

DSI 1	TWO-STAGE INCENTIVE PROGRAMME for the development and implementation of national / regional PEB strategies
Type of DSI policy	Funding
Level of intervention	EU / national / regional policies
Target Group/s addressed	national / regional authorities of Member States
Rationale	<p>For strategic market development the PEB topic needs to be linked with relevant strategies at national/regional level, e.g. as an add-on to NZEB action plans to be developed as a part of the national implementation of EPBD. Regional strategies need to cover both public and private target groups.</p> <p>For accelerating demand-side market development it will be important to speed up the realisation of a critical mass of PEB objects for different uses in different European environments and regions.</p> <p>These demo objects will further need to be systematically involved in DSI action plans (see DSI 4).</p>
Objectives / demand-side relevance	<ul style="list-style-type: none"> * Gaining commitment of national / regional authorities to develop/implement PEB strategies at regional level * Development of national / regional frameworks for the implementation of regional PEB strategies * Speeding up the realisation of a critical mass of PEB demo objects across all parts of EU * Capacity building of national / regional authorities with regard to the implementation of DSI instruments addressing public and private target groups
Inputs	<p>EU Programme addressing national / regional authorities issuing calls for a 2-stage incentive programme for development/implementation of PEB strategies. Additionally, networking activities will be organised for all programme participants at EU level.</p> <p>stage 1: EU funding (lump sum) for national / regional development of strategies and implementation plans</p> <p>stage 2: upon approval of PEB strategies and follow-up application of stage-1 participants:</p> <ul style="list-style-type: none"> - EU funding bonus on-top of national / regional funding / financing of a limited number of PEB demo objects per applicant region on the condition of implementation of regional demand-side activities on these objects

DSI 1	TWO-STAGE INCENTIVE PROGRAMME for the development and implementation of national / regional PEB strategies
Activities / Suggested instrument implementation	<p>EU calls addressing national/regional authorities for a 2-stage incentive programme for development/implementation of PEB strategies.</p> <p><u>stage 1:</u> Lump sum funding for national / regional development of strategies and implementation plans</p> <ul style="list-style-type: none"> - assessment of regional PEB potential - DSI action plan targeting public market actors (regional implementation of PCP/PPI, etc.) - DSI action plan targeting private market actors (voucher schemes for PEB project developers (see DSI2), awareness raising activities (see DSI3), ...) <p>Only nat./reg. authorities that have developed PEB strategies at stage 1 (e.g. as add-ons to NZEB implementation strategies) will be admitted to stage 2.</p> <p><u>stage 2:</u> upon approval of PEB strategies and follow-up application of stage-1 participants:</p> <ul style="list-style-type: none"> - EU funding bonus on-top of national / regional funding / financing covering max. XXX demo objects for different uses per applicant region given the following conditions (input for DSI XXX virtual guidance tour): <ul style="list-style-type: none"> - implementation of an energy monitoring systems on PEBs funded and commitment to report monitoring data to EU Programme for at least 3 years - Development/implementation of DSI activity plan to be implemented on PEBs funded for at least 3 years
Intended Outputs	<p>2 calls for Incentive Programme organised (2018, 2019).</p> <p>National / regional authorities from all Member States participating in 1st stage of Incentive Programme by 2020.</p> <p>2nd stage of Incentive Programme implemented in 50 % of the EU Member states by 2020.</p> <p>At least 40 regional PEB demo objects for different uses funded (realised/under construction) across all European regions.</p> <p>DSI action programmes for different demand-side target groups are in place and will be implemented on these PEB demo objects.</p>
Intended Outcomes	<p>PEB concepts are included in Energy Efficient Building strategies in all Member states.</p> <p>Strategic action plans are set up in all European regions for the implementation of demand-side innovation policies on existing and future PEB demo objects.</p> <p>Enhanced funds consisting of national/regional funding plus an EU funding bonus are available for regional PEB projects in MS/model regions across Europe in order to speed up the realisation of a critical mass of PEB model objects for different climatic environments and different uses.</p>

DSI 1	TWO-STAGE INCENTIVE PROGRAMME for the development and implementation of national / regional PEB strategies
Monitoring indicators suggested	<p>Number of MS authorities participating in the different stages of the Incentive Programme</p> <p>Number and type of national / regional PEB programmes developed and implemented by 2020</p> <p>Number and usage category of PEB model objects realised in MS with EU funding bonus</p> <p>Number and type of DSI activities implemented on the funded PEB model objects</p> <p>Number of nat. / reg. authorities participating in related networking activities at EU level</p>
Roadmapping SMART goals / (Milestones in bold script)	<p>by 6/2015: Stakeholder feedback to concept of Incentive Programme from at least 15 MS and 5 relevant European stakeholder organisations - Concept of incentive programme prepared for implementation at European level</p> <p>by end of 2017: incentive Programme implemented - 1st call opened</p> <p>2018: national / regional authorities from 16 MS from 1st call participating in 1st stage of Incentive Programme.</p> <p>by end of 2018: 2nd call opened</p> <p>2019: national / regional authorities from 12 MS from 2nd call participating in 1st stage of Incentive Programme</p> <p>2019: national / regional authorities from 12 MS in 2nd and 3rd stage of Incentive Programme</p> <p>2020: PEB strategies developed in all MS</p> <p>2020: at least 40 regional PEB model objects funded across all Europe that will be involved in regional DSI action programmes</p> <p>2020: Evaluation of Incentive Programme with a view to a potential extension of EPBD for PEB.</p>
Build the Future Timeline	<p>9/2014-4/2015 Concept discussion in regional focus groups</p> <p>9/2014-6/2015 Concept discussion in online stakeholder forum</p> <p>by 5/2015 Briefing with European institutions / related organisations at EU level</p> <p>by 6/2015 Recommendation to EU policy level included in final project report</p>

