

# STRATEGIC ACTION PLAN

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D.T4.1.3\_Venice

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## Scope and structure of the document

The document represents the deliverable D.T4.1.3 of the GreenerSites project, and describes the concrete actions that, according to project experience and approaches, can contribute to increase the effectiveness of management of identified brownfield sites in the territory of Venice Functional Urban Area, and specifically in Porto Marghera Industrial Area.

This strategic action plan (SAP) is arranged with the purpose of contributing to the strategic development of the site and provide sustainability to the action implemented within the project. It has been issued taking into account:

- the specific outcomes of the pilot actions developed during the project;
- the results of the stakeholders' consultation and the participatory processes activated in the considered Functional Urban Area (FUA).

The document is composed by four main chapters.

In this first part (“Introduction”) a general presentation of the considered area and of the activities carried out during the GreenerSites project (pilot actions) can be found. In addition, the process of involvement and consultation of local key stakeholders will be described, and the methodological approach adopted for selecting the relevant actions and drafting this Strategic Action Plan is presented.

In subsequent “Part A” you can find a short summary of the concrete actions that has been identified for an effective management of brownfield sites in the considered area.

In “Part B”, these actions are described in detail, starting from the analysis of the specific problems addressed, describing the objectives of the intervention, the actors, roles and timing of activities, and identifying also the financing sources and concrete implementation steps.

The final chapter contains references to other project deliverables and external documents, that can be useful for a deepening of the topics dealt within the document.

## The context: the Functional Urban Area and related Pilot Site(s)

Venice territory has an extension of 2,472.91 km<sup>2</sup> and a population of 855,696 people. It's located on the Venice lagoon (northern Adriatic Sea): the entire lagoon was designated Special Protection Areas (SPA) for endangered and migratory species in accordance with the European Bird directive.

In the FUA there are 101 brownfields. Main environmental concerns are related to specific contamination of soil in active or dismissed industrial areas, as well as areas affected by illegal or environmentally improper waste disposal. Pollutants are various depending on past activities.

**Porto Marghera Industrial area** is, by extension, environmental critical issues and development, the main brownfield located within the FUA.



Size 1828 ha

Location: It's located on the edge of Venice lagoon (northern Adriatic Sea): the entire lagoon was designated Special Protection Areas (SPA) for endangered and migratory species in accordance with the European Bird directive.

Ownership: 35% State Maritime Property (managed by NASPA) and Veritas (public utility company owned by the City of Venice) ; 65% Private area.

No of active economics and employment: 884 companies are currently settled in the area with a total of 11.060 workers (2017.12.31).

Contamination/environmental condition: The site presents specific contamination of soil and ground water as a result from active or dismissed industrial activities. The water body in front of Porto Marghera should be considered in a poor Ecological status. The site presents specific contamination of soil and ground water as a result from active or dismissed industrial activities.



The 90% of the total area has an environmental characterization plan. In the 28% of the total area the remediation projects have been approved or have remediation project approved by the relevant public authorities. The 25,5% of the total area has ongoing remediation works.

Main challenges: Since 1998 Porto Marghera has been included (Law n. 426/1998) in the National Priority Sites List (Sito di Bonifica di Interesse Nazionale) because of the site potential impact on the environment given its surface extension and risk posed by contaminants. In particular, the second industrial area - the main brownfield - mainly hosting settlements related to the raw chemical industry, needs a deep requalification or a strong reconversion.

In march 2017, the Italian Government recognised the industrial zone of Porto Marghera as “a complex industrial crisis area” (Ministerial Decree 8 March, 2017). Because of this specific status the area will benefit from favourable legislation and larger financial investments that will increase and enhance the reconversion of the whole area.

In October 2018 the Program Agreement for the reconversion and redevelopment of the complex industrial crisis area of the Municipality of Venice was signed.

