critical Publics) and thoroughly presented in D7.2 concerns the health domain and especially policies around allergy and immunotherapy topics. In the 1st round of pilots, the identification of the multidimensional impacts of allergic diseases in patients' life and the rise of immunotherapy awareness, as an effective treatment for the disease were monitored and analysed through the NOMAD tools, in order to find out what is the web population opinion and level of knowledge on these issues. Some interest insights were found out, about the online discussion of patients suffering from asthma and allergies, helpful for further specifying in a particular direction our next rounds of the pilots' implementation. As such, below is presented step by step the workflow from the modelling of the UK domain and policy to the workshop organisation and results retrieval from the NOMAD tools interaction, concluding with the new, emerged policies specifications that would work as an added-value to the current one. Finally, through the interaction of the involved actors with NOMAD platform useful comments and suggestions have been gathered, also presented in the upcoming sections, for evaluating the NOMAD concepts and usability. These feedback has been used for improving the tools' UI and enhancing the provided services so that meaningful insights for the policy maker to be extracted, in a way that are understandable and reusable.

3.2 Tools Adoption and Initial Validation

After the conceptualisation of the UK domain and policy models, thoroughly described and presented in deliverable D7.2, the NOMAD Authoring Tool has been used to insert these models and their associated web-sources to the platform and initiate the crowd-sourcing procedure. It has to be noted here that the UK models have been imported in English, though the tool supports also Greek and German languages. After approximately 24 hours the first results have been aggregated and presented through the NOMAD Visualisation tool. At this stage CP partners, had the chance to internally evaluate the tools' usability and performance and closely collaborate with the technical partners for fixing the bugs and reporting further improvements, ultimately aiming at better preparing for the workshops, where external stakeholders would be involved.

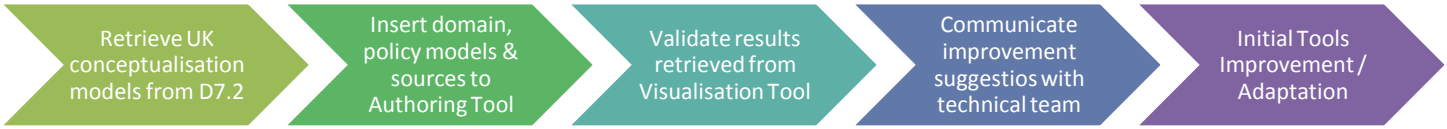


Figure 4: UK Tools Adoption Workflow

The above figure is a graphical representation of the performed steps during the tools adaptation and the initial, internal validation among consortium partners, prior to the workshop organisation and the participation of the external users. To this end, here below are presented some figures from the UK pilot scenario, representing the flow of these steps and the UK models incorporated within NOMAD platforms tools.

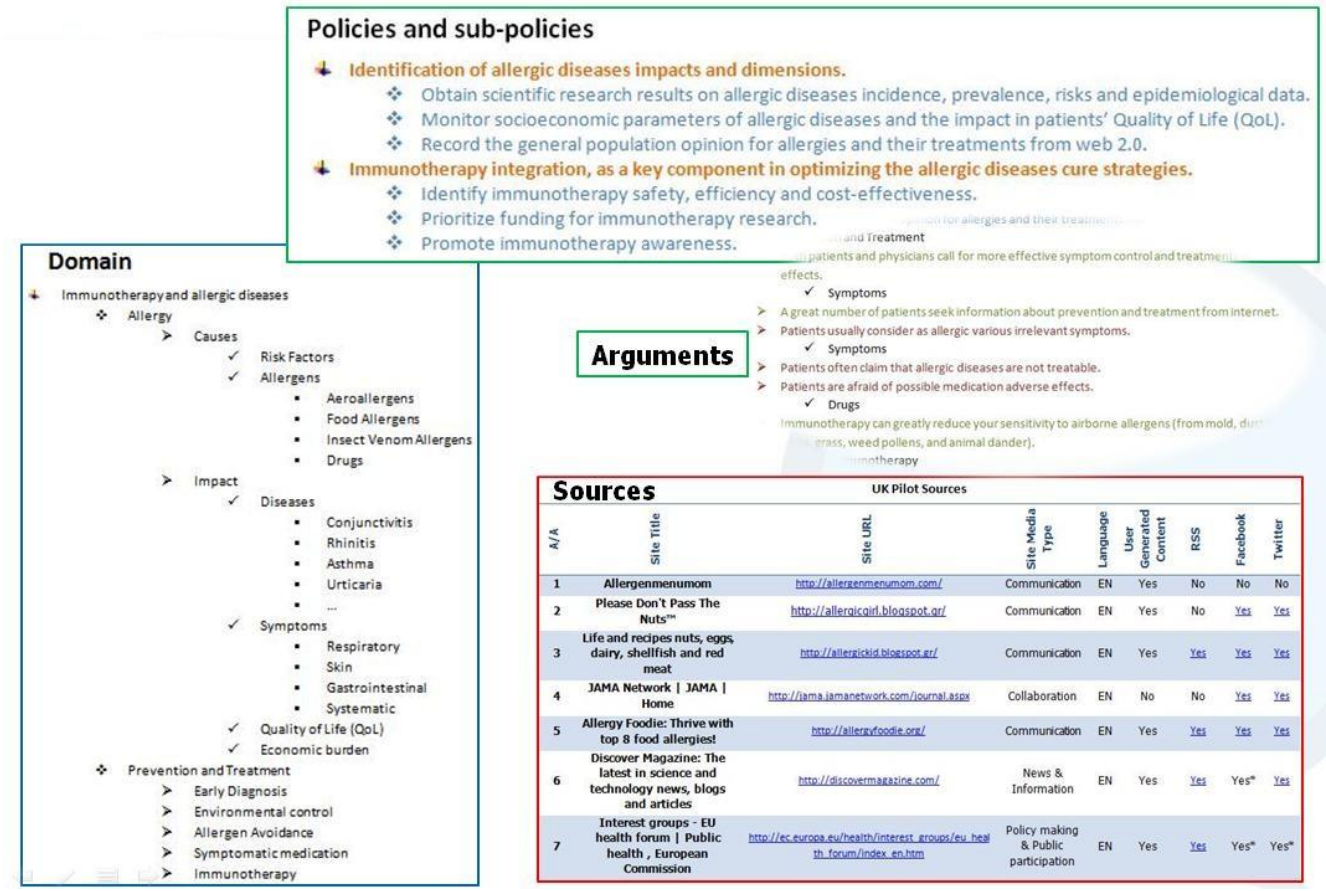


Figure 5: UK conceptualisation models & sources

This is how UK models look like in their formulation phase, written in paper and presented in detail in D7.2. The domain model of "Immunotherapy & allergic diseases" is shown on the left, as a tree representation, while on the top the two policies along with their sup-policies are shown. Once again the policies concern the impacts of allergies in the patients' life and the awareness of immunotherapy as an effective solution to the allergy burden. A snapshot of the arguments accompanied these policies is given in the middle, while on the bottom right corner, some indicative inserted sources of interest are presented.

Figure 6 & Figure 7 below shows how the UK Domain Model looks like within Authoring Tool, after its import there. The user interface of the Authoring tool has a main toolbar with buttons, one of which is for creation of new domain models in one of the three languages. As for the languages, it also gives you the possibility of translating your models in any of the other two supported language, as you enter each entity of your domain. This means that during the content aggregation the crawlers will search and collect content from all the defined languages (English, Greek and/or German). Moreover, at any point of model creation, it is given the possibility to open any public available domain (it opens in the left side column of the UI, shrinking the graph in the middle of the screen) and re-use any of the domain entities already defined to your model. Since there were not existing relative domain models with the pilot theme (e.g. Health), this capability hasn't been used yet, although it might be useful in the subsequent round of pilots where NOMAD repository will have been populated.

In the same way, the policy model is being built. UK Policy Models snapshots are presented through Figure 8 & Figure 9. However, here the functionalities provided by the tools, are more, as we have to define two levels of policies statements, e.g. the policy (coloured in yellow) and its sub-policies (coloured in orange). Also, each sub-policy might have a set of arguments, which are set as negative (coloured in red), as positive (coloured in green) or as neutral (coloured in grey). Furthermore, the policy statements and arguments can be interlinked with domain entities (coloured in green), and the easiest way to do so is to open the domain on the left column and drag & drop the entities in the policy tree in the right column of the UI.

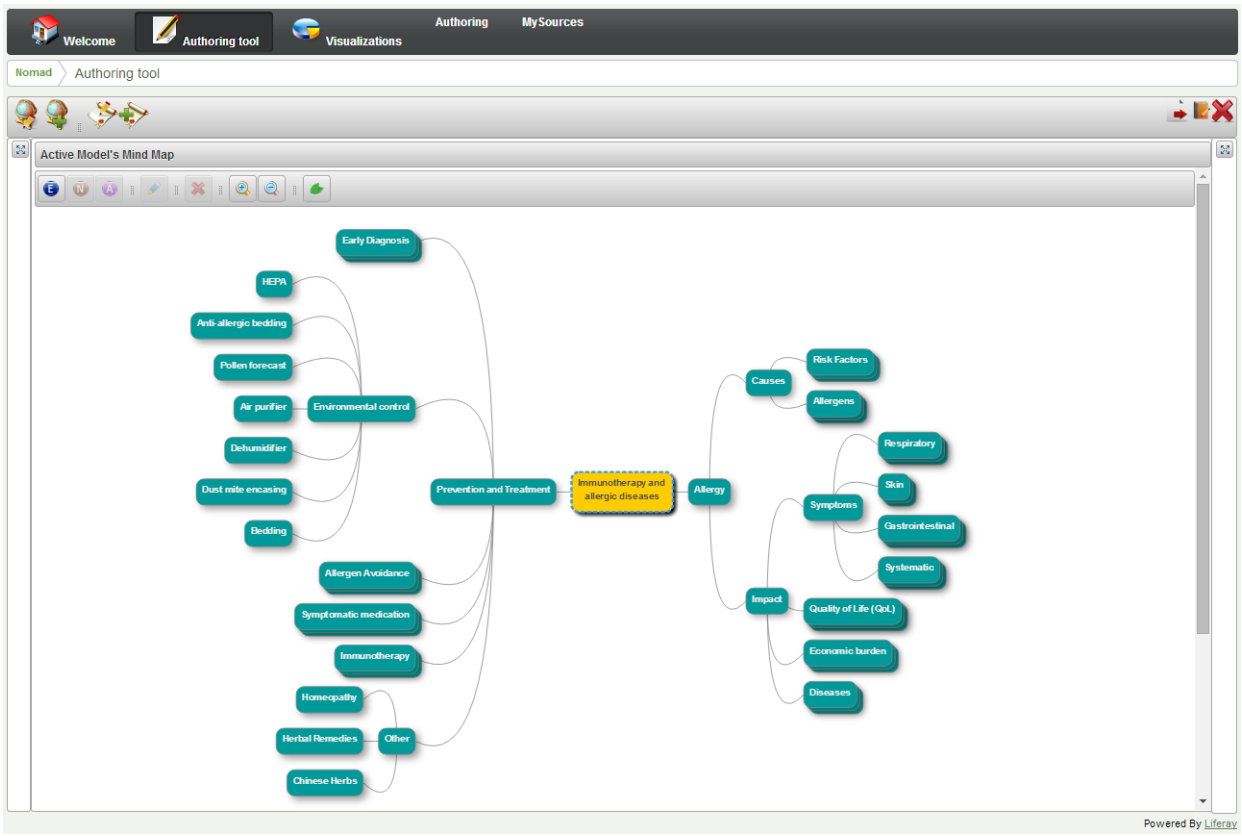


Figure 6: UK Domain Model within Authoring Tool – Graph View

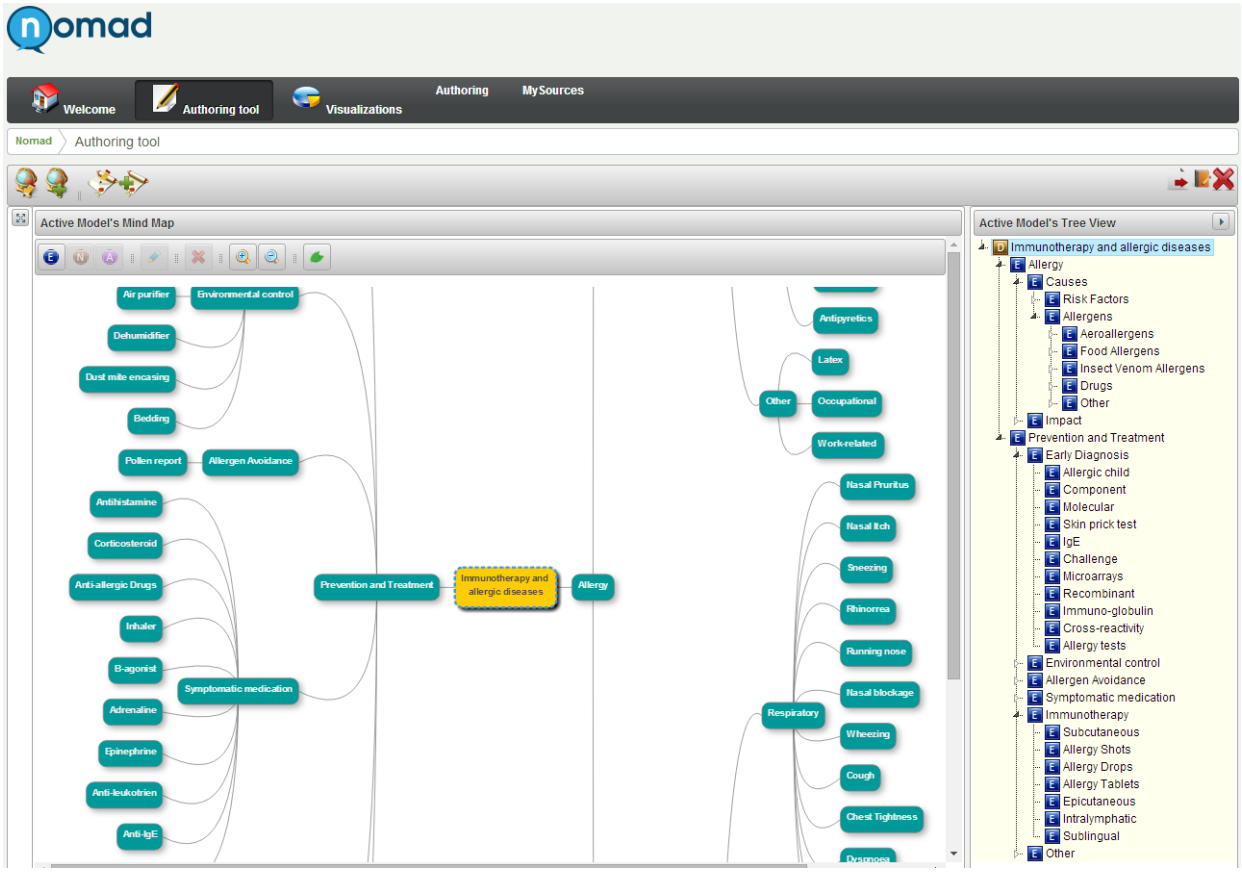


Figure 7: UK Domain Model within Authoring Tool – Tree View

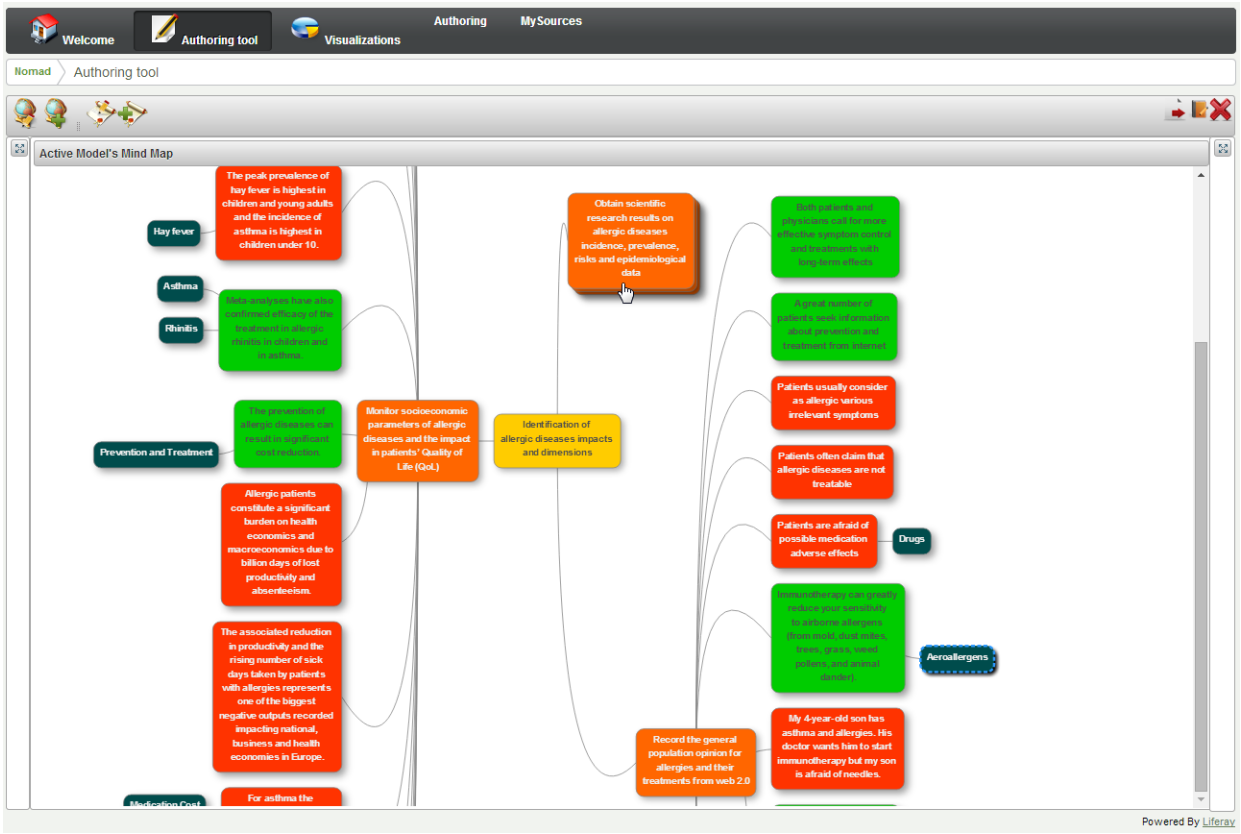


Figure 8: UK Policy Model within Authoring Tool – Graph View

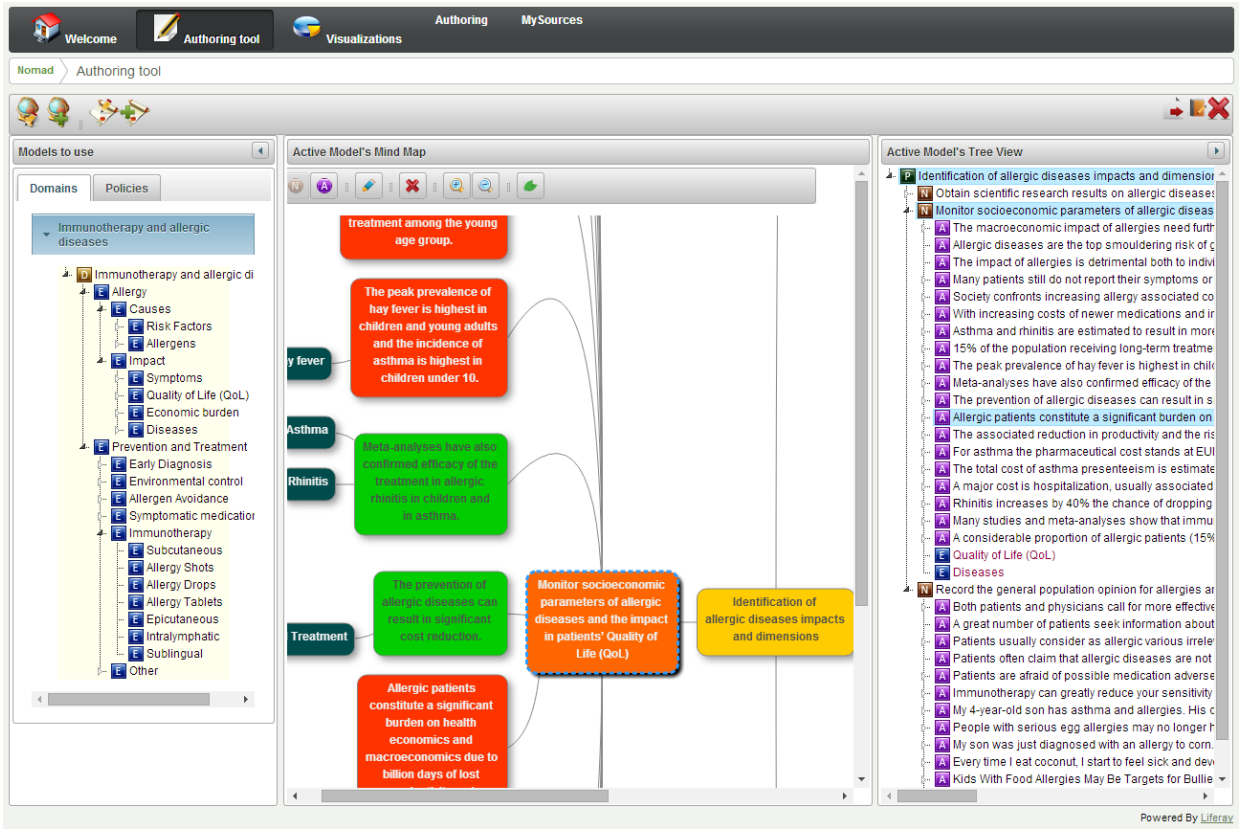


Figure 9: UK Policy Model within Authoring Tool – Tree View

After the launch of the NOMAD processes, the user may have access to the results through the Visualisation Tool. Some screenshots representing these results for the UK scenario are shown in Figure 10 & Figure 11.