DSI 1	TWO-STAGE INCENTIVE PROGRAMME for the development and implementation of national / regional PEB strategies							
	Policy Level		Intermediaries at strategic level		demand-side actors (European associations, national / regional level)		Intermediaries at local implementation level, expert organisations	
	EU	national / regional	EU	national / regional	public	private	public	private
Policy / strategy development	European Commission / relevant DGs	Member State Authorities / relevant ministries						
Policy / Strategy implementation	Relevant DGs	nat. Ministries / authorities on Energy, R&D, innovation, reg. development, etc.	EU Associations of Construction Industries / other relevant industries	relevant Industry Associations / Chambers	European associations of Regions / Municipalities European associations of energy agencies, etc. European consumer associations		relevant cluster organisations innovation agencies national/regional energy agencies	technical experts / consultants
Funding / Co-Financing	EU R&D Programmes: Horizon 2020 EU regional development programmes: EFRE Other related EU programmes	National programmes on R&D, Energy Efficiency, etc. National construction sector programmes Other relevant national programmes				Crowd-Funding Organisations		
Single-project development / implementation					public institutions implementing building projects (e.g. office buildings, hospitals, schools, infrastructure buildings, etc.) cities, communities procurement Agencies / procurers in public institutions owners / tenants / (future users) of PEB objects facility management organisations	building project developers (large/small-scale housing, service buildings, industrial buildings, etc.) Own-home builders and their families (future) users of public buildings	relevant cluster organisations innovation agencies R&D institutions procurement agencies (as experts on innovative procurement procedures) participants in awards / competitions / calls	technical experts in planning / implementing building projects: architects, engineers, consultants, ... experts on energy efficiency: specialised architects, engineers, consultants, ... producers / suppliers of building components retailers / installers of building components
"Communication system" multipliers + target groups	EU information activities	National / regional information activities	Europ. consumer associations and networks Associations of Energy Agencies: FEDERANE, etc. LMI / Procurer Network: sci network Organisations of Educational System	National Consumer Organisations National energy agencies National industry associations National Organisations of Educational System	national associations of municipalities / regions etc. testimonial owners / managers of public PEB objects users of public PEB objects Professors / teachers / Trainers	networks of project developers testimonial users of existing private PEBs "Communities" of own-home builders / consumers in general / "crowds" Students / Pupils	relevant cluster organisations Innovation agencies R&D institutions Relevant Awards / Competitions / Projects realised in Funding Programmes	technical experts / consultants testimonials / good practice presentations model house exhibitions

DSI 2	MULTI-STAGE VOUCHER SCHEME "Step by step to PEB" for project developers
Type of DSI policy	Funding / consultancy
Level of intervention	national / regional programme
Target Group/s addressed	local public or private developers of PEB projects
Rationale	<p>For the implementation of individual PEB projects for different uses the relevant technologies and components have to be configured based on complex expert decisions under consideration of environmental conditions and the planned use of the building. Partly technologies are still evolving to reach market readiness. Project developers are overstrained and lack access to the required expertise are therefore reluctant to implement PEB concepts.</p> <p>In order to reduce uncertainty and to convince more public and/or private project developers to implement their individual project at the PEB level a step-by-step approach ("individual PEB realisation strategy) and continued support for project developers will be needed covering all phases of project realisation.</p> <p>At local level good practice showcases and technical information from the growing number of realised PEB objects will deliver useful information for future PEB project developers.</p>
Objectives / demand-side relevance	<ul style="list-style-type: none"> * Increasing the number of project developers that are implementing PEB concepts * Matching of demand-side requirements and technical expertise throughout all project phases * Gaining commitment of project owners for the involvement of their PEB objects in local DSI activities * Contribution to the set-up of energy efficiency monitoring of local energy efficient buildings * Presentation of a growing number of PEB demo objects in DSI 4 (Virtual Guidance Tour)
Inputs	<p>National / regional voucher programme including several levels of support for the different phases of the development / implementation of local PEB projects.</p> <p>Technical expertise and consultancy services purchased under the voucher scheme.</p> <p>For a defined set of local PEB demo projects a EU funding bonus will be implemented in regions participating in DSI 1 (EU inventive programme / stage 2).</p>

DSI 2	MULTI-STAGE VOUCHER SCHEME "Step by step to PEB" for project developers
Activities / Suggested instrument implementation	<p>Multi-stage Voucher Scheme issued by national / regional authorities for local developers of PEB projects for different types of buildings: private/public developers of housing projects of different size, public service buildings, like schools, hospitals, etc., but also for private home builders.</p> <p>Vouchers will be offered subsequently for different phases of project implementation. Voucher size will be defined depending on the project volume and expected energy savings.</p> <p><u>Voucher level 1:</u> available for the development of an individual PEB project strategy to be implemented over a defined period, e.g. 3 years.</p> <p>Explanation: While the basic technical features (e.g. architectural design, building envelope, overall energy concept/planning, etc.) have to be fixed from the beginning of project realisation other decisions (e.g. concrete model of renewable energy system to be installed) can partly be taken later on, leaving time/money for the project owner to focus on the best solution available in that moment, especially for those components that are still developing or not yet available at competitive prices.</p> <p>Participants in Voucher level 1 will commit themselves 1) to implement their individual PEB strategy within a given period and 2) to participate in regional DSI activities in order to be eligible for the next voucher level.</p> <p><u>Voucher level 2:</u> available for PEB project implementation for eligible cost of enhanced energy efficiency measures. A defined set of local PEB demo projects ("lighthouse projects ") will receive an EU funding bonus in regions participating in DSI 1 (EU inventive programme / stage 2). Another obligatory condition for funding will be the participation of the project owners in local and European DSI activities (awareness raising campaigns, showcase in DSI 3, etc.)</p> <p><u>Voucher level 3:</u> for the installation of an energy monitoring system on the building. Available in combination with Voucher level 2 for project developers, but also available for owners of existing PEB buildings. Eligible costs will cover relevant technical expertise / consultancy and extra cost for the incorporation of an adequate energy monitoring system on the building. Funding will be conditional to the delivery of monitoring information to the funding programme for at least 3 years. Projects displaying monitoring information on site for awareness raising of users and other target groups and/or delivering a showcase incl. monitoring information for DSI3 will receive an extra bonus.</p>
Intended Outputs	<ul style="list-style-type: none"> * Voucher scheme "step by step to PEB" implemented in at least 10 regions (participating in DSI1/stage2) by 2018. * At least 8 local PEB projects for different uses elaborating PEB implementation strategies under Voucher level 1 per region by 2020 (= 80 projects across EU). * At least 4 regional PEB demo objects applying Voucher levels 2 and 3 per region by 2020 (= 40 projects across EU), <ul style="list-style-type: none"> ** thereof 50 % funded by national / regional voucher system with EU bonus, 50 % without EU bonus (= 20 projects funded with EU bonus acc. to DSI 1).
Intended Outcomes	<ul style="list-style-type: none"> * Implementation of a critical mass of PEB objects for different uses in the participating regions. * Development of local networks of project developers with experience in strategic planning of PEB projects. * Capacity building of local technical experts / consultants with regard to demand-driven development of PEB projects for different purposes. * Involvement of local PEB project owners in regional awareness raising and other DSI activities. * Contribution to the set-up of energy efficiency monitoring of local energy efficient buildings. * Contribution of showcases to European presentation of PEB demo objects (DSI3 - Virtual guidance tour).