The purpose of the agreement is to contribute to the:

- promotion of business initiatives for the redevelopment of the existing productive system;
- aggregation of SMEs and their collaboration with large companies;
- attraction of new investments also aimed at diversifying production;
- upgrading of logistics related to port activities;
- re-employment of workers belonging to a specific area of reference;
- operational link with the agreements and protocols already signed.

## The implemented Pilot Activities

The Porto Marghera area, with its 884 economic activities currently settled for a total of 11.060 employees (according to 2017 statistics), is considered highly strategic for the development of the entire Venice FUA. The strategy of the City of Venice, the Veneto Region and the North Adriatic Sea Port Authority for Porto Marghera envisages its environmental requalification and functional development, aimed at attracting new investments and economic initiatives.

In the framework of GreenerSites project the three partners implemented 3 different pilot actions in the area.

**The City of Venice (Action 2)** focused its pilot action on remediation measures combining environmental redevelopment with the investigation of future economic potential for the area. Indeed, future use of the site has an impact also on the definition of the needed remediation measures. Innovative and sustainable environmental solutions were identified through the review of the sustainability aspects of two remediation projects, dating back to 2005 (therefore pursuant to Ministerial Decree 471/99) and up until now (2019) not implemented, relating to the treatment of contaminated soils at a petrochemical site located within the Venice-Porto Marghera Site of National Interest. In parallel, site-specific regulatory and tax instruments to facilitate the reconversion of dismissed industrial areas and to attract new investments were identified. Specific Guidelines for the drafting of contracts for the sale and purchase of



industrial areas within the Venice - Porto Marghera site were also prepared to facilitate the reintegration of the areas on the market.

The **Veneto Region** (Action 3) set up a system for monitoring the air quality in the sites subject to remediation and future reuse. The definition of a site specific soil-gas reference level will help to select adequate remediation procedures with a view to their functional reuse;

The **North Adriatic Sea Port Authority** (Action 4) carried out a test of the capping method in a selected site which, thanks to a cost-effective investment and an environmental-friendly approach, guarantees sustainable remediation in the area of interest.

### **Consultation and participatory process**

Two different meetings were held by the project partners with relevant stakeholders to share ideas for the definition of the Strategic Action Plan and to agree on the priorities. The meetings involved all the members in the Permanent Board for the Reconversion of Porto Marghera which brings together decision makers and administrators from the most relevant institutions in the FUA, managers from the enterprises located in Porto Marghera, trade unions, business support Organisations and Associations. During the first meeting the issues of site remediation, environmental management and need of new investments for the area were brought forward by the participants. The representatives of the organisations and institutions presented their set of priorities to be taken into account in the definition of an overall strategic planning of the area. The second meeting was the occasion to present the elaborated Strategic Action Plan and collect stakeholders' comments and recommendation for improvement. The collaboration and participation in the project of all stakeholders was crucial for designing an effective action plan of the area.

### **Methodological approach to select actions**

The project partners, the City of Venice, the Veneto Region and the North Adriatic Sea Port Authority involved their relevant stakeholders in the elaboration of the Strategic Action Plan.

In the elaboration of GreenerSites SAP, the project partners agreed to design their strategic actions starting from the results of their implemented pilot actions in order to give sustainability and effectiveness to the actions implemented within the project in consideration that a larger deployment of the area is already planned.

### **Action 1 - Implementation of the Web gis tool**

The GreenerSites web gis tool was installed in the server of the Veneto Region and will be implemented with the contribution of the City of Venice, the North Adriatic Sea Port Authority. After the end of the project it is planned the integration of the gis tool within the Veneto Region geoportal, a wider territorial infrastructure that covers the whole Veneto Region area.



## **Action 2 - Involvement of the Venice Development Agency in the development of Porto Marghera**

The City of Venice, considers important the economic redevelopment of the industrial area of Porto Marghera . The relaunch of the Site is considered strategic for the entire FUA of Venice. The goal is to create the conditions to attract new investments in Porto Marghera. For this purpose, the City of Venice has created the Development Agency that will carry out activities of promotion and attraction of investments throughout the municipal area, identifying possible public / private partners interested in business development in the Venice area. Therefore the Agency will also act to promote the economic development also of Porto Marghera.