Figure 10: UK Scenario Results – Comparison View

In the Visualisation Tool the results are presented in a "Model Tree" view where the statements of the policy model defined through the Authoring Tool have been rearranged and coloured such as:

- The policy statements that are discussed more in the online fora come first and their rectangles in the Model Tree are bigger in comparison with the others.
- The colour of the policy statements shows the sentiment of the discussion and the public opinion on that issue.

Moreover, the results can be filtered further, based on demographics criteria (wherever this information is publicly available), e.g. posting date, age, gender and education level of the author, unless they are provided.

In the Comparison View, user has the capability to select two different audiences and compare the results coming of different demographic groups or different time periods/sources, while in the Word Cloud View, a word cloud is displaying the most frequent terms found in the crawled content along with the sentiment as an aggregation of how people were expressed in this content, while under that segments from the crawled articles are given for validation purposes.

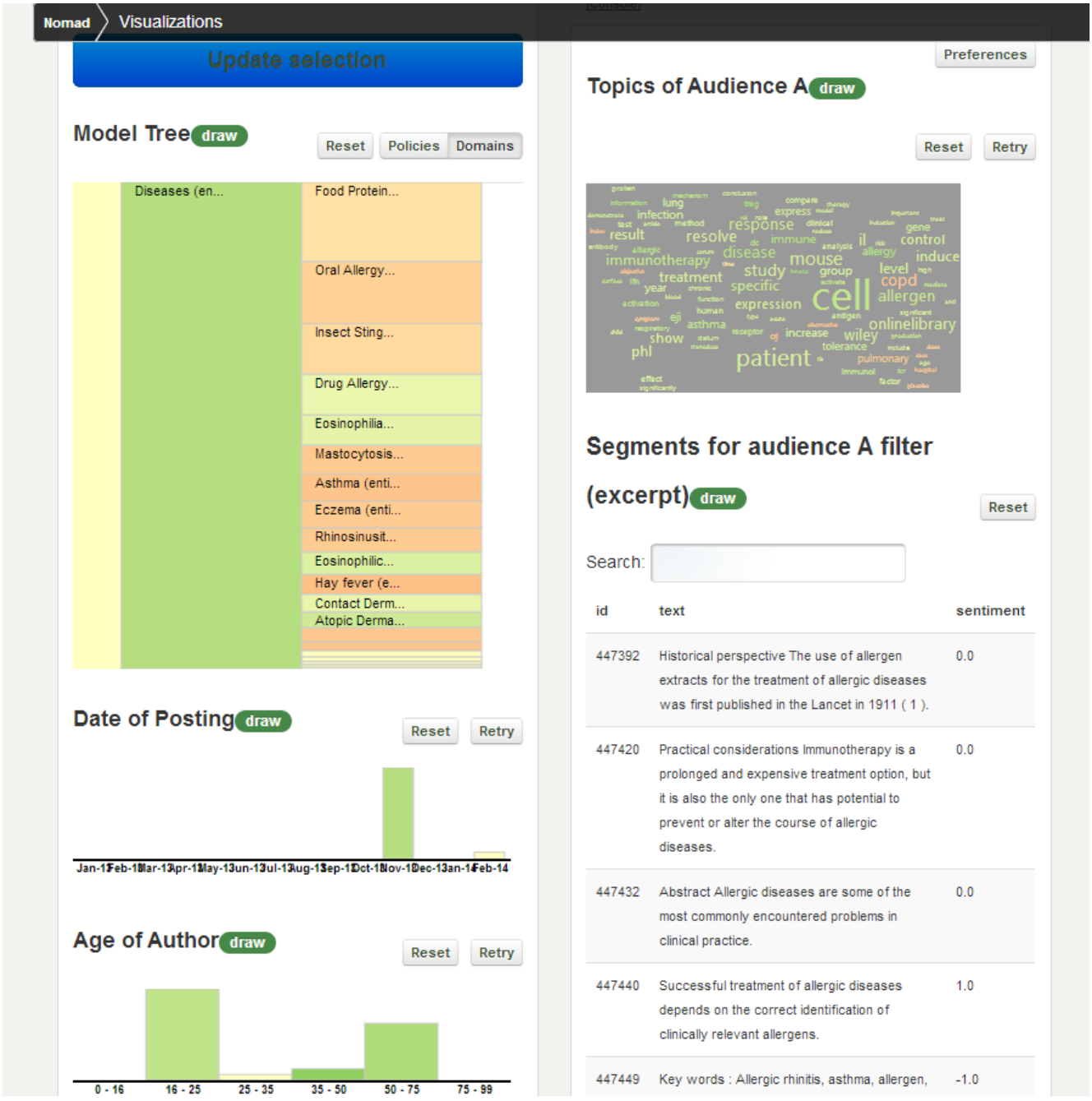


Figure 11: UK Scenario Results – Word Cloud View

This initial interaction with the NOMAD tools in order to build the UK models within the platform has given CP the change to gain insight about its usability and provided functionality from 1st hand. It has to be noted here that the health domain in general was supposed to be a challenging one, as it seems not the generally fit the conventional ones, widely acceptable as policy making domains. Nonetheless, even it was a "tricky" domain it was proven to perform well and through NOMAD to export interesting argumentations on policy making arena.

It comes without saying that any new, emerging platform that seeks to fill in an "ICT gap" in a specific domain, such as policy making, has too many small or bigger problems to solve before it is formally released. For more than three months CP was interacting with the authoring and visualisations tools for building the UK models within the platform and at the

same time gathering comments, finding out bugs and reporting difficulties to the technical partners so as to be well prepared for the 1st workshop where the platform and concepts of NOMAD would be presented to external stakeholders and they would be invited to interact with the tools.

So this first impression of tools interaction was generally good, but with lots of comments and need for improvement, which have been fixed, more or less, with close collaboration during this "workshop preparation phase". To sum up the provided feedback, these were the main categories and issues that were asked to improve and elaborate:

- User interface look & feel
  - It was asked to elaborate more on the graphical user interfaces of the tools, with more impressive and attractive UI, cleaner graphics as it is intended to be used by policy makers, advisors etc e.g. a difficult target group with specific needs. It was suggested to follow a more wizard like UI with tooltips and easy to understand directions though the tools usage.
- Authoring tool functionality
  - Some minor bugs that have been identified communicated and fixed on the spot, while the general impression from the authoring tool was quite good. One note here was the lack of connections and cross-references between 3 or more child nodes in the same model. The suggestion was to create of a network instead of a tree based representation. Moreover, another note was the need of an UI for the sources import and manipulation. Finally, a search field for retrieving the entities and statements from large models have been suggested to be added here.
- NOMAD procedures clarifications
  - The sentiment analysis and colouring (e.g. not being so representative) along with the linguistic pipeline and the word cloud need were the basic issues that have raised various discussions and the need for validation and clarification, so that the end user can trust the exported results from the platform.
- Visualisation tool functionality
  - One of the most important parts of any tool is the visual representation of the results, as this is the place where the whole background job is represented. The first impression from the visualisation tool was quite sufficient but it was observed difficulty in use, as it is targeted to a group of user, where the interaction procedures have to be as simplified as possible. First, the response time was slow. Second, although most functional requirements from the requirement analysis phase documented in deliverable D6.1 have been implemented, additional requirements have emerged. These concern the ways in which results are presented to be more compatible with the policy makers' needs. The demographic bar chart are sufficient but for having a strong tool for policy conclusions, new ways and representation means was agreed to be investigated in due time, by the consortium.

Concluding, it has to be mentioned that this pre-phase was a fruitful period were lots of comments have been addressed, next steps have been identified and a close collaboration among pilots users and technical partners confirm that the tools will be further improved and enhanced, ultimately aiming at addressing most of the needs of a policy maker from such a platform.

3.3 Workshop Organisation

The second of the NOMAD pilot workshops was organised by Critical Publics (CP) within the UK pilot execution, based on the UK scenario on the field of Allergy: "Allergic Diseases Impacts & Immunotherapy Declaration".

CP along with Aegean had prepared the material needed for the workshop realisation, a bold step towards the successfulness of the event. More specifically:

1. A general presentation on the NOMAD vision and the objectives of the workshop
2. A specific presentation on the realised UK scenarios within NOMAD platform for tools demonstration

3. A document with specific validation tasks for guidance through the users interaction with NOMAD platform
4. A questionnaire for NOMAD evaluation

The workshop took place in CP premises in Greece, as it seemed the more convenient place for all the participants, on 29 November 2014, with duration of about three (3) hours. There was a set of 16 people, who attended the workshop, with most of half of them to be CP and EACCI participants and/or invited by them. They represented a real mix of NOMAD potential users from stakeholder groups other than the typical ones associated with the policy making area: journalists, doctors, NGOs, researchers, consultants, economists, political scientists and strategists.

The workshop started with the introduction from AEGEAN and CP on the project approach and objectives, as well as the reasons and outcome expected from the workshop. Next, CP presented the implementation of the UK pilot scenario step-by-step and the first results of this application in the allergy field were showcased to the attendees. A live demonstration of the NOMAD tools, i.e. the NOMAD Authoring Tool and the NOMAD Visualisation Module, followed, where the audience was eager to learn more and in parallel a fruitful discussion had been initiated. During the next session, participants were invited to interact with the NOMAD tools, where they were assigned specific tasks based on the existing validation scenarios. A subset of the attendees tried the platform live each one under the observation of a member of the consortium, who was there to support the user in solving the tasks, to record any comment made by him or capture any difficulty he faced. Finally, a questionnaire was distributed to the audience, which was filled by them on the spot and the feedback has been cumulated.

Meeting Place

Date: **Friday, 29th November 2013, 15:00 – 18:00**

Location: **Critical Publics (CP), 150 Garyttou St. – Halandri, 153 43 Athens, Greece**

Agenda

FOCUS GROUP AGENDA		
14:30 – 15:00	Participants arrival – Coffee / Tea	**All**
15:00 – 15:10	Welcome session & outline of meeting agenda	**CP**
15:10 – 16:00	**NOMAD & Workshop Objectives** • Overview of NOMAD vision and overall objectives • Workshop objectives and expected outcome	**AEGEAN** **NCSRD**
16:00 – 16:30	**NOMAD Tools Demonstration** • Demonstration of the NOMAD platform • Presentation of the validation scenarios	**AEGEAN** **CP**
16:30 – 17:30	**Interaction with NOMAD platform** • Implementation of scenarios tasks by the participants • Distribution of evaluation questionnaires	**Participants**
17:30 - 18:00	**Open Discussion**	**All**

Figure 12: UK Pilot Workshop Agenda

List of Participants

#	Name	Organization	Position	E-mail
1	Aggeliki Androutsopoulou	AEGEAN	IT Researcher	ag.andr@aegean.gr
2	Costas Koutras	AEGEAN	Senior Researcher, Assistant Professor	ckoutras@aegean.gr
3	Nikos Moumouris	CP	Journalist	nikos@criticalpublics.com
4	Barbara Kapourani	CP	Information and Communication Systems Engineer	barbara@criticalpublics.com
5	Sofia Michalaki	CP	Political Scientist	sofia@criticalpublics.com
6	Anna Kalliani	CP	Financial Advisory Director	anna@criticalpublics.com
7	Thomas Antoniadis	CP	Managing Director	thomas@criticalpublics.com
8	Nikos Papadopoulos	EAACI	Secretary General & President Elect EAACI	ngp@allergy.gr
9	Lampros Kalogiros	EAACI	Allergist	lakalogiros@gmail.com
10	George Petasis	NCSRD	Associate Researcher	petasis@iit.demokritos.gr
11	Dimitris Koryzis	HEP	Scientific Responsible	dkoryzis@parliament.gr
12	Aggelos Tsalapatis	TT Hellenic Postbank	Technical Consultant	a.tsalapatis@ttbank.gr
13	Harris Alexopoulos	AEGEAN	IT Consultant	alexop@aegean.gr
14	Dimitris Mallas	IMERISIA Newspaper	Journalist	dmallas@gmail.com
15	Andreas Lykouras	Inaccess	IT Consultant	andreas.lykouras@outlook.com
16	Yiannis Koulizakis	Freelancer	Software Engineer	yianniskoul@gmail.com

Figure 13: UK Pilot Workshop Attendees

3.4 Scenario Results

Throughout the whole duration of the workshop, fruitful discussion was carried out between the members of the consortium and the attendees, for the usability of the NOMAD tools as well as the scenario results on the examined models, i.e. allergy domain and policy models. The whole idea of NOMAD was accepted with enthusiasm and if its tools work properly and its interfaces become more user friendly, then it would definitely be used in different fields of interest, from policy makers in health sector. The main areas of the discussion carried out were around: a) questions on the procedures followed by the NOMAD tools, b) remarks and suggestions for improving the tools usability and c) scenario results validation.

Concerning the questions raised through the workshop, the attendees were seeking answers on how the procedures of: a) argument extraction, b) crawling, c) demographics extraction, and d) the terms frequency calculation on the word cloud were conducted. The consortium partners have tried to answer most of these questions but the added-value of these questions to the consortium was that it has revealed the end-user need to understand the background processes from the tools in order to trust it. To this end, it has been internally decided the production of explanation and help tutorials embedded within the platform.

During the tools demonstration and user interaction, the attendees had the chance to evaluate the scenario results brought by the linguistic pipeline and presented by the visualisation component. Overall, the feeling of the results extraction was satisfactory, though important remarks and suggestions have been discussed for helping, revealing the actual needs of the stakeholders on the health domain and helping us to improve the tools functionality. Some of the questions that the participants had been able to answer through the NOMAD tools are presented here below:

- Which are the most discussed topics about allergy on web?
- What is the sentiment of people online towards allergy shots?
- Which are the most discussed diseases related with specific causes?
- What are the trends in treatment of allergy diseases across different demographic populations?
- How much is discussed the QoL in the online fora, against the symptoms and diseases?
- What is the public opinion over the Immunotherapy treatment and its aspects?
- For which diseases is immunotherapy known the most?
- In which age group is discussed the most the socioeconomic parameters of the allergy diseases impacts?
- In which time periods is the online discussion on different types of allergies incidences more intense?
- Which demographic groups are less aware about allergy treatments?
- Which are the most discussed topics about "promoting immunotherapy integration"?
- Which are the differences in public stance towards sublingual immunotherapy across target audiences?

What the health domain stakeholders were missing, as important value for them and they would like to have in the next versions of the NOMAD platform, are cumulative in the next points:

- The ranking of the top level concerns/topics on allergy models, not only against the predefined entities of the models, but also revealing any new subject discussed in the Web continuum, through the word cloud or any other form of statistical representation (e.g. pies, charts etc). This could be used not only for gaining insight on the emerged topics related to the defined models, which can be used for enhanced the current models, but also as reference in posing parliamentary questions.
- The comparative analysis of the outcome between two different periods in a user friendly presentation and re-usable way, as it is considered as very important for extracting conclusions, supporting their positions and contacting the Members of the European Parliament. It offers the capability of monitoring the impact of a particular initiative performed (e.g. obesity awareness campaign), assessing the effectiveness of an intervention and comparing the results on the same audience before and after the launch of the campaign.
- The source reaching of the gathered and presented data through the tool in order for the resulting data to be reliable and comparative, stated to be an imperative need in the health domain.
- Types of information such as gender, geographical dimension of input and the "professional identity" of the article writer are significant in the allergy domain for a proposed policy and also a prerequisite in the studies for European Commissions thus should be included in the demographic results.
- Import & export capabilities from both of the tools, in order to use the results outside the platform.

Concerning the usability of the Authoring and Visualisation tools, the main propositions for improving the UIs and revealing the value of all the conducted work on the background of NOMAD processes:

- Authoring: The tool was generally accepted and seems to fit the stakeholder needs, but what was really as a desirable feature was the correlations between different arguments in the same model. To this end, it was decided to switch to a network representation of the authoring tool and leave the tree one.
- Visualisation: The stakeholders seems to be more demanding with this tool with the main desire to be multiple types of results' classification, ordering, grouping presentation, and visualisation, so that meaningful and valuable intelligence to be produced easily and quickly. Again a network like representation was proposed to be probably a better solution than the current one, customizable time axes, pie/bar charts as a percentage distribution for the representation of the demographic sample, distribution curves for the overall public sentiment, in order to understand if polarized edges exist were some of the prominent suggestions and "like to have" features. As such, these notes have been discussed with the technical partners and decided to address most of them, based also to the notes from the rest of the workshops.

As a general conclusion, was that they could use the results from NOMAD tools, as documentation for supporting their proposals to other bodies in the health domain, but first the tools have to reach a point of maturity and address

most of the desired features. As it was stated the unique characteristics from such a tool is the need of an easy-to-use platform, with intuitive interaction, multiple types of information presentation and on top of all that, the ability for assessment of the results, which need to be reliable and efficient. Thus the workshop on UK pilot scenario was of great value, as it has shown the weaknesses of the current version of the platform and the real end-user needs of such a platform in health domain. To this end, the effort of the next steps is concentrated in the right directions, meaning upgrading and improving the tools, based on the user satisfaction.

3.5 Adaptations for the 2nd Round

For the 2nd round of the pilots, the specifications of the UK scenarios will be two-fold: a) to extend a bit the existing domain and policies from the 1st round of UK pilot, focusing on the "asthma" entity of the "immunotherapy & allergic diseases" domain and introducing the new policy statement: "European Partnership on Asthma (EPA)" and b) to insert a new domain, namely "Health" and have some correlations with the Greek Pilot domain of "Energy", as the policy here will be: "European Strategy on Environmental Impact on Health" and it is correlating with these two domains.