DSI 2	MULTI-STAGE VOUCHER SCHEME "Step by step to PEB" for project developers
Monitoring indicators suggested	<ul style="list-style-type: none"> * Number of local project developers participating in the different stages of the Voucher Programme * Number of experts / consultants involved in the development of "individual PEB implementation strategies" * Number of local PEB objects realised under the Voucher scheme * Percentage of public building projects upgraded from NZEB to PEB under the Voucher scheme * Number and type of DSI activities for local target groups (awareness raising, DSI XXX) implemented on the funded PEB objects * Quantity of energy monitoring data delivered by the PEB projects funded and energy savings realised
Roadmapping SMART goals / (Milestones in bold script)	<p>By 6/2015:</p> <ul style="list-style-type: none"> * Feedback on concept of PEB-related Voucher schemes from at least 15 national / regional authorities from different EU Member States. * Commitment to prepare PEB-related voucher scheme from at least 8 European regions on the basis of existing regional voucher schemes or on the basis of PEB-related voucher schemes to be developed a European project partnership (e.g. in the Interreg programme). <p>By 2018:</p> <ul style="list-style-type: none"> * PEB-related voucher scheme in place in at least 20 EU Member states <ul style="list-style-type: none"> ** on the basis of existing voucher schemes ** as a result of a related EU project as suggested above ** as a result of the EU Incentive Programme DSI1 <p>By 2020:</p> <ul style="list-style-type: none"> * At least 6 local PEB projects for different uses elaborating PEB implementation strategies under Voucher level 1 per region by 2020 (= 120 projects across EU). * At least 4 regional PEB demo objects applying Voucher levels 2 and 3 per region by 2020 (= 80 projects across EU), <ul style="list-style-type: none"> ** thereof 50 % funded by national / regional voucher system with EU bonus, 50 % without EU bonus (= 40 projects funded with EU bonus acc. to DSI1).
Build the Future Timeline	<p>9/2014-4/2015 Concept discussion in regional focus groups</p> <p>2/2015-5/2015 Detailed discussions with 2-3 regions with potential for upgrading existing voucher schemes</p> <p>9/2014-6/2015 Concept discussion in online stakeholder forum</p> <p>by 5/2015 Briefing with interested regional authorities in project partner regions</p> <p>by 6/2015 Recommendations for transfer to all European regions included in final project report</p>

DSI 2	MULTI-STAGE VOUCHER SCHEME "Step by step to PEB" for project developers							
	Policy Level		Intermediaries at strategic level		demand-side actors (national / regional level)		Intermediaries at local implementation level, expert organisations	
	EU	national / regional	EU	national / regional	public	private	public	private
Policy / strategy development	European Commission / relevant DGs	Member State Authorities / relevant ministries						
Policy / Strategy implementation	Relevant DGs	nat. Ministries / authorities on Energy, R&D, innovation, reg. development, etc.	EU Associations of Construction Industries / other relevant industries	relevant Industry Associations / Chambers	European associations of Regions / Municipalities European associations of energy agencies, etc. European consumer associations		relevant cluster organisations innovation agencies national/regional energy agencies	technical experts / consultants
Funding / Co-Financing	EU R&D Programmes: Horizon 2020 EU regional development programmes: EFRE Other related EU programmes	National programmes on R&D, Energy Efficiency, etc. National construction sector programmes Other relevant national programmes				Crowd-Funding Organisations		
Single-project development / implementation					public institutions implementing building projects (e.g. office buildings, hospitals, schools, infrastructure buildings, etc.) cities, communities procurement Agencies / procurers in public institutions owners / tenants / (future users) of PEB objects facility management organisations	building project developers (large/small-scale housing, service buildings, industrial buildings, etc.) Own-home builders and their families (future) users of public buildings	relevant cluster organisations innovation agencies R&D institutions procurement agencies (as experts on innovative procurement procedures)	technical experts in planning / implementing building projects: architects, engineers, consultants, ... experts on energy efficiency: specialised architects, engineers, consultants, ... producers / suppliers of building components retailers / installers of building components participants in awards / competitions / calls
"Communication system" multiplicators + target groups	EU information activities	National / regional information activities	Europ. consumer associations and networks Associations of Energy Agencies: FEDERANE, etc. LMI / Procurer Network: sci-network Organisations of Educational System	National Consumer Organisations National energy agencies National industry associations National Organisations of Educational System	national associations of municipalities / regions etc. testimonial owners / managers of public PEB objects users of public PEB objects Professors / teachers / Trainers	networks of project developers testimonial users of existing private PEBs "Communities" of own-home builders / consumers in general / "crowds" Students / Pupils	relevant cluster organisations Innovation agencies R&D institutions Relevant Awards / Competitions / Projects realised in Funding Programmes	technical experts / consultants testimonials / good practice presentations model house exhibitions