The agency will be responsible for:

- collaboration with the Municipal Administration for the environmental and development also of Porto Marghera;
- the redevelopment of under-utilized and decommissioned areas, facilitating the intersection between the demand for new investments and the supply of abandoned and reclaimed areas;
- support for investors in the implementation of their new economic initiatives in the

The peculiar geologic and hydrologic conditions of Porto Marghera area (also called “Porto Marghera Megasite”) may be critical issues for soil gas and ambient air sampling.

During the implementation of the pilot project, ARPAV (for Veneto Region) realized field tests based on a multiple line of evidence (MLE) approach with the aim to evaluate the risk associated to volatilization from soil and groundwater to indoor/outdoor air.

An assessment of risk posed by VOC presence in the subsurface is necessary to support remedial decision and to calibrate site-specific target concentrations for various environmental media. Risk analysis usually implements transport models that consider soil or groundwater data to estimate indoor/outdoor air concentrations.

Given the positive results achieved during the Pilot Activities, objective of present Action is to promote a larger usage of the MLE approach to evaluate the risk associated to volatilization from soil in Porto Marghera area but also in other brownfields, as an effective methodology that can provide precise and punctual information, and can thus support more focused and cost-effective remediation interventions in considered areas.

## **Action 4 - Exploitation of the results of the test of a more environmental friendly and cost effective way to provide the capping - North Adriatic Sea Port Authority**

The North Adriatic Sea Port Authority (NASPA) is a public body established by Law 84/1994. Its task is to guide, plan, co-ordinate, promote and monitor port operations. It is also in charge of maintaining common areas and the seabed, overseeing the supply of services of general interest, managing the State Maritime Property and planning the development of the port.





In its role, NASPA took care of Action 4, represented by the exploitation of the outcomes, gained along the testing of a more environmental friendly and cost effective way to provide the capping, outcomes that are needed in drafting the detailed design for a future container terminal, planned to be developed in Porto Marghera area, and in particular in the so called Ex Montesyn-dial site.



## Action 1 - Implementation of the Web gis tool - Veneto Region, City of Venice, NASPA

<b>Content of specific action</b>
The Veneto Region has just launched a new geoportal to manage and share their whole territorial data, so the Veneto Region plans to integrate the GreenerSites tool in this larger digital infrastructure.
<b>Short problem description</b>
The GreenerSites webgis tool components are all open-source and its integration into another system should be allowed, however the risk might exist for matching the tool components.
<b>Objective of specific action</b>
The outcome would be to have the GreenerSites tool integrated in a larger infrastructure. This will guarantee a larger deployment of the tool and its maintenance for a longer time.
<b>Partners involved and description of participation process</b>
<i>The City of Venice, the Venice Metropolitan City The North Adriatic Sea Port Authority Arpav,</i>



<b>Planning of activities (timeline)</b>
<b>Financing</b>
Regional funds.
<b>Progress of implementation</b>
The infrastructure (IDT-RV 2.0) was officially presented to the public and stakeholder on 12 December 2018. It has been running from January 2019. The next step will be the analysis of the GreenerSites system to check the compatibility with the ID T-RV 2.0.