As “immunotherapy & allergic diseases” domain specified in the 1st round of the UK pilot was as much exhaustive as possible and the monitored policies have been covered a wide range of general aspect of this domain, we will try here to focus on “asthma” domain entity of the defined model which seems to be the main reason of suffering for millions of population around the globe. The idea of an “European Partnership on Asthma (EPA)” that will try to identify asthma stratifications, optimise health care systems for the patients suffering from asthma, prioritise the research and innovation on this domain, improve and train on the self-management for asthma treatment, having as main goals: a) to reduce the annual level of deaths from asthma (by 2020 approximately 120,000 people in Europe will die from asthma attacks), b) to reduce the unexcused high costs of the asthma treatment in Europe, that reaches €20 bn. per year, and c) reduce the productivity lost from poor asthma control in Europe, which is estimated to be €9.8 bn. per year. As one can identify, it is a challenging policy and the identification of the public opinion on that will be an imperative way to reach the goals of the partnership.

Moreover, we have decided to introduce the “health” domain, which is a more generic one and could work as a superset of the current one. Here the proposed policy on the “European Strategy on the Environmental Impact on Health” will be linked also to domain entities from the Greek Pilot and it would be of great interest to see how the tools will work and what insight could be brought from this kind of interlinking. The policy components here concentrate mainly on rising awareness on the environmental parameters that can affect the population health and also develop communicational and educational channels for informing on the potential risks and means of protection. We believe that in this way, we will be able to involve and expand our focus groups that will be invited to the next workshops to test the tools and we will be able to manoeuvre better in a wider range of potential stakeholders.

Policies and policy components:

- **European Partnership on Asthma (EPA)**
  - Identify asthma stratifications among different demographic groups.
  - Optimise health and care systems for patients with asthma.
  - Improve diagnostics and self-management plans for asthma treatment.
  - Prioritise biological targets for reducing asthma attacks.
  - Reduce the annual level of deaths from asthma.
  - Prioritise research, innovation and awareness in asthma.
- **European Strategy on the Environmental Impact on Health**
  - Promote awareness on environmental parameters affecting population health.
  - Reduce the knowledge gaps on (non-) biological pollutants, electro-magnetic fields and radiation, and other parameters that affects negatively health.
  - Develop of surveillance methods, communication, education and public information about potential environmental risks on citizens' health.

It was decided from the consortium to have 2 more rounds of workshops, namely: one semi-free workshop, where participants will be guided and supported to expand the current models and following, one free workshop, were the participants will be “totally” free to create their own domain and policy models. As such, the abovementioned specifications on the UK Pilot will be inserted in the Authoring Tool on the semi-free workshop and the argumentation of them will be left to the participants to add it.

4. GREEK PILOT SCENARIO APPLICATION

4.1 Overview

As reported in D7.2, Hellenic Parliament (HeP) policy makers (Members of the Parliament and Governmental Officials) expressed their intension to use NOMAD platform, in specialised workshops organised by European Programs Implementation Service of the Hellenic Parliament, dedicated to specific pilot actions for several policies.

The 1st pilot round focused in the Greek Strategy for Energy Planning and more specifically the Renewable Sources (RES) Use. Using NOMAD tools facilities, HeP Policy Makers assessed the impact of the policy about green energy, renewable energy resources and more explicitly about the wind energy in Greece. Having in their hands the results of the pilot through NOMAD platform visualization tool, they will be able to assess the National Energy Policy, in total.

In the context of the pilot case, the Members of the Parliament and the Governmental Officials invited to join NOMAD workshops, were able to assess the environment for strengthening the investment in renewable energy sources, and in the same time to increase the penetration in the country's energy balance. Through this process and with the help of NOMAD platform results, each policy maker will be in a position to update previous provisions concerning renewable energy, including necessary arrangements for water and wind farms, and additionally the other RES means (solar, geothermal, gas, biogas, sewage treatment).

4.2 Tools Adoption and Initial Validation

Hellenic Parliament working team used the NOMAD tools capabilities for the Set-up, Optimization & Refinement of Greek pilot in Energy Planning as reported in D7.2. More specifically the NOMAD authoring tool used for the set up of the Energy domain model, selected policy models creation, and the extraction of several policy arguments from several sources as reported in D7.2. Moreover NOMAD platform was used thoroughly for the authoring tool editing. The whole NOMAD platform used for the verification of the policy modeling and justification of the policy models in the NOMAD authoring tool. A couple of screenshots are presented below.

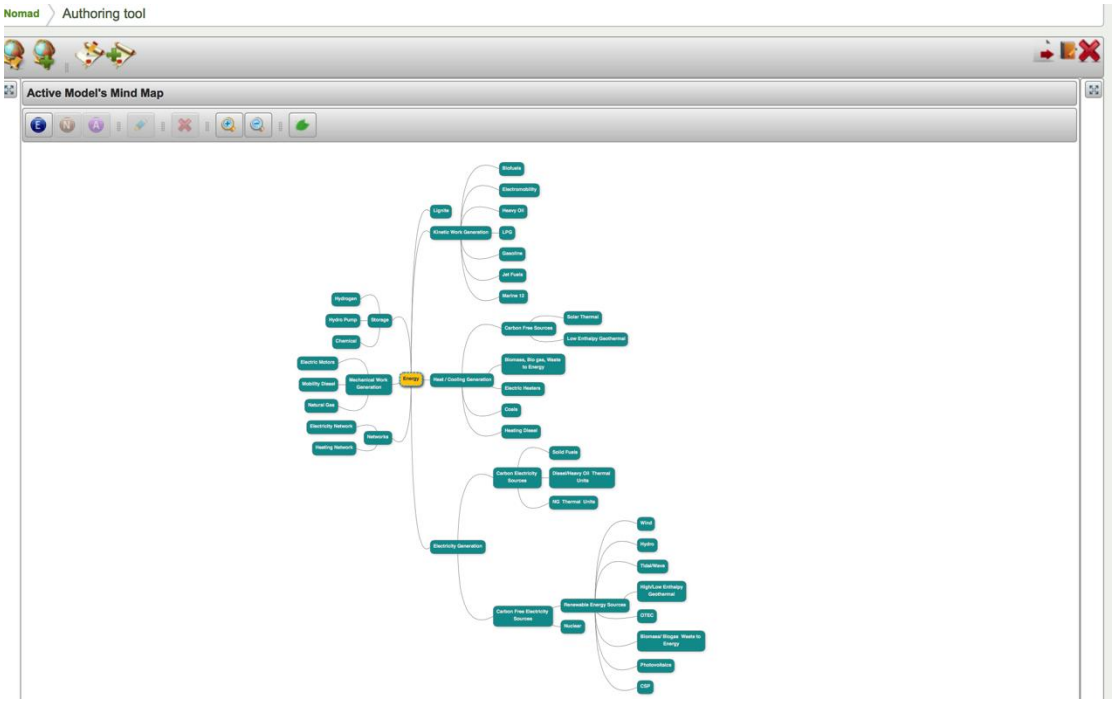


Figure 14: Greek Domain Model within Authoring Tool – Graph view

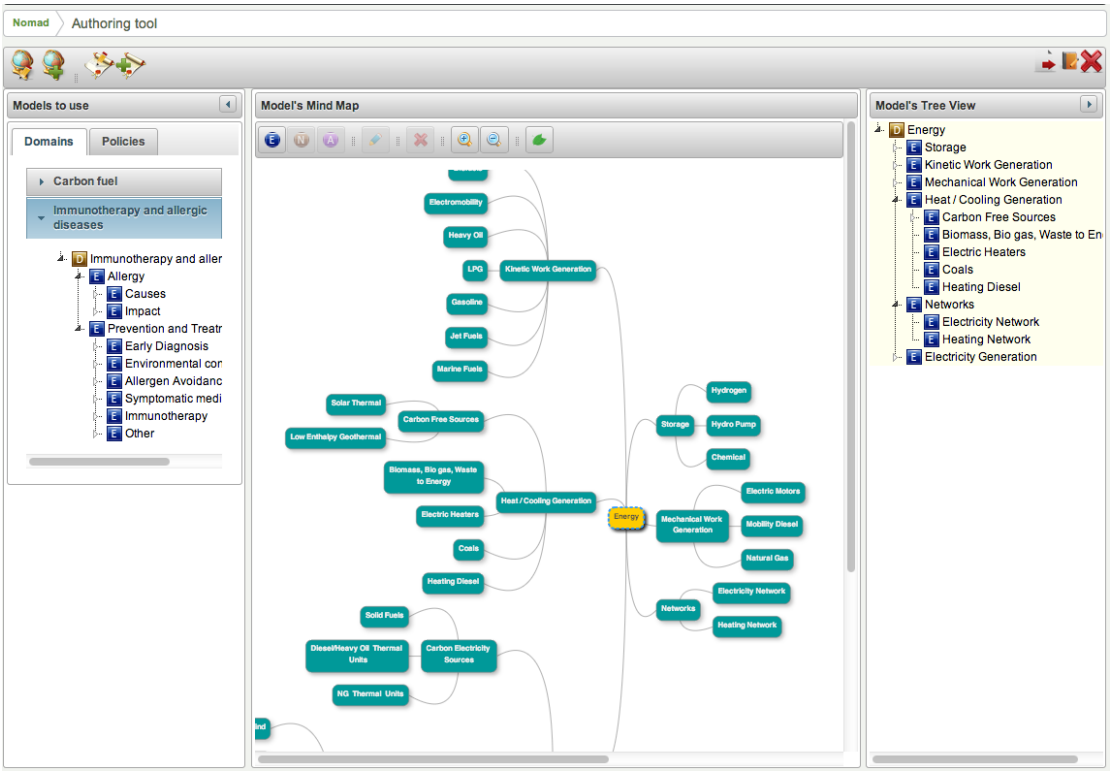


Figure 15: Greek Domain Model within Authoring Tool – Tree view

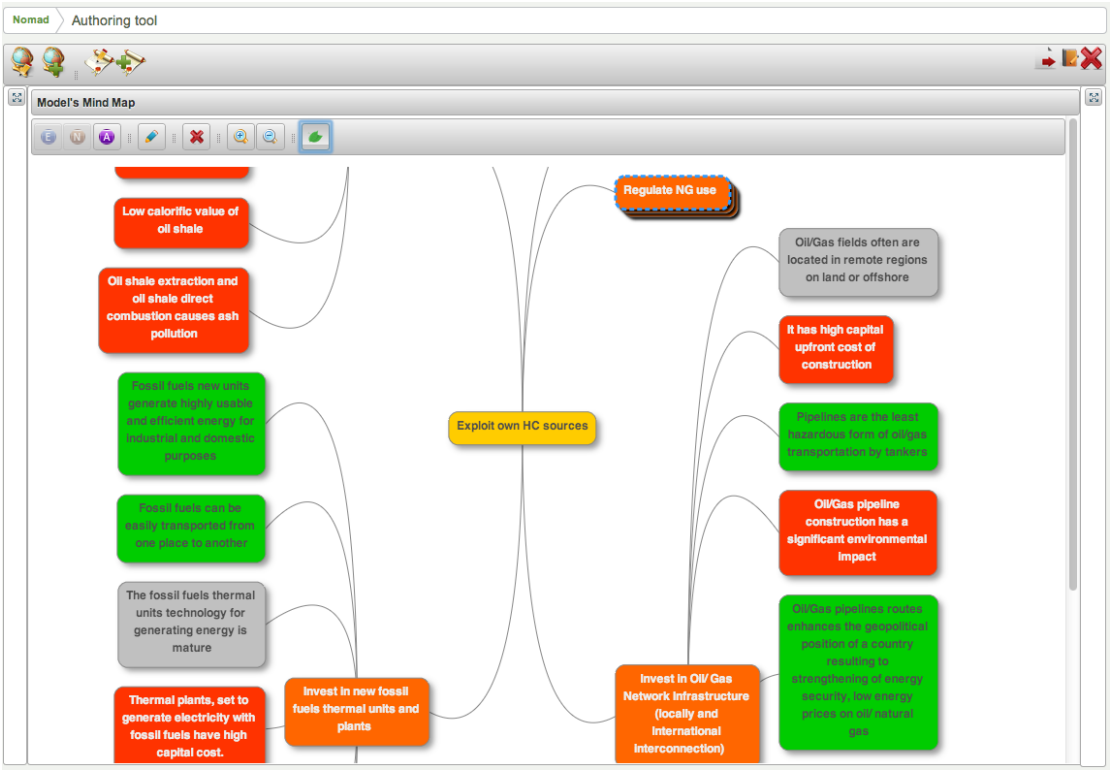


Figure 16: Greek Policy Model within Authoring Tool – Graph View

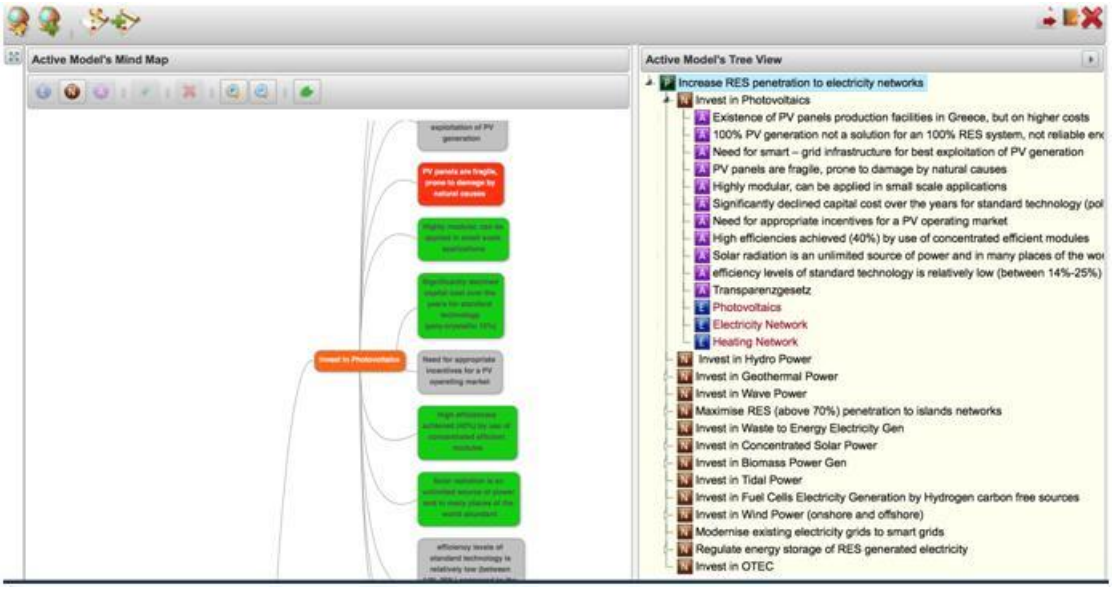


Figure 17: Greek Policy Model within Authoring Tool – Tree View

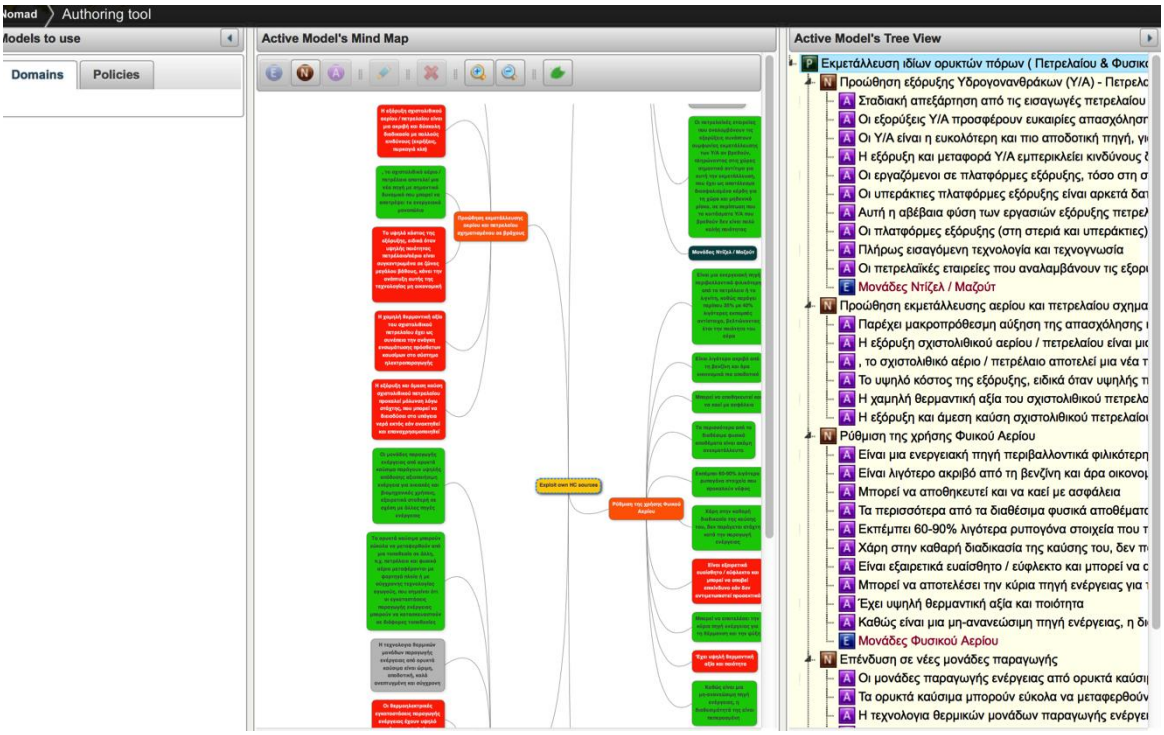


Figure 18: Greek Policy Model (Greek version) – Model and Tree View

The initial expectations of the NOMAD tool capabilities could be summarised to the following lines:

- Get the policy trends as important topics discussed online (word cloud)
- Set a time period to navigate through changes on the trends over this time period
- Observe the differences in trending topics across audiences or over time
- Get an estimation of trend evolution in the future
- Discover the Public Sentiment
- Observe the differences in sentiment over time or across different target audiences
- Explore cumulative sentiment over policy statements
- Discover Public Stance against Policy Arguments

- Observe the differences in public stance towards policy arguments over time or across target audiences
- Get an estimation of the public stance towards policy arguments in the future
- Identify citizens' arguments
- Compare audiences

Figure 19: Greek Pilot Results – Word Cloud

The following remarks and suggestions emerged after the users' interaction with the NOMAD tools:

Authoring Tool Validation

In general, it is easy to use the Authoring Tool to create and add domain entities, new policies/sub-policies, arguments and connect the domain entities with policy model as well. It is particularly missed the capability to connect multiple policies with the same parent domain. Furthermore, in the case of large domains and the relevant policies and sub-policies with multiple policies as the energy domain, including big terms, mind map tool is confusing and unclear. The user cannot navigate in all models, especially when they are big. The zoom functionality is an added value in this case, without solving the problem. It is also unclear for the user, the sources validation and their use in the NOMAD platform.

Visualisation Tool Validation

While the user requirements laid out in the D6.1 were met on a functional level, the users gave the feedback that the user interface isn't very user-friendly and easily understandable. Additionally, the Tool has slow response time. Beyond the fulfilled requirements, the users had additional expectations and suggestions that are not supported by the current tool. Specifically, it was stated that it would be more useful to visualize the results (arguments, opinions, sentiments) as phrases or sentences, not only as terms or word cloud of simple words. It was seen as unclear the way that the user could understand the citizens' sentiments per policy or sub-policy.

Moreover to the visualisation, a detailed description of the crawl results would also be desirable. Furthermore, it is seen as an elementary requirement to provide direct access to the crawled resources.

4.3 Workshop Organisation

The initial validation and evaluation of the NOMAD platform has been done using the following means as reported already in D7.2:

- Selected focus groups for Greek pilot set-up during the pilot preparation period (August 2013 – October 2013)
- Selected technical workshops for pilot scenarios finalization, assisting to create NOMAD community inside Hellenic Parliament (October 2013 – November 2013)
- Selected dissemination events (e.g. newsletter distribution in parliamentary officials, project liaison with ARCOMEM FP7 project, use of the Hellenic Parliament portal for NOMAD events announcement, press release in Greek, use of Hellenic Parliament Social Media)

The final evaluation stage has been done though the organisation of several project workshops, at least 3 workshops were organized in HeP premises during the last period (12 & 22 November 2013 and 14 January 2014) attracting internal and external project users (MPs, MPs Scientific Associates, Parliamentary officials, governmental officials, Prime Minister Office, General Secretariat for Governmental Coordination, Hellenic Parliament General Secretary).