DSI 3	DEVELOPMENT / EXHIBITION / TESTING OF LOCAL PEB MODEL HOUSES "Prefab PEB Lab"
Type of DSI policy	funding / demand-driven research / awareness raising / testing
Level of intervention	national / regional programme
Target Group/s addressed	suppliers of prefabricated houses, related technology and component suppliers / R&D institutions organisations managing prefab. house exhibitions, (potential) own-home builders / consumers local energy / innovation agencies and cluster initiatives
Rationale	<p>(Potential) builders of family homes face several kinds of barriers during planning and implementing their individual building projects, mostly family homes: Financial resources are often weak, technical capabilities are limited resulting in do-it-yourself approaches with reduced access to external technical expertise and long duration of construction work. For these reasons purchasing a prefabricated house represents an attractive alternative, especially for young families. Today permanent exhibitions of prefabricated houses sometimes offer additional service for potential buyers, like an overnight stay for testing the convenience of the building.</p> <p>A programme focussing on the development of prefabricated PEBs adopted to regional demand-side requirements and environmental conditions could prove the feasibility of PEB concepts in this sector and substantially speed up the dissemination of PEB concepts in the target groups of private customers and own-home builders. Additionally, the permanent installation of prize-winning house models from international competitions on energy-efficient construction (like solar decathlon) in local model house exhibitions could raise the awareness of large consumer groups and serve as a basis for awareness raising activities.</p>
Objectives / demand-side relevance	<ul style="list-style-type: none"> * Increasing the number of own-home builders / consumers that are implementing PEB concepts * Matching of demand-side requirements and technical expertise in prefabricated PEB model houses * Raising awareness of own-home builders / consumers for PEB solutions and PEB-related technologies * Contribution to the set-up of energy efficiency monitoring of local energy efficient buildings * Presentation of a growing number of PEB demo objects in local exhibitions and in DSI 4 (Virtual Guidance Tour)
Inputs	<p>Special topic in national / regional R&D funding programme for the development of prefabricated PEB model houses based on demand-side requirements addressing suppliers of prefabricated houses, suppliers of construction components/material and the relevant R&D institutions.</p> <p>Arrangements with organisations managing exhibitions of prefab. houses to involve them in PEB awareness raising and testing activities.</p> <p>Management of local awareness raising activities focussing on PEB model houses supported by local energy agencies, innovation agencies, cluster organisations, etc.</p>

DSI 3	DEVELOPMENT / EXHIBITION / TESTING OF LOCAL PEB MODEL HOUSES "Prefab PEB Lab"
Activities / Suggested instrument implementation	<p>Definition of a special topic on the development of locally adapted, prefabricated PEB model houses in the relevant national/regional funding programmes addressing suppliers of prefabricated houses and construction industry in cooperation with related R&D institutions. The technical PEB concepts funded should be adopted for serial prefabrication and include energy efficiency monitoring. Funding should be conditional to the involvement of demand-side target groups and the elaboration of communication plans for the funded PEB objects. Target group involvement could be increased by organising a competition in which a number of (3?) model houses will be elected by the interested public + an expert jury for permanent installation on an exhibition area.</p> <p>A permanent exhibition area for selected PEB model houses funded has to be provided with management of continued awareness raising and testing activities involving both local customer target groups and experts from R&D and industry in cooperation with local energy and innovation agencies and cluster initiatives. With regard to energy monitoring an on-site display of energy monitoring data directly on the exhibited buildings and the delivery of monitoring data to the funding agency will be foreseen.</p> <p>The prefabricated PEB model houses will serve as a showcase on national/local online platforms and in DSI4 (virtual guidance tour).</p>
Intended Outputs	<ul style="list-style-type: none"> * National / regional calls for the development of PEB prefabrication concepts in existing funding programmes starting in at least 8 European regions from 2017. * Implementation of the "Prefab PEB Lab" concept in exhibition areas in at least 5 regions across Europe with at least 12 prefabricated model houses adopted to different geographical conditions and various demand of private user target groups . * Individual testing possibilities and awareness activities / innovations labs involving consumers, construction industry and related R&D experts organised in all participating regions starting with the finalisation of the first prefab houses (2018/2019). * Exhibitions of PEB model houses in place and completed by 2020. * Presentation of the PEB model houses in regional websites as well as on the European online platform (DSI4) with information on awareness raising and testing activities available.
Intended Outcomes	<ul style="list-style-type: none"> * Locally adopted PEB model houses (family homes) for serial prefabrication available in different European regions. * Involvement of consumers / potential own-home builders in the development, selection and testing of these PEB model houses. * Open access to the PEB model houses in exhibition area enables intensification of dialogue between demand-side target groups and developers/suppliers of prefab. PEB solutions. * Increased awareness of PEB potential in wide consumer target groups due to the implementation of local awareness raising, testing and open lab activities in cooperation with regional intermediary organisations and cluster initiatives. * Contribution of showcases to European presentation of PEB demo objects (DSI4 - Virtual guidance tour).

DSI 3	DEVELOPMENT / EXHIBITION / TESTING OF LOCAL PEB MODEL HOUSES "Prefab PEB Lab"
Monitoring indicators suggested	<ul style="list-style-type: none"> * Number of European regions implementing "Prefab PEB Lab" programmes and number of relevant calls. * Number of potential users involved in development of prefab solutions. * Number of prefabricated PEB model houses developed and available for serial production. * Number of prefabricated PEB model houses accessible to the public in exhibition areas. * Number and type of testing programmes / open lab activities offered in exhibited PEB model houses. * Number of consumers / potential own-home builders involved in DSI activities * Quantity of energy monitoring data delivered by the PEB projects funded and energy savings realised
Roadmapping SMART goals / (Milestones in bold script)	<p>By 6/2015:</p> <ul style="list-style-type: none"> * Feedback on concept of "PreFab PEB Lab" concept from at least 15 national / regional authorities from different EU Member States. * Commitment to include a "PreFab PEB Lab" topic in existing national / regional programmes at least 3 European regions. Interest to develop this concept in a European project partnership (e.g. in the Interreg programme) from at least 5 European regions. <p>By 2020:</p> <ul style="list-style-type: none"> * Pilot implementation of "PreFab PEB Lab" in at least 5 European regions with at least 12 prefab PEB model houses developed and testing possibilities and open labs available for the public. * Presentation of the PEB model houses in regional websites as well as on the European online platform (DSI4) with information on awareness raising and testing activities available.
Build the Future Timeline	<p>9/2014-4/2015 Concept discussion in regional focus groups</p> <p>9/2015-2/2015 Concept discussion with award winners of energy efficient building competitions</p> <p>2/2015-5/2015 Detailed discussions with 3 regions about relevant PEB topic in existing programmes</p> <p>9/2014-6/2015 Concept discussion in online stakeholder forum</p> <p>by 6/2015 Recommendations for transfer to all European regions included in final project report</p>