## Action 2 - Involvement of the Venice Development Agency in the development of Porto Marghera - City of Venice

<p><b>Content of specific action</b></p>
<p>The City of Venice promotes policies and strategies to attract new investments and new economic initiatives in the city to favour the socio-economic development of the territory. For this purpose, a resolution from the Municipal Government set up the Venice Development Agency in 2016 as a tool for enhancing the economic development of the city by the strengthening relationships with national and international investors. More precisely, the Agency was given the task of promoting and attracting investments throughout the municipal territory, identifying potential investors and public and / or private partners interested in business activities in the Venice area and thus also in Porto Marghera encouraging the creation of new businesses. In particular, the Agency will act to:</p> <ul style="list-style-type: none"> <li>• collaboration with the Municipal Administration in the environmental rehabilitation and reuse of dismissed areas;</li> <li>• the redevelopment of unused and dismissed areas, facilitating the intersection between the demand for new investments and the supply of abandoned and remediated areas or to be remediated;</li> <li>• provide support to potential investors in setting up new economic businesses in the area.</li> </ul>
<p><b>Short problem description</b></p>
<p>Industrial crisis, lack of investors, shortage of usable remediated areas, environmental issues, lack of job opportunities.</p>
<p><b>Objective of specific action</b></p>
<p>The objective of the action is to contribute to an effective management of the overall development and rehabilitation of the area.</p>



<b>Partners involved and description of participation process</b>
<p>City of Venice</p> <p>Metropolitan City of Venice</p> <p>North Adriatic Sea Port Authority</p> <p>Site owners</p> <p>Trade unions</p> <p>Trade associations</p> <p>Veneto Region</p> <p>Ministry for Economic Development</p> <p>Ministry for the Environment and for the protection of the Territory and the Sea</p>
<b>Planning of activities (timeline)</b>
<p>In the short term the Development Agency will work on defining protocols and agreements aimed at enhancing business opportunities and developing of industrial dismissed areas.</p> <p>In the medium/long term the Agency activity will be more focused on the definition of new territorial marketing instruments aimed at attracting capital and investments, both Italian and foreign..</p>
<b>Financing</b>
<p>The Agency is financed with the City of Venice budget for a total of 50.000 € at year.</p>
<b>Progress of implementation</b>
<p>The Agency is promoting an investigation on the business opportunities settled in the area.</p>



## Action 3 - Extension of the monitoring system - Veneto Region

Content of specific action
<p>In order to correctly assess the risk associated with the inhalation of vapors from the subsoil, an approach based on multiple lines of evidence (MLE approach) was adopted, in the context of appropriately prepared test fields within the SIN.</p> <p>This approach requires the contemporary characterization of the various environmental matrices involved in the migration of the contaminant, during its journey from the source to the final receptor.</p> <p>The lines of evidence considered were in particular: concentration of VOCs in the ground, underground water, soil gas, air, flow chamber measurements, relationships between concentrations detected in the different matrices.</p> <p>A further aim of the experimental activities carried out was the verification of the temporal variability of the chemical characteristics of the different aeriform matrices, in order to better understand the dynamics affecting the soil-air interface. In particular, the study focused on the variability in the very short term of VOC concentrations (hourly variability) in relation to the variation of meteorological parameters.</p>
Short problem description
<p>The Italian legislation defines a site “contaminated” if the concentration of certain chemical substances in soils and in groundwater is <b>above</b> to some fixed values, called Contamination Threshold Concentrations (CSC). Concentrations above the threshold values are allowed only if they do not determine a risk for the users of the site. The risk assessment, which is therefore fundamental to establish the possibility of reusing the site, is generally obtained by applying transport models starting from the contamination present in the subsoil. The most widely used models provide for an excessive schematization of the conceptual model of the site, providing rather conservative risk estimates.</p> <p>To overcome the inadequacy of transport models it was therefore decided to assess the risk for inhalation of contaminants from the subsoil by supporting and integrating the use of models with different types of measurements, according to an MLE approach.</p> <p>In the MLE approach, the risk assessment derives from the joint evaluation of the results of the different types of surveys (lines of evidence), each of which is characterized by a different degree of uncertainty and relevance for the purpose of estimating exposure to toxic substances.</p> <p>A further criticality is represented by the peculiar lithostratigraphic and hydrogeological characteristics of the SIN area, which can represent critical aspects for the monitoring of aeriform matrices.</p> <p>The coexistence of fine-grained soils with a high humidity can therefore lead to poor flow conditions that make active soil gas sampling unrepresentative. In order to overcome the</p>



critical issues concerning the specific characteristics of the SIN area to the more consolidated techniques of active sampling of the soil gas, other types of measures have been added, such as passive sampling of soil gas and flow chambers.