The second of the NOMAD pilot workshops on 22.11.2013 was organised by HeP within the Greek pilot execution. There was a set of 25 people, associated with the Hellenic Parliament, attended the workshop. They presented a real mix of NOMAD potential users: policy makers, Members of the Hellenic Parliament, parliamentary officers, policy advisors and scientific assistants of Members of the Parliament, representatives from Greek political parties, NGOs and policy researchers.

Initially, AEGEAN introduced the project approach and objectives to the audience, and as well the reasons and outcome expected from the workshop. The implementation of the Greek pilot scenario was then presented step-by-step and the first results of this application in the Energy sector were showcased to the attendees. A live demonstration of the NOMAD tools, i.e. the NOMAD Authoring Tool and the NOMAD Visualisation Module, followed. During the next session, participants were invited to interact with the NOMAD tools, where they were assigned specific tasks based on the existing validation scenarios. A subset of the attendees tried the platform live each one under the observation of a member of the consortium, who was there to support the user in solving the tasks, to record any comment made by him or capture any difficulty he faced. Finally, a questionnaire was distributed to the audience, which was filled by them on the spot or it was sent to them to fill it online.

4.4 Pilot Scenario Evaluation Result

Throughout the whole duration of the workshops, and the fruitful discussion carried out between the members of the NOMAD consortium and the potential scenario users, a set of indicative points have been highlighted as evaluation results:

- **Taxonomy** of sources seems to be essential. They highlighted their need to see from which sources the results come in order to assess the **reliability** of sources. In addition, they would like to isolate the results from **specific sources**. They also asked for the capability to get views on the initial content, by visiting the specific source form where it comes, even if the sources are numerous.
- Other users would like to see particular arguments in relation to their source (in case the data of the person, who submitted it, is public). It would be also valuable for potential users to see the **intensity of the argument** per person (how many times the same person expresses the same arguments) or how many people support the same argument.
- The users need to understand the **crawling tool correlation** with the domain / policy model, the sources and the use of arguments. So inevitably the consortium should be able to correlate the domain, the policies, the sub-policies, the entities, the norms and the arguments with the results after the crawling process and documented them in a guide.
- It will be very useful to **map visualisation** results on policy models. That way, users can import findings into the authoring tool in order to refine existing policy models

- Participants were sceptical about the **reliability of the demographic information**, since they consider that Web users conceal their personal details (age, gender, etc.) or declare false information. Thus they wonder in what extent the sample is representative and reliable.
- Moreover, a question was made on how **privacy** and **personal data** are protected. It was explained by the consortium that NOMAD processes only the information that is publicly available. Therefore, the demographic information presented depends on that. Moreover the consortium members should be aware of this fact for the future workshops and project presentations.
- A big discussion was raised among the participants on whether NOMAD tools can be used to provide evidence for supporting an **MP's position** (on a draft bill, on an existing legislation act, a policy proposal, etc.) in the Hellenic Parliament. From the project part, it was highlighted that NOMAD is addressed to the user needs' to get a picture or a **trend line** of the society needs, thus he/ she is responsible for the interpretation of results. The participants asked several times about the **credibility** and **reliability** of the project results and how the policy makers could use them accordingly. It seems that the visualization tool should be more **adaptable** to policy maker questions and feed the authoring tool.
- Additionally, they expressed the need for getting a **user manual** to understand its usage.
- It was generally observed that the users couldn't fully understand the **workflow** of the whole process. In fact, it was highlighted from one user that as the tools are right now addressed, they refer to **more experienced** users with ICT background than to policy makers.
- Another subject of discussion was the way the **sentiment analysis** is performed, i.e. how a statement is characterised as positive/negative/neutral, the arguments sentiment and the connection with the policy

As a general conclusion, it was agreed that NOMAD provides a **useful tool for quantitative and qualitative analysis.**

Moving to the training session, the following comments/suggestions were recorded during the execution of validation scenarios by the users:

- The UI should be available in **Greek** for the users of the Hellenic Parliament and special attention should be given in the terminology used.
- Particular attention should be given to the **technology development tools**, so that they can be easily, smoothly and without difficult configurations used in the networks and infrastructures of the Parliament (who have firewalls & old technology), but also by different types of computers (old and new).
- The presentation and layout of elements on the screen should be more **functional**. The buttons are not clear in what they do it cannot easily be understood how someone has to navigate to complete these tasks.
- The visualisation of results is fundamental and it is very important to present them through pie, bar charts in order to make them easily readable. It seems that the visualisation tool should be improved to provide a more intuitive **UI.**
- The terms in the **world cloud** or in the audience comparative view can have ambiguous meaning, thus cannot help the user to extract conclusions. For example the term 'euro' displayed in the world cloud, can refer either to cost or benefit.
- The response of the visualisation component was very **slow**, thus discourage users in waiting the results for every task they performed, taking also account the limited time they have.
- Some things aren't very **visible**. For example some terms in the world cloud weren't very clear and when **zooming** in some terms are lost from the displayed area. The same thing applies for the model view and the dates of posts (the axis label).

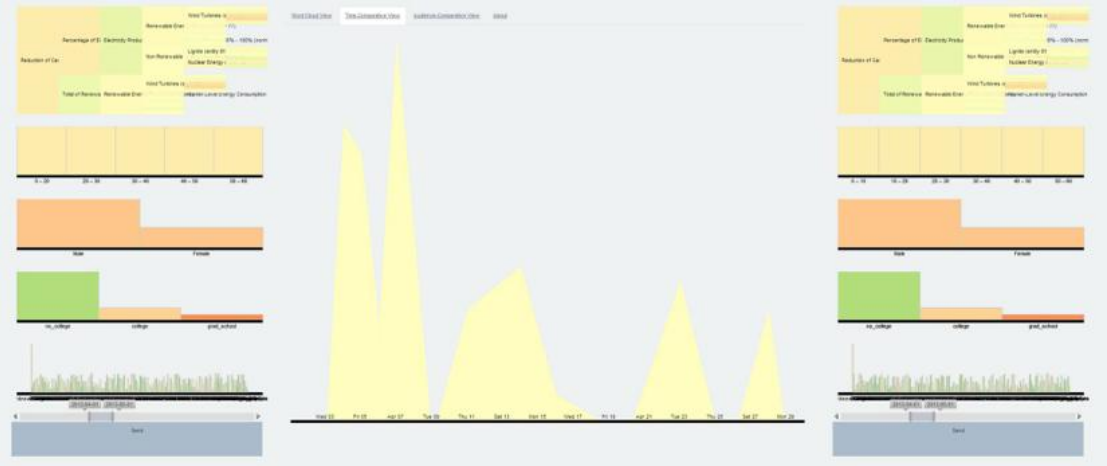


Figure 20: Greek scenario Visualisation Results

4.5 Adaptations for the 2nd Round

Based on the above validation and users' evaluation results, the experience gained and the interaction with the users, new specifications of the 2nd pilot round and its goals have been derived. Using the following framework, HeP working team will proceed to the new pilot set-up:

- Update the domain model taking into account the last evolutions in the energy sector in Greece and Europe (e.g. new energy investments in Greece, energy crisis in Ukraine) which is a hot policy issue
- Update the policy models with new policies and sub-policies more closer to the reality and new facts and figures
- Use arguments from visualization results to assess the policy models
- Extensive use of the new Authoring Tool as basis to:
    - Change Policy Model
    - Open multiple models
    - Load current policy models from other databases
    - Select specific policy model through search
    - Edit changes and save for further analysis
- Extensive use of policy trend analysis as the key for the visualisations
- Visualisation tool should be comparable with the authoring tool

The 2nd pilot could use the following table as input for the new authoring tool, having as main scope to assess the new energy strategy in Greece, check the new trends (EU financial and energy crisis, new pipelines), the upcoming investments for energy sources, new drills, oil extraction in Western Greece and Crete. Exploring the potential investment opportunities in the energy sector in Greece, NOMAD platform could assist the policy makers to understand the new stakes and arguments in this domain and suitable policies as well. The New Energy Plan for Greece using hydro carbons from the Greek territory and the possible cooperation agreements with foreign companies is another major issue that should be examined.

Moreover, NOMAD platform could check once more the RES evolution in comparison with Hydro Carbons and Oil, identifying also the role of Natural Gas. So the user could add norms and arguments, answering questions about the independency of Greece in Energy sector. So it will be very easy to compare the results of the 1st pilot especially in field of RES with the 2nd pilot results. At this point the user could use the timeline and trend analysis for this.

Energy can undoubtedly be an important driver of economic growth, since it is the lifeblood of the global economy – a crucial input to nearly all of the goods and services of the modern world. Managing resources for truly sustainable economic growth is rapidly becoming one of this century's greatest imperatives and opportunities. So, terms like

economic growth, employment, investments, energy efficiency, pipelines, energy crisis, revenue, austerity, could be added too.

Domain	Policies	Sub-Policies
Energy Investments	Exploit own Fossil Fuel sources	Promote Hydro-Carbons (HC) drills on areas of interest (onshore and offshore)
		Promote shale gas and oil shale exploit
		Regulate Natural Gas (NG) use
		Invest in new fossil fuels thermal units and plants
		Continue exploiting the existing Lignite sources
		Invest in Oil/ Gas Network Infrastructure (locally and International interconnection)
RES investments	Increase RES penetration if final consumption	Increase RES penetration to electricity networks
		Increase RES usage in mobility
		Increase RES penetration to heating /cooling
		Increase RES energy efficiency
		Promote RES
Energy for Growth	New Growth Model for Greece	Innovation and Research Development
		Sustainable Investments
		Energy Hub
		Tax Revenue with social security
		Increase Employment rate
		Reduce Energy Cost
		Attract new direct foreign investments
		Optimisation of energy mix

5. AUSTRIAN PILOT SCENARIO APPLICATION

5.1 Overview

Pilot Theme

Primary subject of the Austrian pilot is the public debate on what might be called a freedom of information act, i.e. a coherent legal basis for open government information in Austria. This debate is overlapping with the public debate on open government data policies at large, at the federal, provincial, and municipal levels, which therefore will also be subject of the pilot.

By the term **Open Government Data** we define the data produced or commissioned by government or government controlled entities, which is open and can be freely used, reused and redistributed by anyone. The three key drivers of the open data movement are (a) Transparency, (b) Release of social and commercial value and (c) Participatory Governance.

Pilot Objectives

The public debate on open government data policies and a coherent freedom of information act in Austria has reached the "creating the policy" stage, in accordance with the NOMAD policy cycle (D3.1, item 2.2). In accordance with the more elaborate legislative cycle (D7.1, item 3.4.2), it has reached the "drafting" stage.

Using the NOMAD tools will therefore support the following objectives:

- Identify possible policy options
- Simulate impact of options

Thus, the actors of the legislative process will be supported in obtaining a clearer picture of the positions of major interest groups towards the policy options as discussed in civil society, and in developing their own argumentation patterns.

5.2 Tools Adoption and Initial Validation

After the conceptualisation of the domain and policy models (D7.2 Description of the Pilot Scenarios), the Authoring Tool was used to insert the specifications into the NOMAD platform. The AUP model was specified and imported in German in accordance with the civil society discourse on the subject matter being performed in German.

To learn more about the functionalities of the Authoring Tool and to understand the visualised results within the Visualisation Tool a training session was scheduled. This training session was held at the premises of the Austrian Parliament among AUP, CP and AEGEAN. The objective was to facilitate a thorough evaluation of the NOMAD tools with the user partners from the Austrian Parliament and collect their evaluation feedback. Furthermore, it was intended to utilize the experience acquired during the two previous workshops (CP and HEP). The Austrian application scenario was examined, and all material required for the AUP pilot workshop was prepared (presentations, evaluation scenarios, questionnaires, etc.).

The following remarks and suggestions emerged after the first interaction with the NOMAD tools and the discussion during the training session:

Authoring Tool

In general, it was easy to use the Authoring Tool to create and add domain entities and new policies/sub-policies. Regarding this main functionality, it was particularly missed that the tool did not implement sort of a "learning ontology" concept: In the first version of the NOMAD system, the only way provided is to build the domain model manually. There is no automated interaction between a given domain model and the crawl results. New terms should be added automatically to the domain model. Furthermore, in the case of large domains, including lots of minor terms, mind maps can be confusing and unclear. The user cannot navigate in the model, especially when it is big.

Visualisation Tool

Aside of interface issues and slow response time of the Visualisation Tool, new requirements have been identified by the users. The current design based on the user requirements from deliverable D6.1 should be changed with respect to the information displayed. The users stated that, e.g. arguments, opinions and sentiments should be represented by phrases or sentences, not only by terms. Additionally to the visualisation, a detailed description of the crawl results would also be required. Furthermore, it is an elementary requirement to provide direct access to the crawled resources.

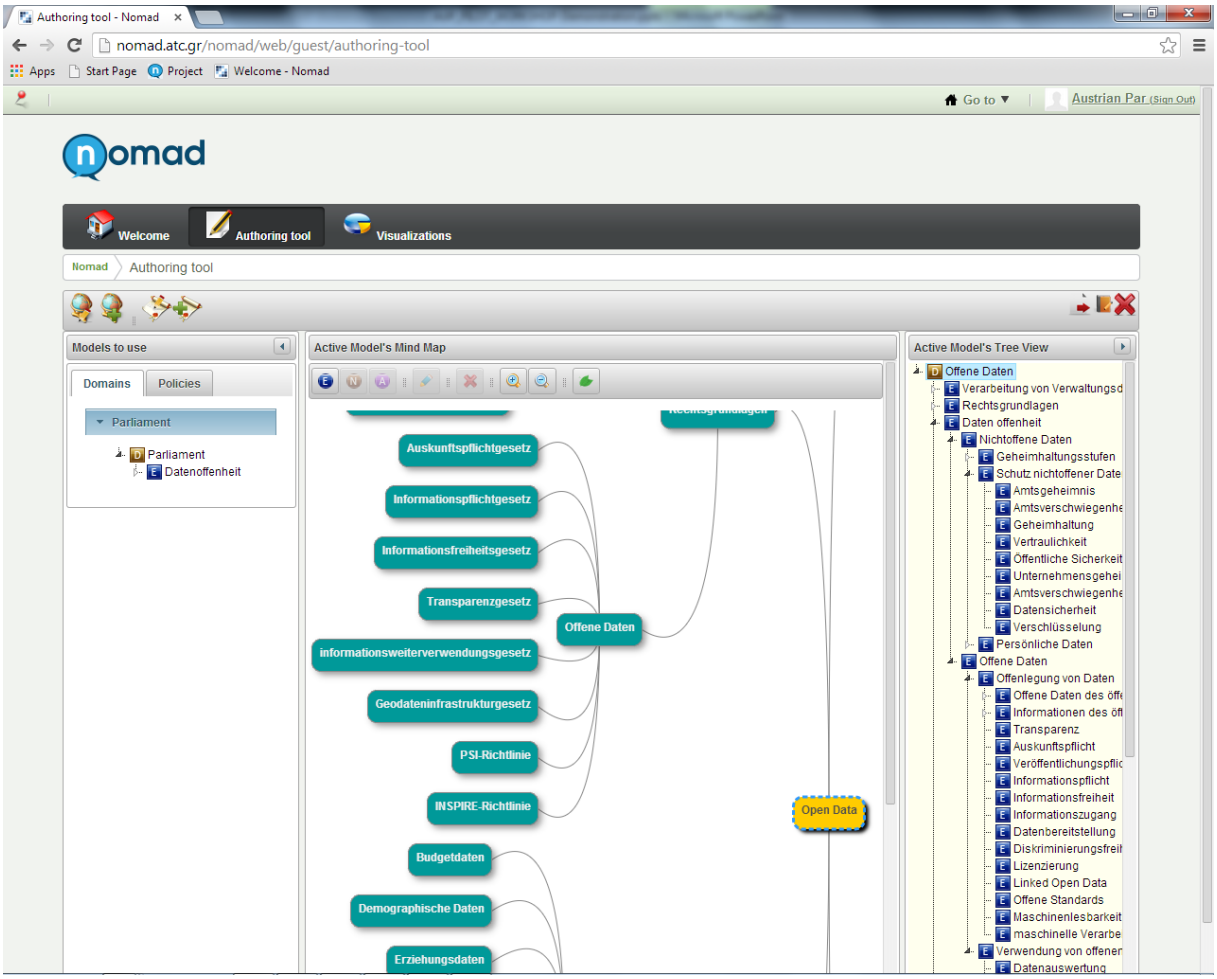


Figure 21: Austrian Domain Model within Authoring Tool – Tree View

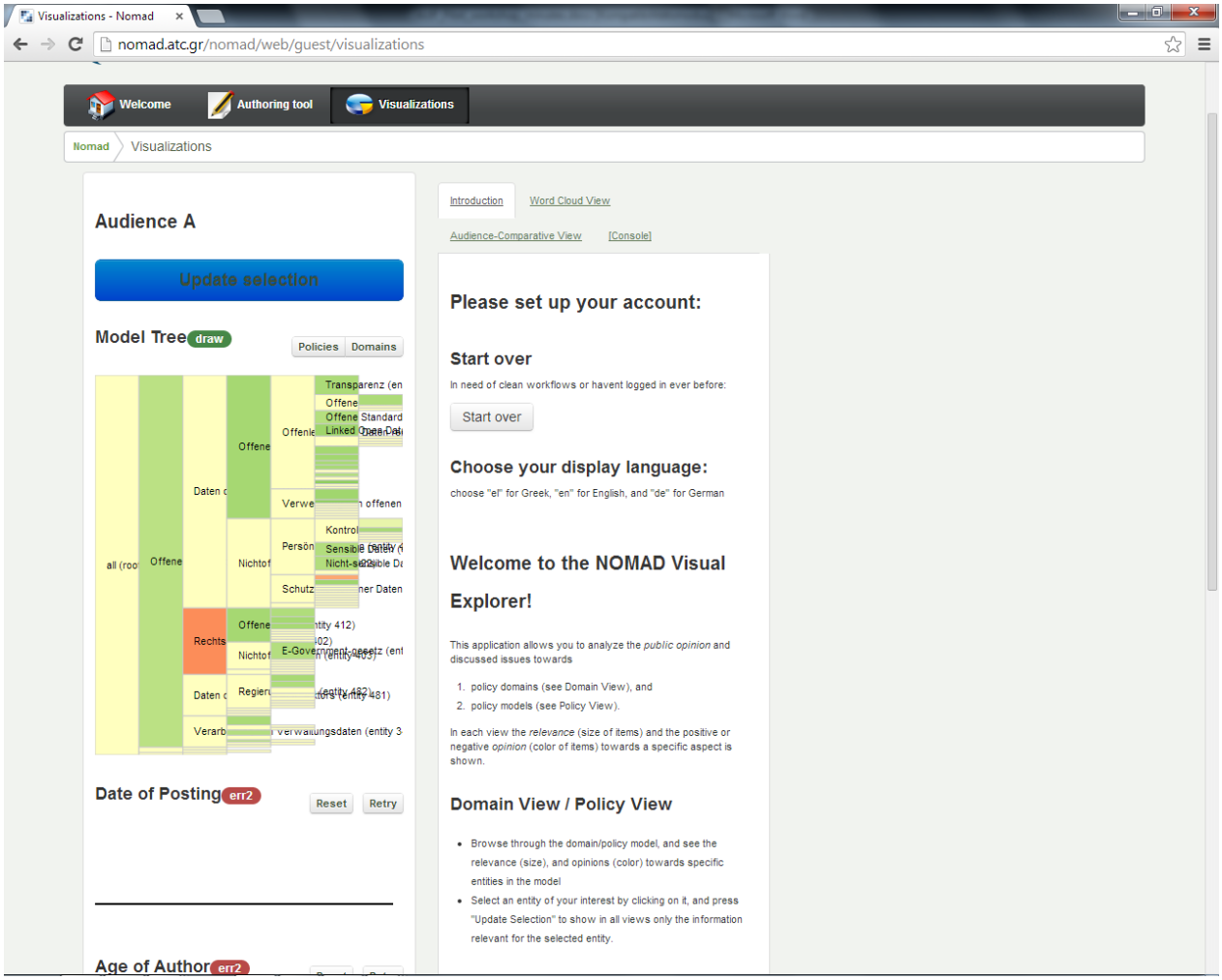


Figure 22: Austrian Policies within the Visualisation Tool

5.3 Workshop Organisation

The third of the NOMAD pilot workshops was organised by Austrian Parliamentary Administration (AUP). The workshop took place in the IT training-room of the Austrian Parliamentary Administration on 17 February 2014. It was attended by staff members of the organizational units responsible for information management and IT support, i.e. the competence center/e-legislation, the IT department, the department for digital media and corporate design, the media documentation, and the department for archives, documentation, and statistics. There was a set of 7 people, who attended the workshop. The decision to arrange the workshop as an internal “friendly user” workshop was made on the ground if the insight obtained during the training session on 24 January 2014, and after consultation with the project partners.