TARGET GROUP MATRIX FOR DSI DEVELOPMENT	Policy Level		Intermediaries at strategic level		demand-side actors (national / regional level)		Intermediaries at local implementation level, expert organisations	
	EU	national / regional	EU	national / regional	public	private	public	private
Policy / strategy development	European Commission / relevant DGs	Member State Authorities / relevant ministries						
Policy / Strategy implementation	Relevant DGs	nat. Ministries / authorities on Energy, R&D, innovation, reg. development, etc.	EU Associations of Construction Industries / other relevant industries	relevant Industry Associations / Chambers	European associations of Regions / Municipalities	European associations of energy agencies, etc.	relevant cluster organisations	technical experts / consultants
	EU programmes on R&D, energy eff., innovation, reg. development, etc.	Relevant national/regional programmes			European consumer associations		innovation agencies	
							national/regional energy agencies	
Funding / Co-Financing	EU R&D Programmes: Horizon 2020	R&D Funding Programmes on R&D, Energy Efficiency, etc.			Crowd-Funding Organisations			
	EU regional development programmes: EFRE	Funding Programmes for the Building Sector						
	Other relevant funding programmes	Other relevant funding programmes						
Single-project development / implementation					public institutions implementing building projects (e.g. office buildings, hospitals, schools, infrastructure buildings, etc.)	building project developers (large/small-scale housing, service buildings, industrial buildings, etc.)	relevant cluster organisations	technical experts in planning / implementing building projects: architects, engineers, consultants, ...
					cities, communities	Own-home builders and their families	innovation agencies	experts on energy efficiency: specialised architects, engineers, consultants, ...
					procurement Agencies / procurers in public institutions	(future) users of public buildings	R&D institutions	producers / suppliers of building components
					owners / tenants / (future users) of PEB objects	facility management organisations	procurement agencies (as experts on innovative procurement procedures)	retailers / installers of building components
							participants in awards / competitions / calls	
"Communication system" multipliers + target groups	EU information activities	National / regional information activities	Europ. consumer associations and networks	National Consumer Organisations	national associations of municipalities / regions etc.	networks of project developers	relevant cluster organisations	technical experts / consultants
			Associations of Energy Agencies: FEDERANE, etc.	National energy agencies	testimonial owners / managers of public PEB objects	testimonial users of existing private PEBs	Innovation agencies	testimonials / good practice presentations
			LMI / Procurer Network: sci-network	National industry associations	users of public PEB objects	"Communities" of own-home builders / consumers in general / "crowds"	R&D institutions	model house exhibitions
			Organisations of Educational System	National Organisations of Educational System	Professors / teachers / Trainers	Students / Pupils	Relevant Awards / Competitions / Projects realised in Funding Programmes	

DSI 4	VIRTUAL GUIDANCE TOUR: PEB IN EUROPE including "PEB configurator" and other simulation/self-assessment tools
Type of DSI policy	awareness raising / simulation / testing
Level of intervention	EU communication platform
Target Group/s addressed	all demand-side target groups, national / regional authorities/intermediary agencies, technology suppliers, R&D experts
Rationale	<p>Main barriers for demand-side market development for PEBs lie in the underdeveloped communication strategies which cover only single demo projects in their regional context and address mainly R&D-related and supply-side actors. In order to improve the access to PEB-related information for the different demand-side target groups (public/private) and to enable learning processes and the transfer of PEB-related know-how to other European regions it will be important to create one main access point offering information and services offering different types of information and tools for all relevant target groups.</p> <p>The core function of this information platform for demand-side actors will be a set of simulation, testing and self-assessment tools that will provide a virtual PEB experience for individual project owners and own-home builders and will also function as a reference tool and planning support for intermediaries of PEB implementation (architects, construction engineers, etc.).</p> <p>Together with detailed information on PEB implementation across Europe and support schemes in different regions / member states the "Virtual Guidance Tour" will provide all relevant inputs for qualified decision-making of demand-side actors starting for the planning and building of PEB objects.</p>
Objectives / demand-side relevance	<ul style="list-style-type: none"> * Providing a central access to PEB-related information with focus on the information requirements of demand-side target groups * Increasing the competence of demand-side actors in PEB-related decision-making processes * Improving transfer and capitalisation of existing PEB knowledge across Europe
Inputs	<ul style="list-style-type: none"> * PEB-related information and showcases from all parts of Europe, e.g. from DSI2, DSI3 and other implemented PEB projects and from DSI1 (special section for public authorities). * Resources for management of the platform coming from an adequate European association (e.g. representing the construction sector, energy efficiency agencies, public procurers, demand-side Policies - to be defined) * Simulation / testing / self-assessment tools and databanks to be developed in the course of cooperative projects (in EU R&D programmes, like Horizon 2020, IEE, etc.)

DSI 4	VIRTUAL GUIDANCE TOUR: PEB IN EUROPE including "PEB configurator" and other simulation/self-assessment tools
Activities / Suggested instrument implementation	<p>The "Virtual Guidance Tour" as the main access point on PEB-related information and tools in Europe will offer information and services for all relevant target groups.</p> <p><u>Demand-side actors / potential builders / owners of PEBs</u></p> <ul style="list-style-type: none"> - showcases of good practice of PEB model solutions with special focus on demand-side information requirements, - virtual simulation, testing and self-assessment tools for interested audiences ("PEB configurator") - information about demand-side activities, funding opportunities and national/regional contact points in all European regions (e.g. with regard to PEB exhibitions and testing possibilities acc. to DSI 3). <p><u>Special section for public authorities and agencies:</u></p> <ul style="list-style-type: none"> - databank of DSI policies and single instruments that are implemented in different European regions, such as awareness raising, funding, interaction demand-side / supply-side actors, etc. as a reference for regional / national authorities that are developing / improving their PEB strategy implementation - information on the practical implementation of DSIs targeted at public authorities, such as PCP/PPI, PEB strategy development, etc. <p><u>Technology suppliers from R&D and industry:</u></p> <ul style="list-style-type: none"> - information about recent R&D projects, newly developed building components, special qualification programmes, etc.
Intended Outputs	<ul style="list-style-type: none"> * Technical and organisational set-up of the information platform by 2016 with publication of the platform starting from 2017 (partly based on the experience of the "Build the Future" website) * Special section for public authorities available for presentation of the results of the roadmapping process and continuation of DSI policy development and implementation on the basis of the planned cooperation projects (e.g. in Interreg programmes) starting from 2017 * Continuous upload of showcases starting from 2017 with of at least 60 showcases of PEB objects from DSI2 and DSI3 and other implemented projects covering all regions of Europe and different uses presented by 2020 * Continuous upload of supply-side inputs from R&D projects and industry with a complete coverage of all relevant European actors by 2020
Intended Outcomes	<ul style="list-style-type: none"> * Raised awareness with regard to the availability of PEB solutions for different uses and climatic environments in Europe in all relevant target groups * Capacity building in public institutions with regard to the development and implementation of demand-side policy instruments * Improved qualification and empowerment of demand-side target groups to articulate their demand for PEB solutions will be reached through the introduction of the virtual simulation, testing and self-assessment instruments ("PEB configurator") resulting in increased demand for PEB technologies and solutions * Increased awareness of technology suppliers from R&D and industry with regard to the information needs of demand-side target groups for different demand-side target groups