### Objective of specific action

The experimental activities carried out within the Pilot Project have shown that neither the modelling approach nor the monitors based on a single type of measure allow to obtain a correct assessment of the exposure to volatile compounds coming from the subsoil, with the risk to overestimate or underestimate the risk associated with it.

The procedure based on multiple lines of evidence, on the other hand, makes it possible to achieve more realistic remediation objectives that, while avoiding the excessive caution of the models, are based on the protection of the users of the areas to be recovered.

The first follow-up of Pilot Activity consists thus in continuing the presentation and sharing of the results of the realized experimental activities, mainly to companies in charge for remediation activities within the SIN and other key actors like Universities and Research Institutes. Received feedbacks can lead to a further refinement of the proposed risk monitoring and assessment procedure.

In parallel, by the end of the GreenerSites project, at least one more experimental campaign will be conducted, in order to verify and confirm the outcomes of the experimental activities conducted within the pilot action.

On the basis of gathered results and information, the following step will be to formally propose an update of the procedures adopted for monitoring the gaseous substances at the local level, as part of the Program Agreement for Porto Marghera, and at the national level, within the work group involving the various Regional Environmental Agencies (work group SNPA VI / 3-2)

### Partners involved and description of participation process

This Action will be carried out by Veneto Region in close cooperation with ARPAV and other local actors. In detail:

ARPAV will plan further monitoring campaigns in order to consolidate and confirm the results of the activities carried out within the Pilot Activity.

The implementation of monitoring campaigns can't be carried out without the collaboration of the owners of the areas, with the necessary logistic support.

The Industrial Area Authority ([Ente Zona Industriale](#)) and the Monitoring Committee ([Comitato di Sorveglianza](#)) could be involved to play a mediation role with the companies and owners involved in recovery projects, to facilitate the adoption of the new MLE monitoring approach.

### Planning of activities (timeline)



Shortly, by the end of the GreenerSites project, further experimental measurement campaigns could be launched, in order to verify and confirm the outcome of the experimental activities conducted within the pilot action.

In the medium term, the definition of a standardized procedure to be used by companies engaged in monitoring airborne substances within the SIN to collect and provide data to Control Bodies could be considered, in agreement with the Local Health Authority.

In the long term, by the end of 2020, following the sharing of the results of the Pilot Action within the Working Group of the National Environmental Protection System (SNPA), it will be possible to propose an update of the monitoring procedures for the gaseous levels adopted at local and national level.

#### **Financing**

Needed resources for further monitoring activities described in the previous paragraphs will be covered by the ordinary budget availability of ARPAV, if not covered by this or other projects.

#### **Progress of implementation**

Planning and implementation of the third experimental measurements campaign in the test fields already set up within SIN will be started shortly, before Summer 2019.

The overall results of the Project will be shared and presented in the context of meetings organized at local level with the Stakeholders, in the SNPA Working Group that deals with soil gases and possibly in thematic conferences. The impact that project results can have on local and national monitoring procedures of the airborne substances will also depend on the results of the aforementioned dialogue.





## Action 4 Exploitation of the results of the test of a more environmental friendly and cost effective way to provide the capping - North Adriatic Sea Port Authority

### Content of specific action

The North Adriatic Sea Port Authority (NASPA) is a public body established by Law 84/1994. Its tasks are to guide, plan, co-ordinate, promote and monitor port operations. It is also in charge of maintaining common areas and the seabed, overseeing the supply of services of general interest, managing the State Maritime Property and planning the development of the port.

The pilot project aimed at testing a more environmental friendly and cost effective way to provide the capping in the so called “Montesyndial” site, located in Porto Marghera area.

The site is planned to be redeveloped in a Container and Logistics Terminal in consideration to the following data and assumption.