The session was introduced by presentations on the general issues of policy making in the arena of Web 2.0 as well as on the overall NOMAD concept. Then, the Austrian pilot and the NOMAD tools (Authoring Tool, Visualisation Tool) were demonstrated.

The workshop participants had the opportunity to get acquainted with the tools in a more playful way but they preferred a live demonstration of the tools from the workshop leader, because they were firm with mind-mapping tools due to their IT backgrounds. The workshop leader demonstrated parts of the evaluation scenario regarding the Authoring Tool and the Visualisation Tool, and after an intensive discussion about the general vision of NOMAD and the specific aspects/issues of the application tools, finally, the users completed the questionnaires prepared by AEGEAN.

5.4 Scenario Results

The user expectations about the output have been expressed in the pilot objectives mentioned above, i.e. identify possible policy options and simulate the impact of options.

The "Word Cloud View" and the "Audience-Comparative View" within the Visualisation Tool are meant to obtain the frequency and time-range of terms extracted from the civil society discussion on the crawled web sources, as well as the correlations between used terms and various categories, e.g. date of posting, age of authors and so on. While this is implemented in the first version visualisation prototype, the users stated that they wish to analyse the crawl results in a more sophisticated way. It seems that the exclusive presentation of frequency of terms didn't tell much about possible policy options and impact of options.

What did the pilot users miss in the presentation (visualisation) of the results? Two main aspects:

1. For semantic text analysis like argument extraction or sentiment analysis there should not be any doubt about semantically better organized conceptualizations than keyword lists being required. Since in the concrete example a higher-level conceptualization is available, it should also be made use of.

2. Most of the comments of the test users were related to the description and availability of crawl results within the Visualisation Tool. To be able to contextualize the evaluation results as to be displayed by the Visualisation Tool these results first have to be described in a summarizing way, so to enable the users to recognize which results have been extracted from what kind of sources (blogs, wikis, etc.). When drilling down the evaluation results, policy makers will often be interested in having an argument (or a sentiment) contextualized by the source it is extracted from, so that it is necessary to also make these resources as such, i.e. the documents crawled, available to the users. This is of particular importance for three reasons:

- First, the analysis has to be based on larger syntactical structures, i.e. the whole text documents, their paragraphs and sentences, but not only on terms;
- Then, to be able understand an argument or to assess a sentiment one needs to know the context in which the argument is made or in which the sentiment is expressed;
- Finally, for policy makers in practice it is more important to know who (or what societal entity) has made an argument or feels a sentiment than to know about the argument or the sentiment itself. This latter requirement cannot be fulfilled by rough demographic analyses only.

Detailed scenario results and more propositions for the improvement of the platform are summarized in the "Workshop Minutes" gathered and manipulated internally by the consortium partners.

5.5 Adaptations for the 2nd Round

At the evaluation meeting in Brussels it was agreed to keep to the pilot scenario "freedom of information act/open government data" for the 2nd pilot round, for several reasons:

- The public discourse in Austria on the subject manner is ongoing and has in the meantime produced a first ministerial draft bill of a freedom of information act that is to serve as a normative framework for the specification of a draft policy.
- Given the development progress of the NOMAD tools, the audience of the 2nd pilot round can be enlarged in comparison to the first one, now also including external users.
- For the internal users who already participated in the 1st pilot round, the focus on the technical progress will be even clearer if there is no shift in the thematic focus.

Therefore, in preparation of the 2nd pilot workshop the Austrian policy model, in particular the part regarding the freedom of information policy, will be specified in accordance with the above-mentioned ministerial draft bill so that beyond the general policy option statements extracted from the civil society discourse on the subject matter there will be available a coherent policy model representing the normative approach laid down in the draft bill.

In the following list, some policies have been extracted from the draft bill:

- Ensuring transparency of government action

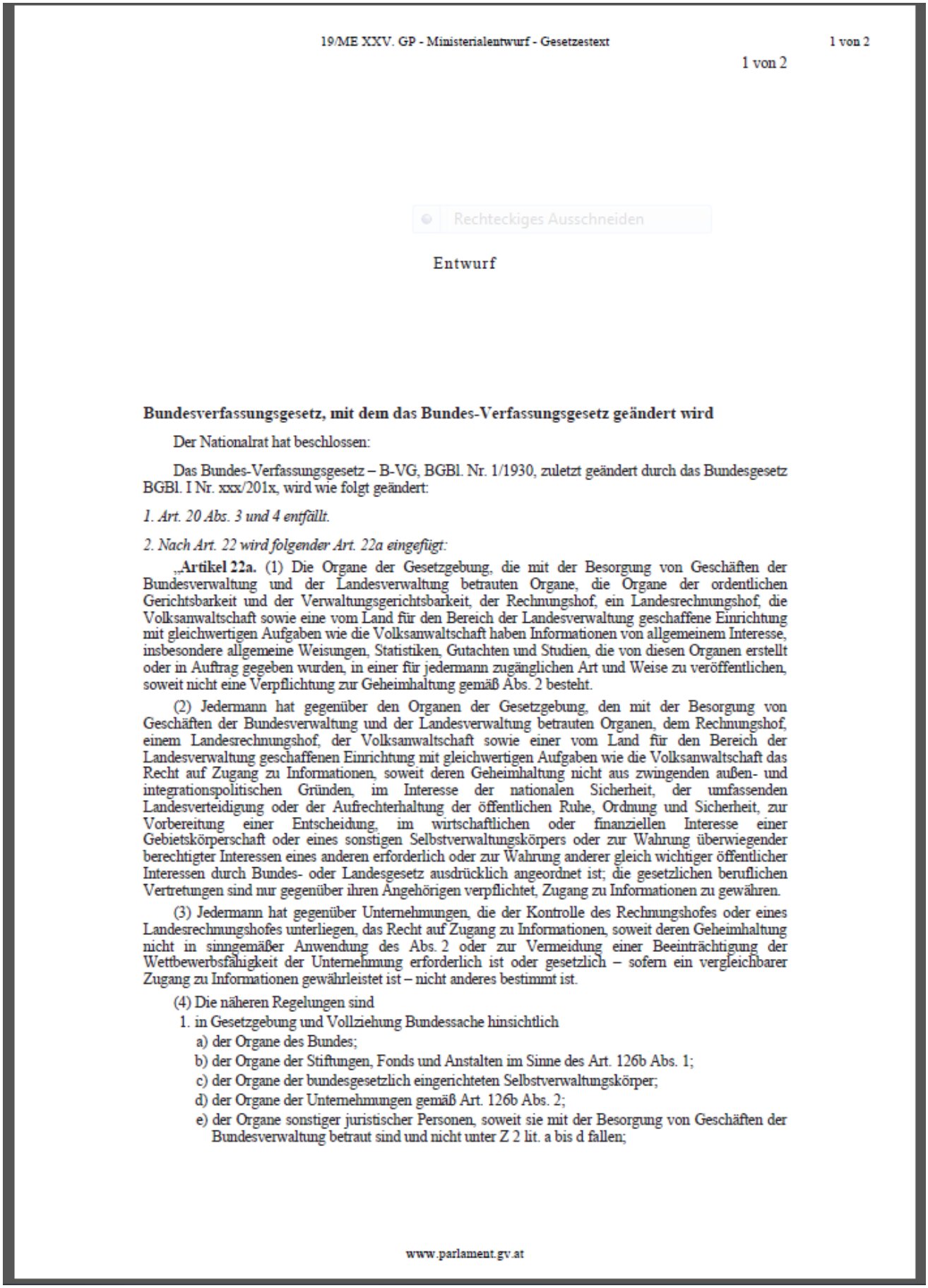
- Ensuring access to information
- General provision of information of general interest
- Active information policy
- Provision of information on request

For the 2nd pilot workshop these extracted policies can be linked to entities already defined in AUP domain model:

- Data disclosure
    - Open Government Data
        - Open administrative data
        - Open judicial data
        - Open parliamentary data
    - Public sector information
        - Administrative information
        - Justice Information
        - Parliament information
    - Transparency
    - Accountability
    - Disclosure obligation
    - Information obligation

The comments given on the draft bill within the framework of the consultation procedure it was subjected to also provide rich text material for policy-related argument extraction.

By identifying and evaluating the arguments made in this text corpus and by measuring the distance between these arguments and the arguments accompanying the draft bill it will be possible to assess to what extent the Austrian civil society sees satisfied its demands for freedom of information as stated in the civil society discourse before. Drilling down the comments made by different agents will showcase the distribution of interests and opinions within the civil society, in respect of the domain of public information policy. The larger the available text corpus and the longer the period of time covered, the more it will be possible to also analyse the development of arguments and of the notion of the participants in the civil society discourse. In the given policy field there is in particular to be observed a tension between the values of freedom of information on the one hand and data protection on the other hand, so that from the analysis over time an extrapolation of the development of this conflict of arguments might be possible. Such an extrapolation would be an important means for policy makers in promoting specific policies or even in deciding what policies to promote.



19/ME XXV. GP - Ministerialentwurf - Gesetzestext 1 von 2

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Entwurf

Bundesverfassungsgesetz, mit dem das Bundes-Verfassungsgesetz geändert wird

Der Nationalrat hat beschlossen:

Das Bundes-Verfassungsgesetz – B-VG, BGBl. Nr. 1/1930, zuletzt geändert durch das Bundesgesetz BGBl. I Nr. xxx/201x, wird wie folgt geändert:

1. Art. 20 Abs. 3 und 4 entfällt.

2. Nach Art. 22 wird folgender Art. 22a eingefügt:

„**Artikel 22a.** (1) Die Organe der Gesetzgebung, die mit der Besorgung von Geschäften der Bundesverwaltung und der Landesverwaltung betrauten Organe, die Organe der ordentlichen Gerichtsbarkeit und der Verwaltungsgerichtsbarkeit, der Rechnungshof, ein Landesrechnungshof, die Volksanwaltschaft sowie eine vom Land für den Bereich der Landesverwaltung geschaffene Einrichtung mit gleichwertigen Aufgaben wie die Volksanwaltschaft haben Informationen von allgemeinem Interesse, insbesondere allgemeine Weisungen, Statistiken, Gutachten und Studien, die von diesen Organen erstellt oder in Auftrag gegeben wurden, in einer für jedermann zugänglichen Art und Weise zu veröffentlichen, soweit nicht eine Verpflichtung zur Geheimhaltung gemäß Abs. 2 besteht.

(2) Jedermann hat gegenüber den Organen der Gesetzgebung, den mit der Besorgung von Geschäften der Bundesverwaltung und der Landesverwaltung betrauten Organen, dem Rechnungshof, einem Landesrechnungshof, der Volksanwaltschaft sowie einer vom Land für den Bereich der Landesverwaltung geschaffenen Einrichtung mit gleichwertigen Aufgaben wie die Volksanwaltschaft das Recht auf Zugang zu Informationen, soweit deren Geheimhaltung nicht aus zwingenden außen- und integrationspolitischen Gründen, im Interesse der nationalen Sicherheit, der umfassenden Landesverteidigung oder der Aufrechterhaltung der öffentlichen Ruhe, Ordnung und Sicherheit, zur Vorbereitung einer Entscheidung, im wirtschaftlichen oder finanziellen Interesse einer Gebietskörperschaft oder eines sonstigen Selbstverwaltungskörpers oder zur Wahrung überwiegender berechtigter Interessen eines anderen erforderlich oder zur Wahrung anderer gleich wichtiger öffentlicher Interessen durch Bundes- oder Landesgesetz ausdrücklich angeordnet ist; die gesetzlichen beruflichen Vertretungen sind nur gegenüber ihren Angehörigen verpflichtet, Zugang zu Informationen zu gewähren.

(3) Jedermann hat gegenüber Unternehmungen, die der Kontrolle des Rechnungshofes oder eines Landesrechnungshofes unterliegen, das Recht auf Zugang zu Informationen, soweit deren Geheimhaltung nicht in sinngemäßer Anwendung des Abs. 2 oder zur Vermeidung einer Beeinträchtigung der Wettbewerbsfähigkeit der Unternehmung erforderlich ist oder gesetzlich – sofern ein vergleichbarer Zugang zu Informationen gewährleistet ist – nicht anderes bestimmt ist.

(4) Die näheren Regelungen sind

1. in Gesetzgebung und Vollziehung Bundessache hinsichtlich
   a) der Organe des Bundes;
   b) der Organe der Stiftungen, Fonds und Anstalten im Sinne des Art. 126b Abs. 1;
   c) der Organe der bundesgesetzlich eingerichteten Selbstverwaltungskörper;
   d) der Organe der Unternehmungen gemäß Art. 126b Abs. 2;
   e) der Organe sonstiger juristischer Personen, soweit sie mit der Besorgung von Geschäften der Bundesverwaltung betraut sind und nicht unter Z 2 lit. a bis d fallen;

www.parlament.gv.at

Figure 23: Ministerial draft bill of a freedom of information act bill, page 1

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2. in Grundsatzgesetzgebung Bundessache und in Ausführungsgesetzgebung und Vollziehung Landessache hinsichtlich
   a) der Organe des Landes, der Gemeinde und der Gemeindeverbände;
   b) der Organe der Stiftungen, Fonds und Anstalten im Sinne des Art. 127 Abs. 1 und des Art. 127a Abs. 1 und 8;
   c) der Organe der landesgesetzlich eingerichteten Selbstverwaltungskörper;
   d) der Organe der Unternehmungen gemäß Art 127 Abs. 3 oder Art. 127a Abs. 3;
   e) der Organe sonstiger juristischer Personen, soweit sie mit der Besorgung von Geschäften der Landesverwaltung betraut sind und nicht unter Z 1 lit. a bis d fallen."

3. Art. 67a wird folgender Abs. 3 angefügt:

„(3) In den Angelegenheiten gemäß Art. 22a Abs. 1 und 2 betreffend Informationen aus dem Wirkungsbereich des Bundespräsidenten ist die Präsidentschaftskanzlei zuständig."

4. Art. 148b Abs. 1 zweiter Satz lautet:

„Gegenüber der Volksanwaltschaft besteht keine Verpflichtung zur Geheimhaltung."

5. Art. 148b Abs. 2 lautet:

„(2) Die Volksanwaltschaft unterliegt der Verpflichtung zur Geheimhaltung im gleichen Umfang wie das Organ, an das die Volksanwaltschaft in Erfüllung ihrer Aufgaben herangetreten ist. Bei der Erstattung der Berichte an den Nationalrat ist die Volksanwaltschaft zur Geheimhaltung nur insoweit verpflichtet, als dies im Interesse der nationalen Sicherheit oder der militärischen Landesverteidigung oder zur Wahrung überwiegender berechtigter Interessen eines anderen gesetzlich ausdrücklich angeordnet ist."

6. Art. 151 wird folgender Abs. xx angefügt:

„(xx) Art. 22a, Art. 67a Abs. 3, Art. 148b Abs. 1 zweiter Satz und Art. 148b Abs. 2 in der Fassung des Bundesverfassungsgesetzes BGBl. I Nr. xxx/2014 treten mit 1. Jänner 2016 in Kraft; gleichzeitig tritt Art. 20 Abs. 3 und 4 außer Kraft. Auf mit Ablauf des 31. Dezember 2015 anhängige Auskunftsbegehren sind Art. 20 Abs. 3 und 4, die auf Grund des Art. 20 Abs. 4 erlassenen Gesetze und die auf deren Grundlage erlassenen Verordnungen weiter anzuwenden."

Figure 24: Ministerial draft bill of a freedom of information act bill, page 2

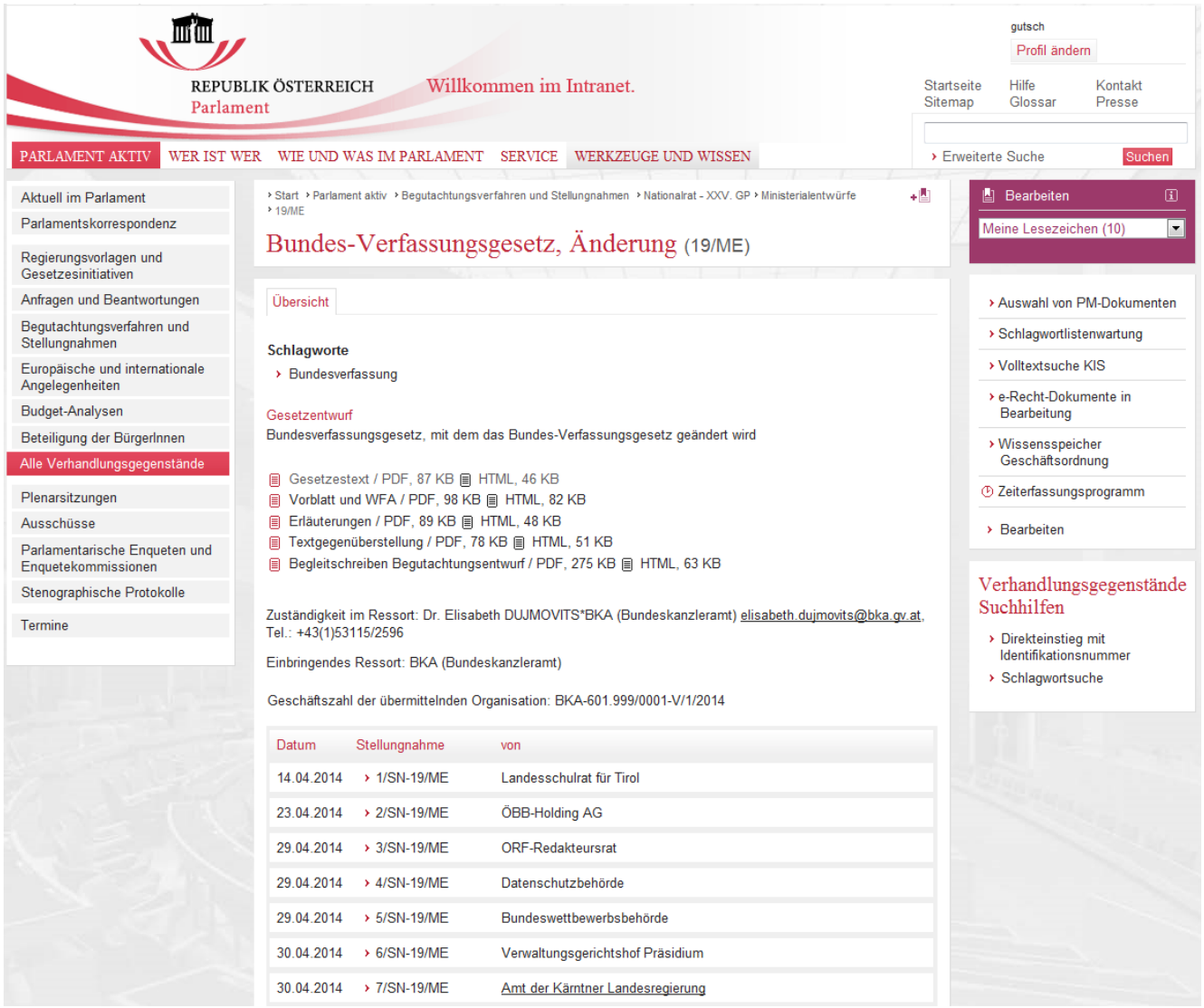


Figure 25: Comments on the draft bill given within the framework of the consultation procedure[2]

[2] http://www.parlament.gv.at/PAKT/VHG/XXV/ME/ME_00019/index.shtml

6. ADDITIONAL SCENARIOS APPLICATIONS

In order to assess to what extent NOMAD tools can be utilized by users not as familiar with the project and its concept as the pilot users are, and judge how easily can be adopted by wider target audiences, it was decided by the consortium to include some trial applications in the second round of pilots. The objective of these trials is to have external users, who have minimum knowledge of NOMAD and very limited training to the platform, to set up their own application scenario, and obtain results of their interest, but with close monitoring by the project partners. Therefore, currently three, smaller in scale applications have been prepared and were carried out by university students under the coordination and guidance of the University of the Aegean. The policy topics selected in these pilots were on different domains, from regional up to European interest, as described below:

i. **European Elections:** The aim of this scenario was to mine the public opinion around the European Elections of March 2014 and the main issues discussed on web ahead the elections, which are likely to affect people's vote decision on the election date. It was an attempt to investigate citizenry's views and argumentation against the policy positions of the candidate political parties for the European Parliament around the major issues in Greece and Europe in general such as Economy, Migration, Dept Sustainability and National Sovereignty**.** For this reason the domain and policy models were built both in Greek and English and popular news portals and social media accounts from Greece and Europe in general were inserted as sources. The scenario also foresees a new run after the elections in order to compare the results before and after the election results. Some screenshots from the domain and policy models of this scenario are presented below.