DSI 4	VIRTUAL GUIDANCE TOUR: PEB IN EUROPE including "PEB configurator" and other simulation/self-assessment tools
Monitoring indicators suggested	<ul style="list-style-type: none"> * Number of PEB objects and quality of information presented in "Virtual Guidance Tour" * Number of DSI implementation showcases and quality of information presented in special section for public authorities * Number of information inputs and quality of information coming from technology suppliers from R&D and industry * Number of platform visitors by different platform sections * Number of requests received at national / regional contact points with reference to DSI4 * Number of requests from technology suppliers across Europe to be represented in DSI4 * Number of PEBs realised in local environments
Roadmapping SMART goals / (Milestones in bold script)	<p>By 6/2015:</p> <ul style="list-style-type: none"> * Discussion of required features of DSI4 with at least 40 stakeholders * Report on "Build the Future" website experience as a pilot activity for future DSI4 (except simulation tools) * Specification of features for future "Virtual Guidance Tour" <p>By 2017:</p> <ul style="list-style-type: none"> * Technical and organisational set-up finished, platform available with initial inputs in all platform sections * At least 60 showcases of PEB objects covering all parts of Europe presented in the Virtual Guidance Tour by 2020 * DSI policy development and implementation showcases from all 28 Member States presented by 2020 * At least 120 inputs from technology suppliers from R&D and industry with a complete coverage of all relevant European actors by 2020
Build the Future Timeline	<p>9/2014-4/2015 Concept discussion in regional focus groups</p> <p>9/2014-6/2015 Concept discussion in online stakeholder forum</p> <p>by 6/2015 Recommendations regarding features of DSI included in final project report</p>

TARGET GROUP MATRIX FOR DSI DEVELOPMENT	Policy Level		Intermediaries at strategic level		demand-side actors (national / regional level)		Intermediaries at local implementation level, expert organisations	
	EU	national / regional	EU	national / regional	public	private	public	private
Policy / strategy development	European Commission / relevant DGs	Member State Authorities / relevant ministries						
Policy / Strategy implementation	Relevant DGs	nat. Ministries / authorities on Energy, R&D, innovation, reg. development, etc.	EU Associations of Construction Industries / other relevant industries	relevant Industry Associations / Chambers			relevant cluster organisations innovation agencies national/regional energy agencies	technical experts / consultants
Funding / Co-Financing	EU R&D Programmes: Horizon 2020 EU regional development programmes: EFRE Other related EU programmes	National programmes on R&D, Energy Efficiency, etc. National construction sector programmes Other relevant national programmes				Crowd-Funding Organisations		
Single-project development / implementation					public institutions implementing building projects (e.g. office buildings, hospitals, schools, infrastructure buildings, etc.) cities, communities procurement Agencies / procurers in public institutions owners / tenants / (future users) of PEB objects facility management organisations	building project developers (large/small-scale housing, service buildings, industrial buildings, etc.) Own-home builders and their families (future) users of public buildings	relevant cluster organisations innovation agencies R&D institutions procurement agencies (as experts on innovative procurement procedures) participants in awards / competitions / calls	technical experts in planning / implementing building projects: architects, engineers, consultants, ... experts on energy efficiency: specialised architects, engineers, consultants, ... producers / suppliers of building components retailers / installers of building components
"Communication system" multipliers + target groups	EU information activities	National / regional information activities	Europ. consumer associations and networks Associations of Energy Agencies: FEDERANE, etc. LMI / Procurer Network: sci-network Organisations of Educational System	National Consumer Organisations National energy agencies National industry associations National Organisations of Educational System	national associations of municipalities / regions etc. testimonial owners / managers of public PEB objects users of public PEB objects Professors / teachers / Trainers	networks of project developers testimonial users of existing private PEBs "Communities" of own-home builders / consumers in general / "crowds" Students / Pupils	relevant cluster organisations Innovation agencies R&D institutions Relevant Awards / Competitions / Projects realised in Funding Programmes	technical experts / consultants testimonials / good practice presentations model house exhibitions

DSI 5	PEB - Plus ENERGY for adults of tomorrow sustainable energy topics in basic education
Type of DSI policy	funding / demand-driven actions / awareness raising / competition and cooperation incl. Awarding
Level of intervention	EU / national / regional programme
Target Group/s addressed	Education institutes, schools, teachers, pupils and their relatives, related promoters and investors
Rationale	<p>To be successful by implementing PEB within a broad audience in Europe this topic should also be integrated in the education system of the member states. If the pupils can be reached and involved in the current topic the relatives of the pupils can be reached, too. It is recommended to design the action public oriented in order to reach even a wider audience than the direct involved persons. Therefore the actions should be designed in that way that they have sustainable character, competition character (with price and/or awards) in order to stimulate creativity and will to join the actions and last but not least some fun factor (including surprising moments) which is necessary to keep pupils and teachers on track of the topic (PEB).</p>
Objectives / demand-side relevance	<ul style="list-style-type: none"> * raising awareness for PEB in the education system of the EU Member states * Integration of PEB solutions including supporting technologies in different school subject (mathematics, physics, geography, drawing etc.) by motivation and stimulation * integration of PEB related pilot projects in European schools in order to ensure sustainability * stimulate interest for PEB in present and future customers
Inputs	<ul style="list-style-type: none"> * European/national programme to stimulate awareness for PEB in schools * relevant expert and management resources to develop and coordinate the whole programme at European level and in the participating member states. * information for getting acceptance and support of the programme by national/regional school authorities for participation of the European PEB programme.