The container traffic in the port of Venice increased by 86% during the period between 2007 - 2017 and reached the 632.250 TEU in 2018. Following the forecast reported the Strategic National Plan for Ports and Logistics and additional traffic quota of 30% should be reached by 2030. The growth of container traffic is due in particular to the geography change in container trade, that is to say:

- a significant switch in the relative importance of the Far East for manufactured imports (and away from imports from North America), accelerated by the entry of China into the World Trade Organisation in 2001;
- the integration of Central and Eastern European countries into the European Union since 2004, with their more dynamic economies, has switched the centre of gravity of inland origins and destinations of containerised trade in Europe to the south and east.

In order to respond to these new logistic needs and improve its multimodal terminal efficiency, the Port of Venice has planned a series of investments aiming at upgrading the existing port infrastructures in order to increase its logistic efficiency and accommodate new traffic flows.

For the above mentioned reasons NASPA planned a new container terminal on the Montesyndial site in Porto Marghera, with a capacity of 1.0 MTEU. The new terminal, which will have a quay of 1600 metres and be located on 84 hectare site, will have the capacity of handling large feeder and short sea container vessels and partially laden deep sea container ships up to 9,000 TEU in size. It will be equipped with an intermodal terminal and there will be some distribution centres developed adjacent to the terminal to provide port-centric distribution (PCD) facilities. The facility is being marketed to serve the Central and Eastern Europe market, which implies that intermodal rail freight services will be a key element of the overall offer.



The pilot activity in GreenerSites project was developed with the scope to provide reliable data for the detailed design of a larger scale capping and the future yard for the new terminal construction.

The main scope of the capping is to interrupt the pathways of contaminants, and to provide statics quality to the container terminal pavement.

The pilot activity in GreenerSites project tested also a “layer made of not-polluted soil”, preliminarily to the capping, with the aim to consolidate the soil under the container terminal pavement, using not polluted soil excavated from the quay, thus minimising transportation of material.

### Short problem description

Considering the need of having robust data to be used in the detailed design, in the specific case, the pilot project activities supported the decision-making process by providing solid data on:

- the deployment of a “layer made of not-polluted soil” (with the aim to consolidate the soil under the container terminal pavement, using not polluted soil excavated from the quay)
- the adopted “capping”.

Risks, in this type of activities and works, are usually posed by unexpected events that could affect the smooth implementation of the activities, and therefore the timing.

Nevertheless, NASPA pilot project revealed to be a sustainable solution according to the following aspects:

- Firstly, capping is currently considered one of the available remediation technologies in the Matrix provided by the Italian Environmental Protection Agency (adapted and based on the Matrix developed by the Federal Remediation Technologies Roundtable);
- In NASPA’s specific case, this technology has been tested in the Ex MonteSyndial site, and in the future it will be adopted in combination with other in situ remediation technologies.



- It aims at interrupting the pathways of contaminants;
- moreover, it has been used in-situ not polluted soil, making the approach environmentally friendly in terms of generated traffic of trucks and vehicles, therefore less CO<sub>2</sub> production and cost effective.

### Objective of specific action

The main aim of NASPA action is represented by the exploitation of the results of the test of a more environmental friendly and cost effective way to provide the capping. In the following the aim of the “layer made of not-polluted soil” and of the capping is also specified.

The aim of the “layer made of not-polluted soil” in Embankment A and Embankment B (this second one was equipped with a drainage system) was to consolidate the soil under the container terminal pavement, using not polluted soil excavated from the quay, thus minimising transportation of material.

The main scope of the capping is to interrupt the pathways of contaminants and also to provide statics quality to the flooring to be constructed for the future container terminal.

### Partners involved and description of participation process

NASPA participated to the GreenerSites Stakeholder tables, with the aim to present the three pilot projects and to gain feedbacks from stakeholders. NASPA also participated to several dissemination activities organised in the context of conferences about themes like remediation and urban planning.