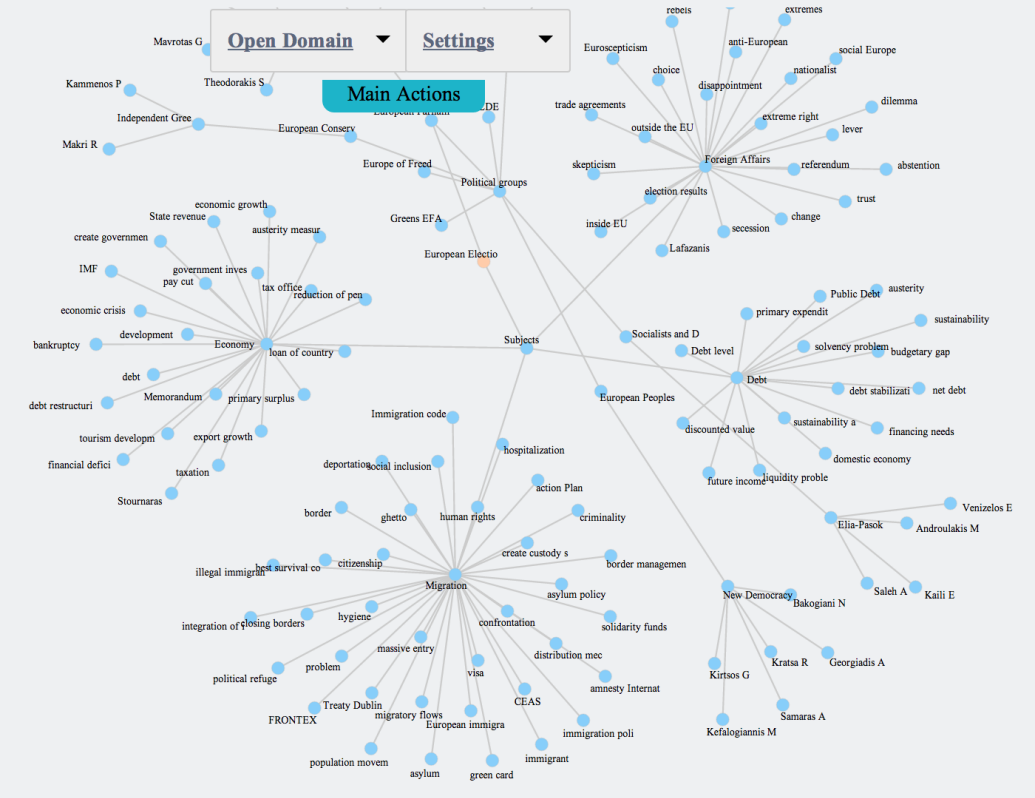


Figure 26: European elections - Domain Model

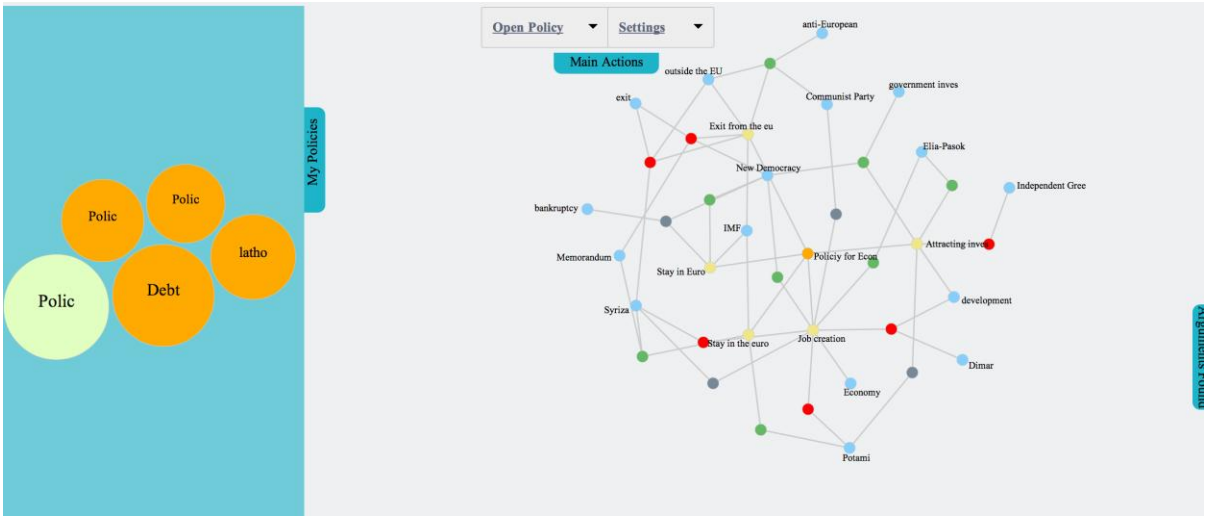


Figure 27: Model for the policy "Economy and Development"

ii. **Waste Management in Peloponnese:** This scenario concerns a current problem in the region of Peloponnese in Greece, where is the insufficient management of litter. The domain model was constructed as taxonomy of the different kinds of waste and ways for their management in general, while the policy models consist of the current policy of the region for waste management and the different ways for the solid and liquid waste management proposed by different parties at various times. The objective here was to see through the results what the residents of this area consider as best solution for addressing this problematic situation. Again, below are presented some figures on the waste management domain and policy models.

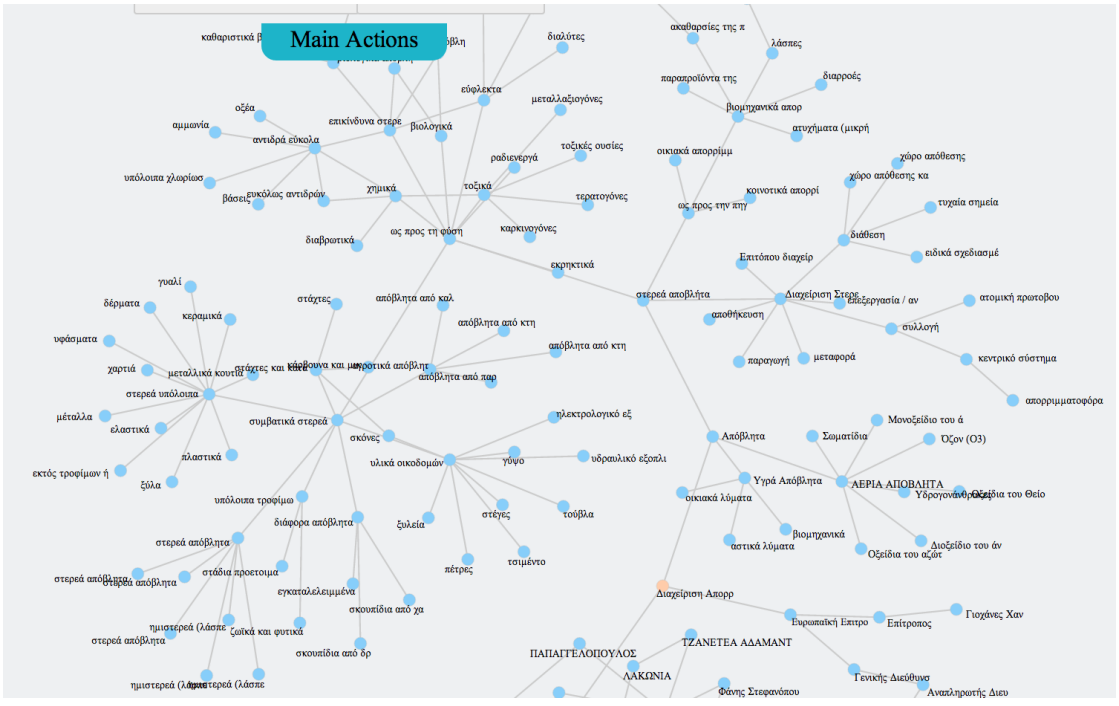


Figure 28: "Waste Management" Domain Model

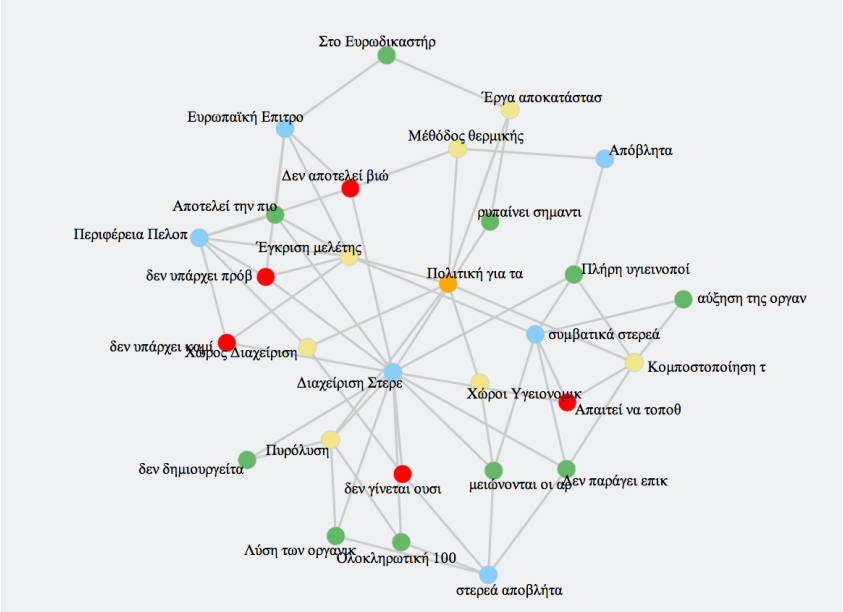


Figure 29: Model for the "Solid Waste Management" policy

iii. **Alternative Tourism:** The domain of this application is "Alternative Tourism" with all its sub-categories, e.g. sports or religious tourism and the alternatives for enrichment of these types of tourism in Greece, through the exploitation of natural and cultural assets. The objective of this pilot is to understand the peoples' stance against the different types of alternative tourism and the actions to be taken for improving the "Greek tourism product". Some instances of the domain and policy models of this scenario follow here below.

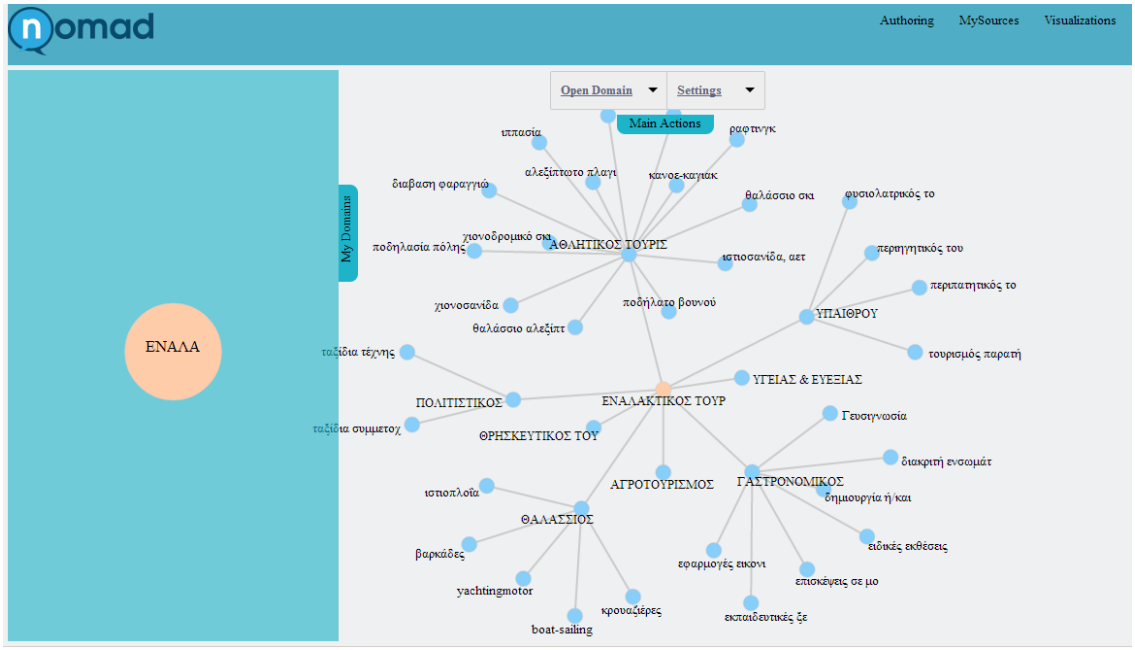


Figure 30: Alternative Tourism - Domain Model

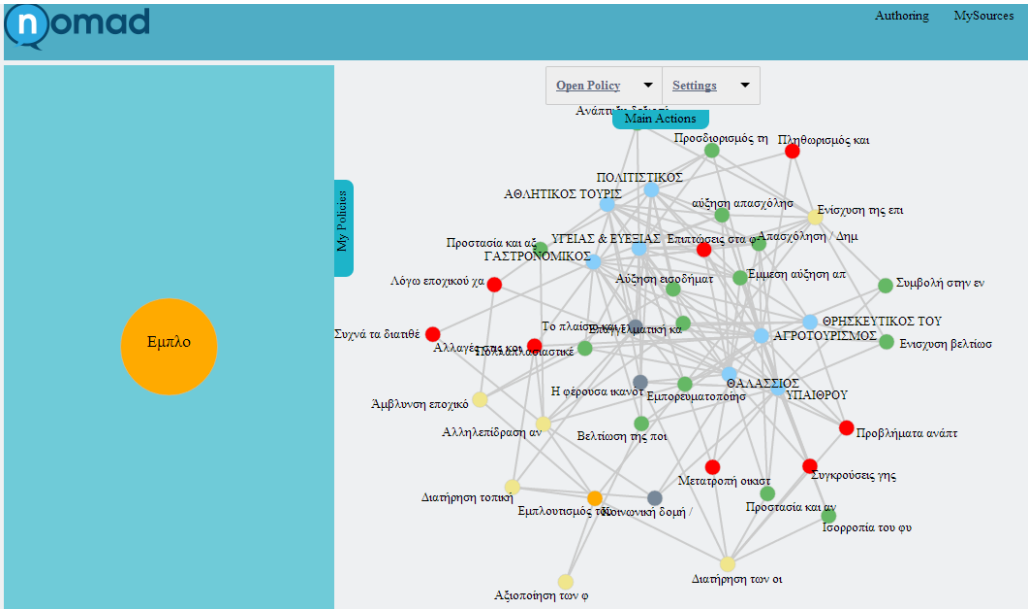


Figure 31: "Enrichment of the Greek Tourism product" - Policy model

A set of steps have been followed by AEGEAN and implemented by the end users to complete the execution of each scenario, which can be summarized below:

1. Introduction to NOMAD
2. Demonstration of the NOMAD tools
3. Consultation on the selection of domain and policy, directions for the creation of models and selection of sources
4. Domain and Policy models authoring
5. Review of models
6. Initiation of the NOMAD process
7. Results monitoring
8. Corrections
9. Initiation of a second NOMAD cycle

Since these applications are still on progress, the detailed specifications, results from them and the evaluation conclusions are going to be reported in the next version of the Evaluation report. Apart from the above three, more trials are planned for the second round, while it is intended to conduct total free pilots in the final round, when tools will be ready for adoption by stakeholders involved in the decision making process.

7. EVALUATION ANALYSIS

7.1 Overview

In order to apply effectively the NOMAD evaluation methodology, the pilot partners and AEGEAN, as the initiator of the evaluation methodology, monitored this first round of pilot activities described above. The current section presents the data gathered and analysed during the first NOMAD evaluation cycle. The results coming from each pilot have been consolidated to sum up the overall feedback from this stage and provide valuable insights for the upcoming development.

The four key questions posed during the evaluation sessions were:

- How would potential users **exploit** the showcased capabilities in policy formulation and what other features would be expected by them to support their competences in different stages of the decision making process?
- How do users **asses** the overall platform and its individual components, in terms of usability, ease of use and presentation?
- What else capabilities would be **expected** from a platform like NOMAD?
- Is the crowdsourcing concept **feasible** through a platform like NOMAD?

The following figure provides an overview in the form of SWOT analysis for the 1st NOMAD prototype resulted from the feedback accumulated from the users having interacted with the NOMAD toolset so far.