DSI 5	PEB - Plus ENERGY for adults of tomorrow sustainable energy topics in basic education
Activities / Suggested instrument implementation	<ul style="list-style-type: none"> * set up of PEB information material according to needs for schools * elaboration of pilot activities which can be sustainable implemented in the schools * definition and selection of "education boxes, e.g. Energy Boxes" for ensure interesting and motivating practical learning of contents concerning PEB topics * cooperative competition action where schools cooperate to fulfil tasks concerning PEB with the possibility to get prizes and awards
Intended Outputs	<ul style="list-style-type: none"> * European/national calls to schools to participate the PEB initiative * implementation of a european wide competition in different steps concerning questions and tasks related to PEB * usage of tools like "energy boxes" or related tools as toys concerning information and education related to PEB * implementation of pilot investments (Measure systems, small PV plants, small heat pump, little wind mills etc.) at schools as basis for sustainable teaching and demonstration of actions which can lead to PEB. * sustainable cooperation and network of schools related to a common task of PEB for the future * meeting, seminars, events related to PEB * projects, studies, draws, materials etc. worked out by pupils related to the main topic PEB
Intended Outcomes	<ul style="list-style-type: none"> * raising awareness in European education system at the energy topic related to PEB * involvement out teachers, pupils and their relatives into the project * high media response because of an important topic transported by children * higher interest from pupil especially in PEB related professions, especially from girls * Spin off and follow up activities of schools related to sustainable energy topics like PEB * involvement of third parties (economics, industries etc) as promotors and supporters of schools and pupils

DSI 5	PEB - Plus ENERGY for adults of tomorrow sustainable energy topics in basic education
Monitoring indicators suggested	<ul style="list-style-type: none"> * number of regions, schools, teachers and pupils involved in the programme * number of pieces of info material and boxes and other tools for teaching and educating pupils * number of pilot actions (small investments in schools) which will be used sustainably for teaching purposes * number of working seminars, interregional meetings, openings of actions or plants in schools, awarding ceremonies etc. * number of press releases, public relations, TV spots etc. related to the project * number of projects works draws etc. made by pupils or group of pupils * number of interregional education and information tours made by pupils
Roadmapping SMART goals / (Milestones in bold script)	<ul style="list-style-type: none"> * By 6/2015 draft programme structure with feed back and involvement of at least 10 school institutions in Europe. By 1/2016 1st call to clarify the number of regions/states/schools which intend to participate the programme by 6/2016 clarifying the size and figures of the whole programme by 1/2017 starting a 3 Years programme. The pupils should be awarded within one school year. The school will run the programme for 3 years.
Build the Future Timeline	<ul style="list-style-type: none"> * 9/2014 -12 2014 elaborating a rough programme concept incl. a structure * 11/2014 - 3/2015 interviews and feed back from education institutes (state, regions) and schools * 6/2015 draft concept for implementing a PEB programme for schools

TARGET GROUP MATRIX FOR DSI DEVELOPMENT	Policy Level		Intermediaries at strategic level		demand-side actors (national / regional level)		Intermediaries at local implementation level, expert organisations	
	EU	national / regional	EU	national / regional	public	private	public	private
Policy / strategy development	European Commission / relevant DGs	Member State Authorities / relevant ministries						
Policy / Strategy implementation	Relevant DGs	nat. Ministries / authorities on Energy, R&D, innovation, reg. development, etc.	EU Associations of Construction Industries / other relevant industries	relevant Industry Associations / Chambers	European associations of Regions / Municipalities	Crowd-Funding Organisations	relevant cluster organisations	technical experts / consultants
	EU programmes on R&D, energy eff., innovation, reg. development, etc.	Relevant national/regional programmes			European associations of energy agencies, etc.		innovation agencies	
			European consumer associations	national/regional energy agencies				
Funding / Co-Financing	EU R&D Programmes: Horizon 2020	R&D Funding Programmes on R&D, Energy Efficiency, etc.						
	EU regional development programmes: EFRE	Funding Programmes for the Building Sector						
	Other relevant funding programmes	Other relevant funding programmes						
Single-project development / implementation					public institutions implementing building projects (e.g. office buildings, hospitals, schools, infrastructure buildings, etc.)	building project developers (large/small-scale housing, service buildings, industrial buildings, etc.)	relevant cluster organisations	technical experts in planning / implementing building projects: architects, engineers, consultants, ...
					cities, communities	Own-home builders and their families	innovation agencies	experts on energy efficiency: specialised architects, engineers, consultants, ...
					procurement Agencies / procurers in public institutions	(future) users of public buildings	R&D institutions	producers / suppliers of building components
					owners / tenants / (future users) of PEB objects		procurement agencies (as experts on innovative procurement procedures)	retailers / installers of building components
					facility management organisations		participants in awards / competitions / calls	
"Communication system" multipliers + target groups	EU information activities	National / regional information activities	Europ. consumer associations and networks	National Consumer Organisations	national associations of municipalities / regions etc.	networks of project developers	relevant cluster organisations	technical experts / consultants
			Associations of Energy Agencies: FEDERANE, etc.	National energy agencies	testimonial owners / managers of public PEB objects	testimonial users of existing private PEBs	Innovation agencies	testimonials / good practice presentations
			LMI / Procurer Network: sci-network	National industry associations	users of public PEB objects	"Communities" of own-home builders / consumers in general / "crowds"	R&D institutions	model house exhibitions
			Organisations of Educational System	National Organisations of Educational System	Professors / teachers / Trainers	Students / Pupils	Relevant Awards / Competitions / Projects realised in Funding Programmes	