NASPA also, during the development of its pilot action, collaborated with ARPAV (Veneto Regional Environmental Agency), and, in particular, before the development of the pilot discussed with ARPAV about the realisation of the pilot project itself and about the future monitoring activities that were carried out.

NASPA, in order to carry on the detailed design activities and the consequent operational phases, will continue to keep informed, asking where needed specific authorisations, the National and Local Authorities competent for redevelopment, remediation and environmental issues.



### Planning of activities (timeline)

In the short-time period (1 year), the pilot project will strongly support the detailed design of the project of the new container terminal in the Montesyndial site.

The project, currently under-going, has an expected investment of 160 million €. The works to be performed for the reconversion of the area consist in demolishing the current dock, the enlargement of the navigation channel and in the construction of a new dock and container storage platform. The intervention and the related investment were inserted in an important framework agreement signed on the 08 January 2015 among the Economic Development Ministry, the Veneto Region, the City of Venice and the Venice Port Authority, for the reconversion of brownfields and thus for the economic growth of the Porto Marghera area.

In this scope, the Pilot results assist NASPA technical departments in charge of the development of the overall project, with reliable data on the effects, in situ, of the technology that will be adopted for the whole remediation of the area.

It is particularly relevant for the efficiency and accuracy of the remediation project design, for the estimation of the work-plan and the forecast of budget to be allocated.

In terms of long run effects (considering 10 years course), the pilot project contributes in supporting the decision makers, and primarily NASPA itself, on the suitable remediation works strategy to be eventually implemented in other contaminated areas of Porto Marghera with similar characteristics and needs.

The benefit for the decision maker is in gaining solid and updated data for assessing the efficacy of this procedure leading to the realisation of *capping* as a solution that could be potentially adopted in other similar contaminated sites.

### Financing

For a first part of the activities, up to 35 M€ of the funding is provided by the Agreement between the Minister for the Economic Development, Veneto Region, Municipality of Venice and NASPA for the industrial reconversion and rehabilitation of the area of industrial complex crisis of Porto Marghera (January 2015), approved with deliberation n. 597 of 12<sup>th</sup> December 2014. The above said Agreement was updated with an Addendum of 2017: the available funds are currently of 51.404.503,14 €.

Additionally, NASPA provides 4 M€ of own funds.



### Progress of implementation

Outcomes gained along the testing of a more environmental friendly and cost effective way to provide the capping are exploited in the detailed design for the future container terminal planned to be developed in the so called Ex Montesyndial site in Porto Marghera area.

This is relevant since the tested technology will be adopted in combination with other in situ remediation technologies for the entire Ex-MonteSyndial site (84 hectares), with the aim of interrupting the pathways of contaminants.

Outcomes are also relevant considering the detailed design about the phase of activities related to the use of in-situ not polluted soil to consolidate the soil under the future terminal pavement.



Here below you can find a list of additional material developed within the GreenerSites project, plus relevant external bibliography, related to the concerned Pilot Site(s) and/or connected to the proposed Action Plan.

Web links relate to the date of consultation.

### **Project deliverables and material**

*(cite relevant project deliverable/material using the following for)*

Deliverable D.T .... – Title. Available at: web link (if available)

Deliverable D.T .... – Title. Available at: web link (if available)

Report ... . Ref. WP.T... Available at: web link (if available)

### **External bibliography and links**

*(Use this section to make reference to relevant publications, articles, reports or other documents related to the concerned Pilot Site or mentioned in the SAP)*

### **Web links**

*(Use this section to make reference to websites containing relevant documents or data related to the Pilot Site or mentioned in the SAP, if any)*

More information on the concerned area and/or on the proposed Action(s) can be found in the following web links:

- [www.link.com](http://www.link.com) – is the official site of... and contains info on ...
- [www.link.com](http://www.link.com) – contains info on ...

### **Annexes**

*(Use this section to list any document/map/graphic you want to add to the document, if any)*