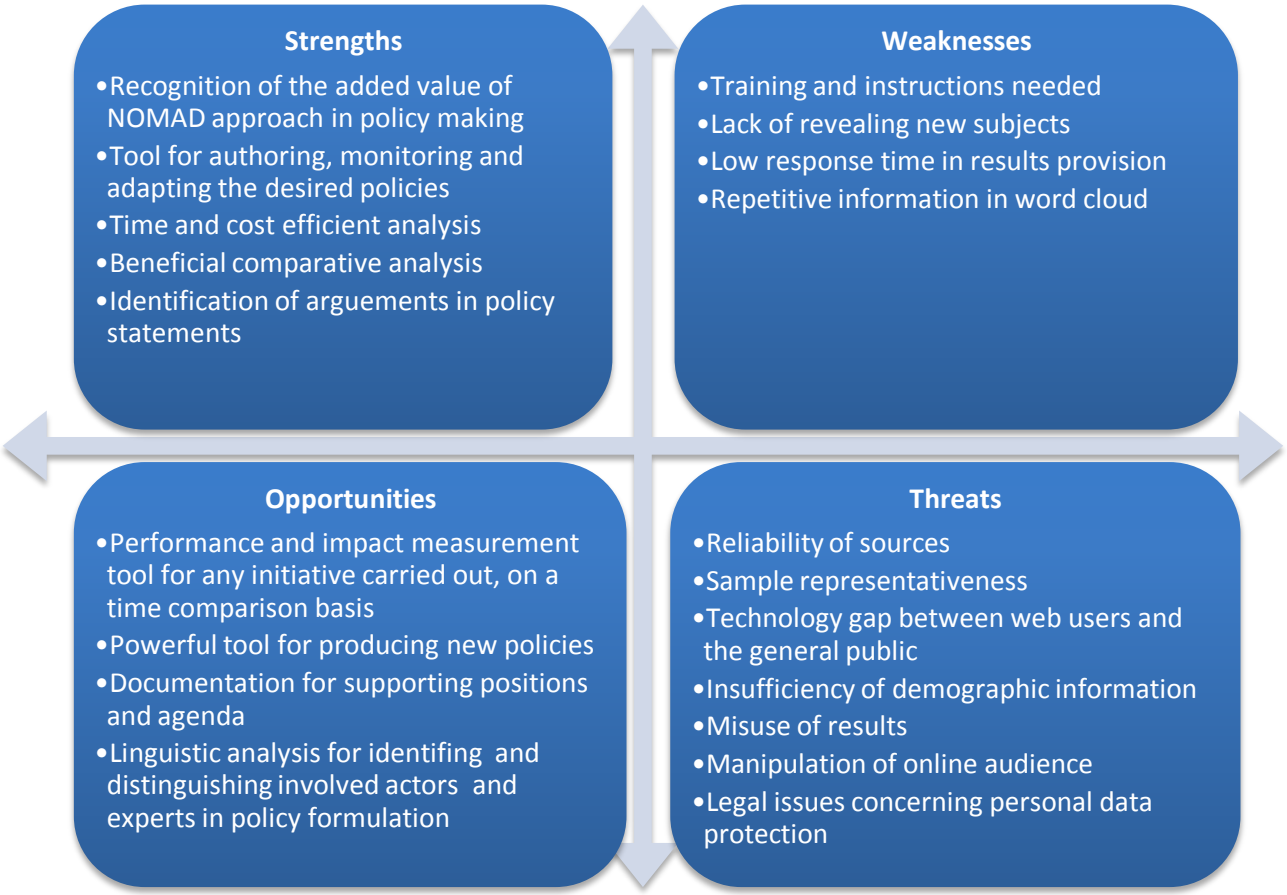


Figure 32: SWOT Analysis on the 1st NOMAD prototype

The above points, which are going to be elaborated in the following sections, formed the main drivers for the decisions taken among the consortium for the progress of the projects towards the improvement of tools and alignment with the policy maker expectations.

7.2 Analysis

The NOMAD results emerged from this first pilot round have been evaluated through the three perspectives envisaged in the NOMAD evaluation framework (deliverable D7.3); the **technological perspective,** the **crowdsourcing component** of **NOMAD,** the **political perspective.** Therefore the evaluation results are presented per each perspective and so the following subsections are structured. The two data gathering techniques employed in this phase were questionnaires and focus group discussions. Therefore the analysis per perspective contains the synthesis of both qualitative and quantitative metrics. The questionnaires[3] were translated in the three languages (English, Greek and German) in accordance with the pilot languages and the respective audience that participated in each workshop, while with respect to the qualitative evaluation focus-group discussions within the workshop participants were held. The detailed questionnaire results are included in Annex A: Questionnaire Results.

Figure 33: Photos from the pilot workshops

[3] Available at http://www.nomad-project.eu/OurCases.aspx

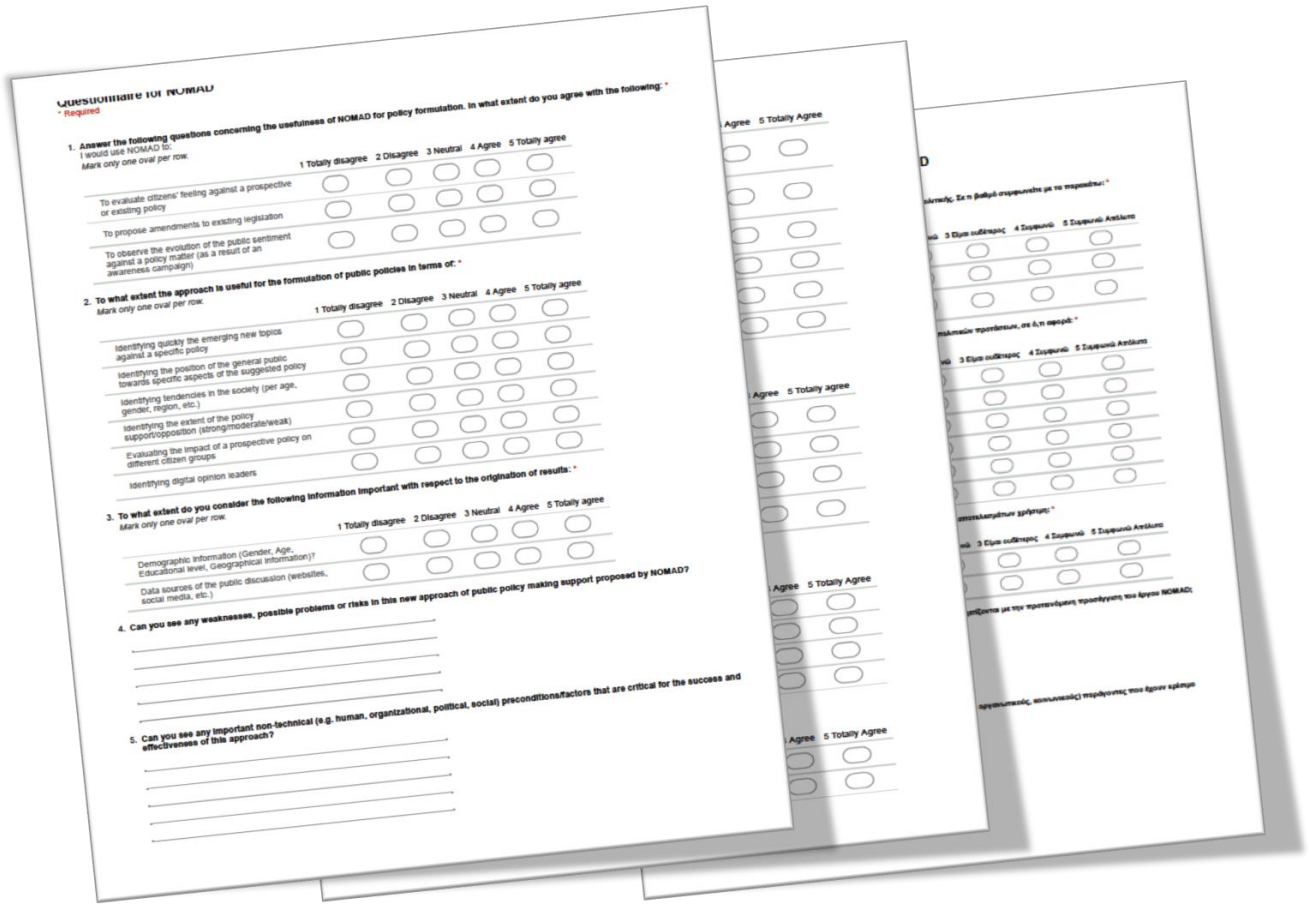


Figure 34: NOMAD Questionnaires

7.2.1 Technological Evaluation

With respect to the technological evaluation, the majority of users' comments concerned the usability of the demonstrated prototype. Various suggestions were made about the presentation and screen layout for improving functionality. It was stressed that since such a platform is addressed to users maybe not equipped with ICT skills, the platform workflow should be clear, with understandable navigation to allow them an intuitive access to the offered functionalities. In addition, a set of capabilities was proposed such as the capability of exporting and printing the results, or importing existing ontologies of domains, which are considered valuable for the targeted users groups e.g. the policy makers.

A fundamental aspect of the approach is the interpretation of results, which is facilitated by their visual presentation. Concerning this, many suggestions for improvements came out, such as their elaboration with additional charts, the increase in response time and readability. More specifically, it was mentioned that the visualization tool should be more adaptable to the user's questions and feed the authoring process. To this direction, users desire to have multiple types of results' classification, ordering and grouping.

Although the innovation of NOMAD is well considered (Table 2); people are neutral about its compatibility with the policy formulation process. As a barrier for embedding the tool in public policy formulation are considered the public administrations' infrastructures. In order to be adopted by their staff, technological tools should be easily, smoothly and without difficult configurations used in restricted networks and also by different types of computers (earlier and latest technologies). The same attention should be given in the interface of the platform, which should be in users' native language with proper terminology.

One of the perceived weaknesses is the complexity of the NOMAD infrastructure inherent from the advanced processing taken place in the background, which reduces the ease of use of the system. Thus, NOMAD users expressed their need for training or instructions to understand the usage of the system and run a new application. This was also captured in the

questionnaires, where the most responders answered neutral regarding the ease of use of the overall system, a little more positive on the individual components, keeping the respective indicators below the benchmark, as illustrated in the following table (indicated in red background).

Table 2: Metrics on the technological indicators

Technological Evaluation			
Indicator	**Indicator Benchmark**	**Value**	**Scale**
Relative Advantage	>3	**3.94**	1-5
Compatibility with policy formulation	>3	**3.54**	1-5
Compatibility with policy makers needs	>3	**3.57**	1-5
Trialability	>3	**3.89**	1-5
Ease of use	>4	**3.02**	1-5
Ease of use – Authoring Tool	>4	**3.53**	1-5
Ease of use – Visualisation Module	>4	**3.4**	1-5
System responsiveness	>4	**3.17**	1-5

It has to be mentioned here that within the technological evaluation framework, intermediate evaluation tasks took place especially targeted to the two individual components, with which users interact, i.e. the Authoring Tool and Visualisation module. More specifically, for the very early prototype of the Authoring Tool an evaluation session was organised with students of the 1st International Summer School on Open and Collaborative Governance[4]. There, a live demonstration of the NOMAD Authoring Tool was provided and afterwards students had the opportunity of a hands-on experience to test and evaluate the first version of the NOMAD Authoring Tool. In the end the consortium gathered questionnaires from the present users, and collected remarks for the further development of the tool. The questionnaires[5] customized for the specific session are provided in the Annex B: Questionnaire for NOMAD Model Authoring Tool. The responses helped ATC, responsible for the development of the tool, to identify the weak points regarding the ease of use of the system and the interface elements needing improvement.

With the first release of the Visualisation Module, an internal evaluation was organised. In particular, a usability test was filled by the pilot partners on October 2013 in order to report their first impression on the basic user interface of the NOMAD system. A standard template proposed by bibliography was used and the results were received by the technical partners as a feedback for their development tasks.

7.2.2 Crowdsourcing Evaluation

It was obvious that under user's viewpoint the potential of NOMAD for crowdsourcing depends on the quantity and quality of the crowd. There is scepticism about whether the sample surveyed by NOMAD is representative and reliable. A matter of question is if the results reflect the general public opinion on the specific policies. Therefore, it is critical to know what social media and web sites have been monitored during the pilots and asses their reliability. A user requirement that emerged was to isolate the results from specific sources or even access the source to get a view on the initial content. This is of particular importance for three reasons: First, the analysis has to be based on larger syntactical structures, i.e. the whole text documents, their paragraphs and sentences, but not only on terms; then, to be able understand an argument or to assess a sentiment one needs to know the context in which the argument is made or in which the sentiment is expressed; finally, for decision makers in practice it is more important to know who (or what societal entity) has made an argument or feels a sentiment than to know about the argument or the sentiment itself. Another matter of credibility concerns the demographic information provided by the platform for the authors of the retrieved content, as it is considered that Internet users conceal their personal details (age, gender, etc.) or declare false

[4] https://egov2013.pns.aegean.gr

[5] https://docs.google.com/spreadsheet/viewform?usp=drive_web&formkey=dF9qLXFkaG1wUXhNM0RrSnpEb1k1WkE6MA#gid=0

information. This is reinforced by the fact that because of privacy and data protection reasons, only information that is publicly available is processed. Therefore it is desired to have a picture of the percentage of people whose demographics are available, in order to estimate the statistical error of the sample.

Furthermore, in order to evaluate the representativeness of results, users need additional information such as the exact terms frequency and the intensity of a person's opinion; how many times an argument is expressed by the same person instead of being supported by different people or whether different arguments are correlated. For example, the distribution of the public opinion could depict how the overall public sentiment is aggregated in order to understand if polarized edges exist.

In general, evaluation participants are positive concerning the contribution of crowdsourcing in the particular policy topics applied and the potential of crowdsourcing in every policy topic, although they are reluctant on the quality of results, due to the above-mentioned reasons.

Table 3: Metrics on the crowdsourcing indicators

Crowdsourcing Evaluation			
Indicator	**Indicator Benchmark**	**Value**	**Scale**
Sufficiency of active crowd	>3	**3.26**	1-5
Representativeness of online crowd	>3	**3.40**	1-5
Quality of crowdsourcing results	>3	**2.89**	1-5
Subjectivity of the online crowd	>3	**2.63**	1-5
Contribution of crowdsourcing results in the pilot topics	>3	**3.86**	1-5
Contribution of crowdsourcing results in the any policy topic	>3	**3.69**	1-5
Relevance of results	-	**N/A**	
Vision	-	**N/A**	
Human capacity	-	**N/A**	

7.2.3 Political Evaluation

In general, the added value of the NOMAD approach in policy formulation was recognised, through the platform capable of monitoring the public rhetoric against specific policy issues and useful for adapting desired policies. It is considered as a time and cost efficient method to perform quantitative (e.g. the amount of citizens talking about a specific issue) and qualitative analysis (e.g. the most popular topics within the discussions), in comparison with the traditional surveys. It is also believed that public sentiment is not expressed in surveys or focus groups. Workshop participants expressed their intention to utilize such social media monitoring results as evidence and documentation when supporting their positions (on a draft bill, on an existing legislation act, a policy proposal, etc.) and political agendas in the legislative process, "in the parliament or other democratic institutions". Thus, according to them and their experience in the policy making area, the proposed approach has the potential to become a *"powerful tool for producing new policies*", being used in the initial stages of policy formulation. However, this poses the risk of misusing the information for promoting individual interests instead of increasing citizens' participation in the decision-making. It was generally concluded that any web monitoring tool can be beneficial depending on how it is utilized by its users and thus the most important part is how a policy making team exploits the respective outcomes.

A drawback of the approach it that as it is currently implemented it doesn't reveal new subjects discussed in the web continuum but rather citizen's concerns against the predefined entities. Policy makers and assistants highlighted their need to have a more detailed view on citizens' concerns about a policy, since the word cloud, which is currently the basic system output is typically not displaying new issues, but keywords already included in the user's initial input. Thus, the results may consist of insufficient or repetitive input for policy formulation.

One of the most potential valuable features for the users is the comparative analysis offered by the platform, i.e. the ability to make comparisons on results among different time intervals and different demographic audiences. A comparison between two different time periods for instance can act as an impact and effectiveness measurement tool by providing an indication of the outcome from a specific initiative such as a communication and awareness campaign or an intervention carried out. Therefore, comparisons are considered as a performance and impact measurement tool and consequently, any additional will be desired. Finally, participants of the focus groups suggested to include additional demographic information if available, which are considered as useful for decision making as is the geographical dimension, especially for policies that affect specific regions, the gender element which is significant in the European Commission studies or the occupation of the authors.

It can be concluded, and also confirmed through the questionnaires, that the potential impact from the integration of the NOMAD tools in the policy formulation process is positively conceived. Furthermore, it can be said that NOMAD can provide added value for other target groups apart from policy makers, judging from the mix of questionnaire responders. The availability of demographic information, data sources information and the arguments extraction are considered as important aspects for the success of the approach as reported by the great majority of users.

Table 4: Metrics on the political indicators

Political Evaluation			
Indicator	**Indicator Benchmark**	**Value**	**Scale**
Evaluation of citizen's feeling against a prospective or existing policy	>3	**4.17**	1-5
Usefulness in legislation amendment procedure	>3	**3.69**	1-5
Usefulness in the observation of the evolution of the public sentiment against a policy matter	>3	**4.20**	1-5
Identification of emerging new topics	>3	**3.74**	1-5
Identification of the position of the general public towards specific aspects of the suggested policy	>3	**3.94**	1-5
Identification of tendencies in the society	>3	**3.83**	1-5
Identification of the extent of the policy support/opposition	>3	**3.74**	1-5
Impact evaluation of a prospective policy on different citizen groups	>3	**3.40**	1-5
Identification of digital opinion leaders	>3	**3.71**	1-5
Identification of citizens' topics relevant to policy	-	-	-
Number of topics/issues discussed	>10	>15 [*Word Cloud filtering*]	-
Number of positive or negative arguments on the objectives of the policy	>100	<100	-
Number of positive/negative arguments on the policy	>100	>100	-
Number of extracted arguments	>100	-	-

8. CONCLUSION

The first version of the NOMAD Evaluation report, addressed by the current deliverable, has tried to give the overall picture of the activities performed by the pilots partners especially but also by all the consortium in order to test and evaluate the first prototype of the NOMAD platform in real life conditions and by different groups of interested stakeholders, which stand outside the consortium and could become the potential buyers of NOMAD system in its final edition, in the near future.

Through the organisation of different workshops by the pilot partners and other internal meetings between consortium members valuable insight have been collected, not only about NOMAD platform as an whole and its vision / objectives, but also about each of NOMAD tools and components, concerning their usability and added value in the policy making cycle. It has to be noted that, even though its problem has been recognised, the general impression of NOMAD was positive and its vision has been accepted with quite enthusiasm, identifying it as a real asset for the policy makers across various domains of operation. This positive sentiment fed from the end-users outside the consortium that have interacted with and evaluated the NOMAD tools, has encouraged us to work harder on improving its functionalities and finally delivering a promising service on the policy making arena.

More specifically, the reported results from the initial evaluation cycle on the first NOMAD prototype have provided the requirements for the updates to be included in the second phase of development and final version of tools, while also new requirements have emerged. NOMAD consortium has gone through and assessed the new emerged user requirements and identified the most critical ones to be addressed at remaining period of the project. The decisions made with respect to each individual module will be further explained in the respective documentation for the final version of each module. For the evaluation of this a second evaluation cycle will be carried out, where the evaluation framework will be fine-tuned, according to the lessons learnt during this first stage of evaluation, that can be summarised below:

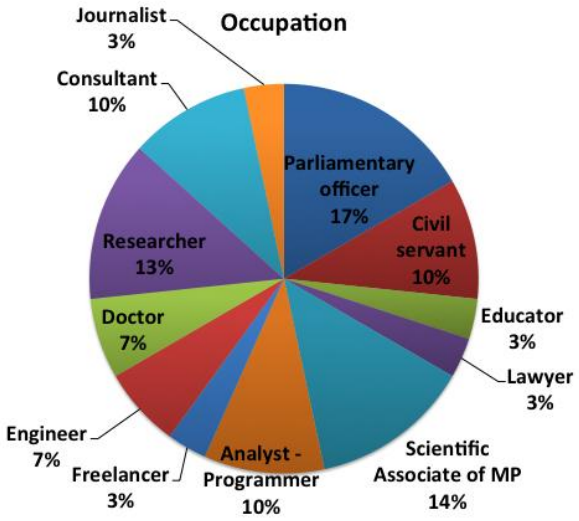
- The ease of use of the NOMAD platform should be improved in order to satisfy even the non-expert users
- Access on the initial content / sources crawled is a bold step towards results efficiency needed to be provided
- Identification of new arguments, helping users to “listen” outside a policy seems to be of major importance
- Multiple types of results’ classification, ordering and grouping have been requested as good to have options

NOMAD also contributes to address research questions emerge, for instance on the actual role of crowdsourcing in future envisaged policy-formulation life-cycle. Given the inexistence of complete approaches on crowdsourcing evaluation frameworks in the relevant literature, the subsequent phases of evaluation will focus more on this perspective.

Concluding, it can be inferred that the NOMAD approach is very positively perceived by a mix of potential users, such as policy makers, policy consultants, governmental institutions, journalists, other types of decision makers. However, it is obvious that this first prototype needs further developments, before being adopted and diffused. The major improvements concern the technological infrastructure and the reliability of the provided results. These remarks will become the fuel and the initial input for the remaining time of the project, in order to improve the functionalities and re-run the evaluation part through the next workshops that will be organised after the final versions of the tools and will be reported in the next version (v2) of the current deliverable.