DSI6	FINANCING TOOLS FOR PEB IMPLEMENTATION for the realisation of PEB projects
Type of DSI policy	Funding / financing
Level of intervention	national / regional policies
Target Group/s addressed	public and private developers of PEB implementation projects
Rationale	<p>As PEB markets are just starting to evolve the addressed target groups for PEB project implementation have to handle short-term increases in investment costs with altered amortisation scenarios and high barriers to access finance for their PEB investment at the same time. Financial incentives and PEB-related financing packages will be needed to compensate for initial economic obstacles perceived by project developers and builders and to speed up market uptake of the relevant technologies. For PEBs as a niche within the sustainable construction segment it will be reasonable to make use of already existing financing instruments, like bank loans, complementing them with financing tools that are in use for financing of energy efficiency projects as well as innovative financing/funding approaches for community-based PEB projects.</p>
Objectives / demand-side relevance	<ul style="list-style-type: none"> * With view to the development of national PEB strategies (DSI1) the primary goal at national level will be to select a suitable set of financial instruments and define financing packages according to the demand of regional PEB market actors. * Providing suitable financing instruments as an economic incentive and calculatory basis for PEB implementation projects * Capacity building within the national financing system for better handling of applications coming from PEB project developers * Development of innovative financing / funding approaches that support the implementation of community-based PEB investment projects * Development of PEB-related financing packages, including complementary classical and innovative financing and funding instruments
Inputs	<p>Financial support instruments for the realisation of public and private PEB projects can include several measures by depending on the specifics of national financing system structures involving different actors, such as business development banks, commercial banks, building and loan associations, energy service companies and crowds of individual investors.</p>

DSI6	FINANCING TOOLS FOR PEB IMPLEMENTATION for the realisation of PEB projects
Activities / Suggested instrument implementation	<p>Financing instruments envisaged for the support of PEB project realisation at national level include e.g.:</p> <ul style="list-style-type: none"> * Earmarking of a proportion of funds at national building and loan associations for PEB implementation projects * Issuing of guarantees for PEB realisation investments by national business development banks in combination with reduced interest offered for PEB investment loans * Contracting services for pay-back of PEB investments offered by national / regional ESCOs * crowd-funding approaches to complement public investment in community-based service buildings realised at PEB standards <p>The selection of financial instruments and definition of financing packages will be chosen by the relevant authorities with regard to the national PEB strategies (DSI1) and the perceived demand of (potential) PEB market actors.</p>
Intended Outputs	<p>Suitable financing packages available for all PEB implementation projects foreseen acc. to DSI1 and DSI2. Evaluation of the financing instruments that will be necessary for further PEB market development by 2020 with subsequent mainstreaming of PEB financing instruments and complementary funding schemes acc. to national PEB strategies.</p>
Intended Outcomes	<p>Partly backed by guarantees of the national business development banks the financing of PEB implementation projects will be mainstreamed in financing institutions, like commercial banks and building and loan associations. A range of financing packages will be offered by these institutions to meet the demand of PEB project developers and builders. PEB projects will be regularly included in the contracting portfolios of national and regional ESCOs. A growing number of community-based public service buildings will be supported by local crowd funding initiatives.</p>

DSI6	FINANCING TOOLS FOR PEB IMPLEMENTATION for the realisation of PEB projects
Monitoring indicators suggested	<ul style="list-style-type: none"> * Number and volume of guarantee-backed loans for PEB implementation projects issued by commercial banks * Number and volume of low-interest loans for PEB implementation projects issued by building and loan associations * number and volume of community-based public PEB projects supported by local crowd funding initiatives
Roadmapping SMART goals / (Milestones in bold script)	<p>By 6/2015:</p> <ul style="list-style-type: none"> * Discussion of required features of DSI6 with at least 40 stakeholders * Selection of existing examples of different types of financing instruments suitable for PEB implementation projects * Draft concept for involvement of crowd-funding initiatives in PEB financing <p>By 2018:</p> <ul style="list-style-type: none"> * PEB-related financing packages in place in EU countries / regions participating in DSI1 / DSI2 pilot action <p>By 2020:</p> <ul style="list-style-type: none"> * Number of PEB projects financed in participating countries / regions acc. to national / regionale PEB strategies * Evaluation of PEB financing mechanisms leading to consequent mainstreaming of suitable instruments
Build the Future Timeline	<p>9/2014-4/2015 Concept discussion in regional focus groups</p> <p>9/2014-6/2015 Concept discussion in online stakeholder forum</p> <p>by 5/2015 Briefing with European institutions / related organisations at EU level</p> <p>by 6/2015 Recommendation to EU policy level included in final project report</p>

TARGET GROUP MATRIX FOR DSI DEVELOPMENT	Policy Level		Intermediaries at strategic level		demand-side actors (national / regional level)		Intermediaries at local implementation level, expert organisations	
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Policy / strategy development	European Commission / relevant DGs	Member State Authorities / relevant ministries						
Policy / Strategy implementation	Relevant DGs	nat. Ministries / authorities on Energy, R&D, innovation, reg. development, etc.	EU Associations of Construction Industries / other relevant industries	relevant Industry Associations / Chambers	European associations of Regions / Municipalities		relevant cluster organisations	technical experts / consultants
	EU programmes on R&D, energy eff., innovation, reg. development, etc.	Relevant national/regional programmes			European associations of energy agencies, etc.	innovation agencies		
			European consumer associations	national/regional energy agencies				
Funding / Financing	EU R&D Programmes: Horizon 2020	R&D Funding Programmes on R&D, Energy Efficiency, etc.			banks			
	EU regional development programmes: EFRE	Funding Programmes for the Building Sector			ESCOs			
	Other relevant funding programmes	Other relevant funding programmes				Crowd-Funding Organisations		
Single-project development / implementation					public institutions implementing building projects (e.g. office buildings, hospitals, schools, infrastructure buildings, etc.)	building project developers (large/small-scale housing, service buildings, industrial buildings, etc.)	relevant cluster organisations	technical experts in planning / implementing building projects: architects, engineers, consultants, ...
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"Communication system" multipliers + target groups	EU information activities	National / regional information activities	Europ. consumer associations and networks	National Consumer Organisations	national associations of municipalities / regions etc.	networks of project developers	relevant cluster organisations	technical experts / consultants
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			LMI / Procurer Network: sci-network	National industry associations	users of public PEB objects	"Communities" of own-home builders / consumers in general / "crowds"	R&D institutions	model house exhibitions
			Organisations of Educational System	National Organisations of Educational System	Professors / teachers / Trainers	Students / Pupils	Relevant Awards / Competitions / Projects realised in Funding Programmes	