9. Annex A: Questionnaire Results

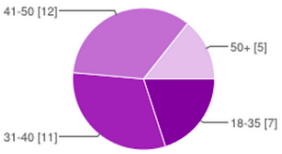
Personal Information



Gender

Male	27	77%
Female	8	23%

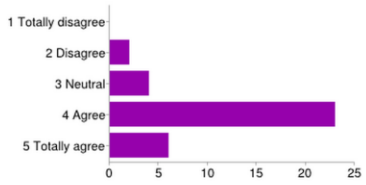
Age



18-35	7	20%
31-40	11	31%
41-50	12	34%
50+	5	14%

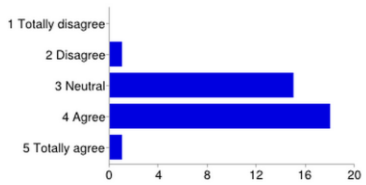
Technological Evaluation

Is a new approach for the investigation and presentation of the arguments expressed in a public discussion [Answer the following questions concerning the innovation offered by NOMAD]



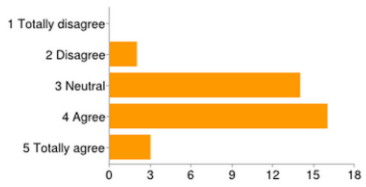
1 Totally disagree	0	0%
2 Disagree	2	6%
3 Neutral	4	11%
4 Agree	23	66%
5 Totally agree	6	17%

Is compatible with the policy formulation processes, as they are applied in Europe [Answer the following questions concerning the innovation offered by NOMAD]



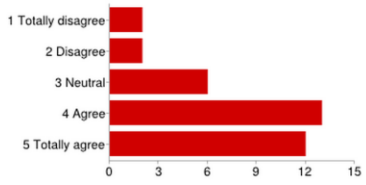
1 Totally disagree	0	0%
2 Disagree	1	3%
3 Neutral	15	43%
4 Agree	18	51%
5 Totally agree	1	3%

Is compatible with the needs, the mentalities and the values of people designing and applying policies [Answer the following questions concerning the innovation offered by NOMAD]



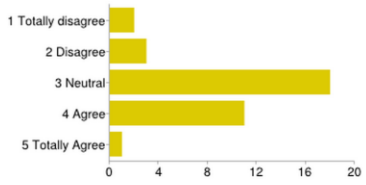
1 Totally disagree	0	0%
2 Disagree	2	6%
3 Neutral	14	40%
4 Agree	16	46%
5 Totally agree	3	9%

Can be initially applied in small or medium scale applications in policy making before proceeding to a larger scale application [Answer the following questions concerning the innovation offered by NOMAD]



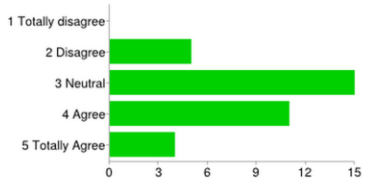
1 Totally disagree	2	6%
2 Disagree	2	6%
3 Neutral	6	17%
4 Agree	13	37%
5 Totally agree	12	34%

The systems was general easy to use [Answer the following questions concerning the ease of use of the NOMAD system]



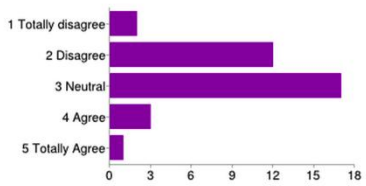
1 Totally disagree	2	6%
2 Disagree	3	9%
3 Neutral	18	51%
4 Agree	11	31%
5 Totally Agree	1	3%

It was easy to learn how to use the system [Answer the following questions concerning the ease of use of the NOMAD system]



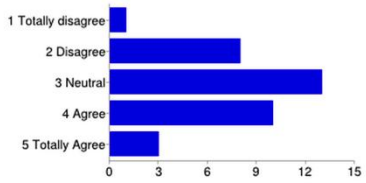
1 Totally disagree	0	0%
2 Disagree	5	14%
3 Neutral	15	43%
4 Agree	11	31%
5 Totally Agree	4	11%

Its interface is well designed, clear and understandable [Answer the following questions concerning the ease of use of the NOMAD system]



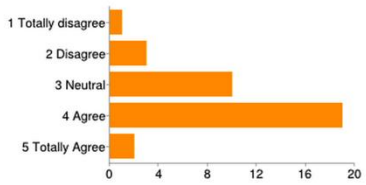
1 Totally disagree	2	6%
2 Disagree	12	34%
3 Neutral	17	49%
4 Agree	3	9%
5 Totally Agree	1	3%

Its response time is satisfactory [Answer the following questions concerning the ease of use of the NOMAD system]



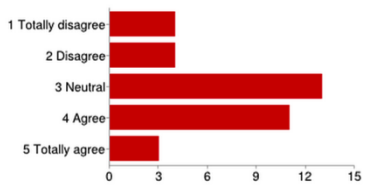
1 Totally disagree	1	3%
2 Disagree	8	23%
3 Neutral	13	37%
4 Agree	10	29%
5 Totally Agree	3	9%

To view and reuse the existing domain & policy models [In particular, through the Authoring Tool it was easy:]



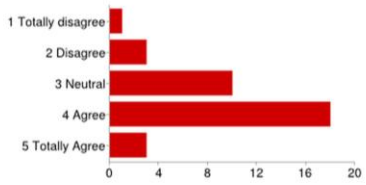
1 Totally disagree	1	3%
2 Disagree	3	9%
3 Neutral	10	29%
4 Agree	19	54%
5 Totally Agree	2	6%

To understand the graphical analysis and representation of results [In particular, through the Visualisation Module it was easy:]



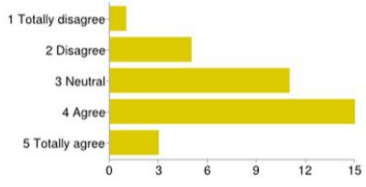
1 Totally disagree	4	11%
2 Disagree	4	11%
3 Neutral	13	37%
4 Agree	11	31%
5 Totally agree	3	9%

To create new or update the existing domain & policy models [In particular, through the Authoring Tool it was easy:]



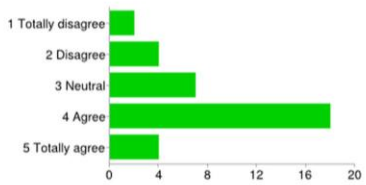
1 Totally disagree	1	3%
2 Disagree	3	9%
3 Neutral	10	29%
4 Agree	18	51%
5 Totally Agree	3	9%

To identify the main topics / issues discussed concerning a particular public policy [In particular, through the Visualisation Module it was easy:]



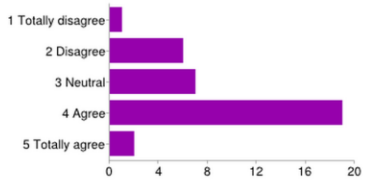
1 Totally disagree	1	3%
2 Disagree	5	14%
3 Neutral	11	31%
4 Agree	15	43%
5 Totally agree	3	9%

To understand citizens' sentiments (positive or negative) against particular policy aspects [In particular, through the Visualisation Module it was easy:]



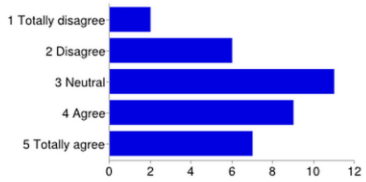
1 Totally disagree	2	6%
2 Disagree	4	11%
3 Neutral	7	20%
4 Agree	18	51%
5 Totally agree	4	11%

To identify tendencies and citizens' opinions in specific time intervals [In particular, through the Visualisation Module it was easy:]



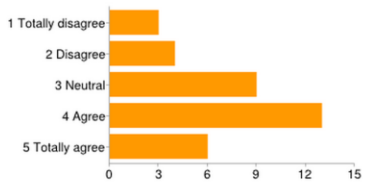
1 Totally disagree	1	3%
2 Disagree	6	17%
3 Neutral	7	20%
4 Agree	19	54%
5 Totally agree	2	6%

To identify tendencies and citizens' opinions in specific citizen groups (age, gender, educational level, region, etc.) [In particular, through the Visualisation Module it was easy:]



1 Totally disagree	2	6%
2 Disagree	6	17%
3 Neutral	11	31%
4 Agree	9	26%
5 Totally agree	7	20%

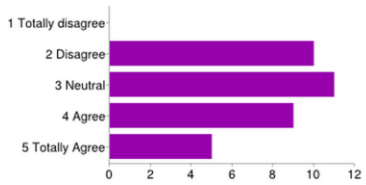
To view differentations on concerning the public sentiment over time and between different citizens groups [In particular, through the Visualisation Module it was easy:]



1 Totally disagree	3	9%
2 Disagree	4	11%
3 Neutral	9	26%
4 Agree	13	37%
5 Totally agree	6	17%

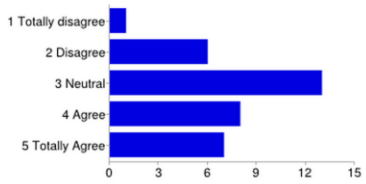
Crowdsourcing Evaluation

The number of citizens expressed online, is sufficient for investigating and analysing information on particular policy issues (e.g. energy, economy, health) [Answer the following questions concerning the crowdsourcing capability offered by NOMAD]



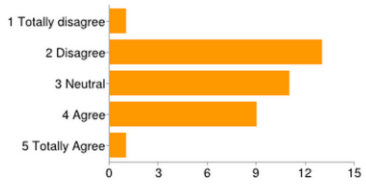
1 Totally disagree	0	0%
2 Disagree	10	29%
3 Neutral	11	31%
4 Agree	9	26%
5 Totally Agree	5	14%

The views expressed online are representation (or at least indication) of trends and opinions, prevailing in the society as a whole (and not a small portion of citizens) [Answer the following questions concerning the crowdsourcing capability offered by NOMAD]



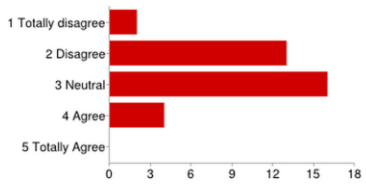
1 Totally disagree	1	3%
2 Disagree	6	17%
3 Neutral	13	37%
4 Agree	8	23%
5 Totally Agree	7	20%

Crowdsourcing results can be of high quality and can compete experts analyses on the issues under discussion [Answer the following questions concerning the crowdsourcing capability offered by NOMAD]



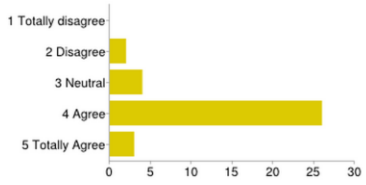
1 Totally disagree	1	3%
2 Disagree	13	37%
3 Neutral	11	31%
4 Agree	9	26%
5 Totally Agree	1	3%

The views expressed online on policy issues are non-biased and non-manipulated [Answer the following questions concerning the crowdsourcing capability offered by NOMAD]



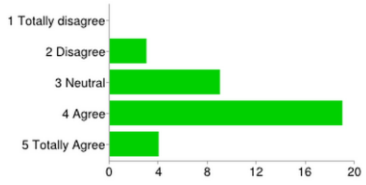
1 Totally disagree	2	6%
2 Disagree	13	37%
3 Neutral	16	46%
4 Agree	4	11%
5 Totally Agree	0	0%

Synthesis of results can contribute to the policy formulation in the sector of interest (energy / health sector / Open Data) [Answer the following questions concerning the crowdsourcing capability offered by NOMAD]



1 Totally disagree	0	0%
2 Disagree	2	6%
3 Neutral	4	11%
4 Agree	26	74%
5 Totally Agree	3	9%

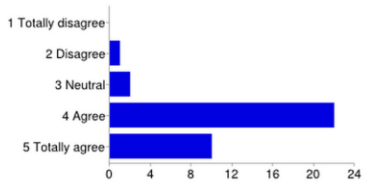
Synthesis of results can contribute to the policy formulation in any sector [Answer the following questions concerning the crowdsourcing capability offered by NOMAD]



1 Totally disagree	0	0%
2 Disagree	3	9%
3 Neutral	9	26%
4 Agree	19	54%
5 Totally Agree	4	11%

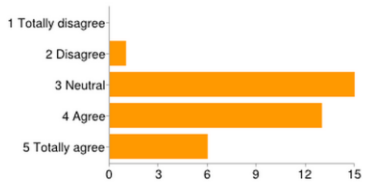
Political Evaluation

To evaluate citizens' feeling against a prospective or existing policy [Answer the following questions concerning the usefulness of NOMAD for policy formulation. In what extent do you agree with the following:]



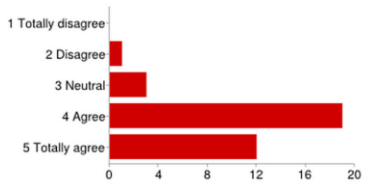
1 Totally disagree	0	0%
2 Disagree	1	3%
3 Neutral	2	6%
4 Agree	22	63%
5 Totally agree	10	29%

To propose amendments to existing legislation [Answer the following questions concerning the usefulness of NOMAD for policy formulation. In what extent do you agree with the following:]



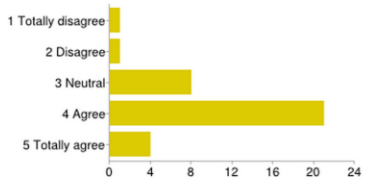
1 Totally disagree	0	0%
2 Disagree	1	3%
3 Neutral	15	43%
4 Agree	13	37%
5 Totally agree	6	17%

To observe the evolution of the public sentiment against a policy matter (as a result of an awareness campaign) [Answer the following questions concerning the usefulness of NOMAD for policy formulation. In what extent do you agree with the following:]



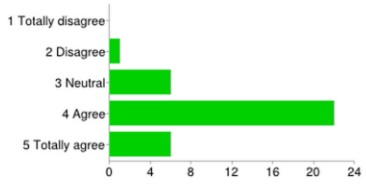
1 Totally disagree	0	0%
2 Disagree	1	3%
3 Neutral	3	9%
4 Agree	19	54%
5 Totally agree	12	34%

Identifying quickly the emerging new topics against a specific policy [To what extent the approach is useful for the formulation of public policies in terms of:]



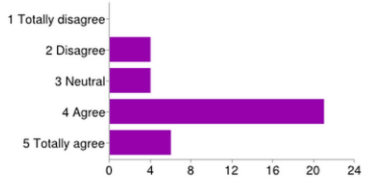
1 Totally disagree	1	3%
2 Disagree	1	3%
3 Neutral	8	23%
4 Agree	21	60%
5 Totally agree	4	11%

Identifying the position of the general public towards specific aspects of the suggested policy [To what extent the approach is useful for the formulation of public policies in terms of:]



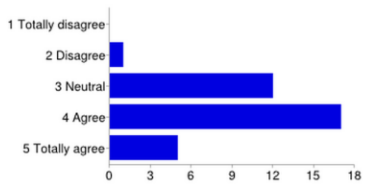
1 Totally disagree	0	0%
2 Disagree	1	3%
3 Neutral	6	17%
4 Agree	22	63%
5 Totally agree	6	17%

Identifying tendencies in the society (per age, gender, region, etc.) [To what extent the approach is useful for the formulation of public policies in terms of:]



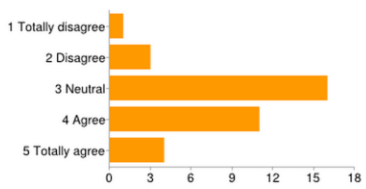
1 Totally disagree	0	0%
2 Disagree	4	11%
3 Neutral	4	11%
4 Agree	21	60%
5 Totally agree	6	17%

Identifying the extent of the policy support/opposition (strong/moderate/weak) [To what extent the approach is useful for the formulation of public policies in terms of:]



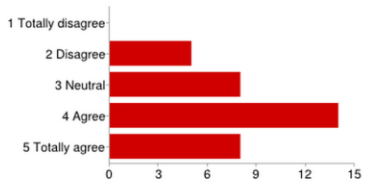
1 Totally disagree	0	0%
2 Disagree	1	3%
3 Neutral	12	34%
4 Agree	17	49%
5 Totally agree	5	14%

Evaluating the impact of a prospective policy on different citizen groups [To what extent the approach is useful for the formulation of public policies in terms of:]



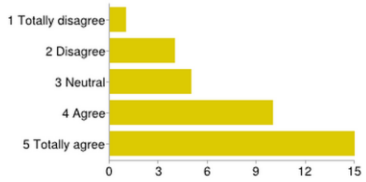
1 Totally disagree	1	3%
2 Disagree	3	9%
3 Neutral	16	46%
4 Agree	11	31%
5 Totally agree	4	11%

Identifying digital opinion leaders [To what extent the approach is useful for the formulation of public policies in terms of:]



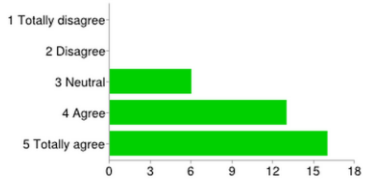
1 Totally disagree	0	0%
2 Disagree	5	14%
3 Neutral	8	23%
4 Agree	14	40%
5 Totally agree	8	23%

Demographic Information (Gender, Age, Educational level, Geographical information)? [To what extent do you consider the following information important with respect to the origination of results:]



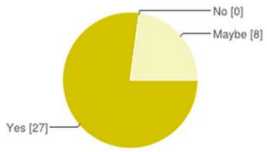
1 Totally disagree	1	3%
2 Disagree	4	11%
3 Neutral	5	14%
4 Agree	10	29%
5 Totally agree	15	43%

Data sources of the public discussion (websites, social media, etc.) [To what extent do you consider the following information important with respect to the origination of results:]



1 Totally disagree	0	0%
2 Disagree	0	0%
3 Neutral	6	17%
4 Agree	13	37%
5 Totally agree	16	46%

According your opinion, would it be useful to see the exact phrasing of arguments and their variants?



Yes	27	77%
No	0	0%
Maybe	8	23%

10. Annex B: Questionnaire for NOMAD Model Authoring Tool

Questionnaire for NOMAD Model Authoring Tool evaluation

* Required

Answer the following questions conserning the Ease of Use of the application. *

	1 Totally Disagree	2 Disagree	3 Agree	4 Totally agree
The application was in general easy to use	○	○	○	○
It was easy to learn how to use the application	○	○	○	○
Its interface is well designed, clear and understandable	○	○	○	○
The application had good error prevention capabilities through warning messages	○	○	○	○

In particular, *

	1 Totally Disagree	2 Disagree	3 Agree	4 Totally agree
It was easy to view the existing models and find the ones that I would like to reuse	○	○	○	○
It was easy to create a domain model	○	○	○	○
It was easy to create a policy model	○	○	○	○
It was easy to update a domain model	○	○	○	○
It was easy to update a policy model	○	○	○	○
It was easy to navigate among the different functionalities offered by the application	○	○	○	○

Do you see any critical functionality missing?

Answer the following questions concerning the Usefulness of the Model Authoring Tool *

	1 Totally Disagree	2 Disagree	3 Agree	4 Totally Agree
The mind mapping				

The mind mapping technology provides an innovative way for creating models	○	○	○	○
It is better way for creating models than other technologies I have used	○	○	○	○
I would like to use existing models created by experts	○	○	○	○
I would like to know the model owner and his/her expertise	○	○	○	○
I would like to share a model that I have created with other people in the same area	○	○	○	○
I would like to keep the credits of my models	○	○	○	○
I would like to choose which models to share and keep the credits of my model	○	○	○	○

Please name any relevant tools you have used in the past or you are aware of:

Answer the following questions concerning the General Attitude towards NOMAD *

	1 Totally Disagree	2 Disagree	3 Agree	4 Totally Agree
My general impression from the whole NOMAD concept and method is positive	○	○	○	○

Answer the following questions concerning the Future Intentions about the Model Authoring Tool *

	1 Totally Disagree	2 Disagree	3 Agree	4 Totally Agree
I would like to use again the application to create models	○	○	○	○

Please place here any other comment you would like to make

Submit