Annual Report of the Implementation Plan Working Groups

Implementation Plan:	**PHOTOVOLTAICS**
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1. Implementation plan and targets

Please confirm, by ticking the boxes below, whether the implementation plan and its targets are still relevant in their original formulation, or whether they should be revised. Where there is a need for revision or targets are obsolete, please provide the reasoning and recommendations for changes.

Statement	Still relevant	Needs revision	Reasoning and recommendations
Implementation plan	☒	☐	
Targets			
Major advances in efficiency of established technologies (Crystalline Silicon and Thin Films) and new concepts			
Increase PV module efficiency by at least 20% by 2020 compared to 2015 levels	☒	☐	2015 the module power for different c-Si cell types (60 cells per module, p-type material – mostly used material) ranged from 265 to 285 W (see ITRPV April 2015). The ITRPV 2019 shows numbers from 280 to 320 W for standard p-type cells thus resulting in an increase of efficiency of 9%.
Increase PV module efficiency by at least 35% by 2030 compared to 2015, including with the introduction of novel PV technologies	☐	☒	Currently i.e LG offers 60 cell modules with 356 W, which exceeds the 20 % increase of the values of 2015. This is no average module, but a revision of targets seems advisable
Reduction of the cost of key technologies			
Reduce turn-key system costs by at least 20% by 2020 as compared to 2015	☐	☒	For its analyses, ITRPV 2015 shows system costs for large systems > 100 kWp of roughly 1.200 US$/kWp; the 2019 report gives a number of 0.63 US$/W(DC) for 2019. From this data a rough estimation of system costs reduction results in 47.5%.
Reduce turn-key system costs by at least 50% by 2030 compared to 2015 with the introduction of novel, potentially very-high-efficiency PV technologies manufactured at large scale	☐	☒	see above
Further enhancement of lifetime, quality and			

sustainability and hence improving environmental performance			
Maintain proven system energy output per year at least 80% of initial level for 30 years by 2020 and for 35 years by 2025;	☒	☐	on module level, performance warranty still covers only 25 years and degradation per year during performance warranty amounts to around 7% (data from IRPV 2019) resulting at 84% of initial level after 25 years
Minimize life-cycle environmental impact along the whole value chain of PV electricity generation, and increase recyclability of system components (in particular: of modules)	☒	☐	
Perform focused research and apply & progress eco-design requirements in preparation of implementing measures supporting maximum energy yield (kWh/kWp) and lowest life-cycle environmental impact	☒	☐	
Enabling mass realization of "(near) Zero Energy Buildings" (NZEB) by Building-Integrated PV (BIPV) through the establishment of structural collaborative innovation efforts between the PV sector and key sectors from the building industry:			
Develop BIPV elements, which at least include thermal insulation and water protection, to entirely replace roofs or facades and reduce their additional cost by 50% by 2020, and by 75% by 2030 compared to 2015 levels, including with flexibility in the production process	☒	☐	BIPV is still a niche market throughout Europe
Recognize the importance of aesthetics in the activities of the implementation of NZEB;	☒	☐	
Major advances in manufacturing and installation			
Make available GW-scale manufacturing technologies that reach productivity and cost targets consistent with the capital cost targets for PV systems	☒	☐	Currently, most of the PV cells and modules have to be imported from Asia. Although manufacturing machines and lines are being developed on a high level in Europe, competition with oversea companies is increasing. The cell efficiencies are strongly increasing, the costs are reduced, and therefore the challenge of keeping up with high-throughput

			and cost efficient equipment is continuing. In addition: Higher cell efficiencies are partially based on new cell structures and new production processes (e.g. passivated contacts and tandem cells), which are currently demonstrated in institutes and industry laboratories. New industrial processes and large scale equipment has to be developed to bring theses cell concepts into economically interesting mass production.
Develop PV module and system design concepts that enable fast and highly automated installation, to reduce the installation costs of both ground-mounted arrays and PV building renovation solutions, by 2020	☒	☒	PV system installation costs for systems > 100kW in the U.S. and Europe amounted to 16% of the overall system costs in 2015. For 2019, this share amounts to 19% for Europe but on a significant lower level. In absolute numbers, system installation costs lowered from around 190 US$/W to 120 US$/W (all data from ITRPV 2015 and 2019). Consequently, for ground ground-mounted systems a revision of targets seems worth to consider. However, innovative solutions are needed for BIPV.

2. Working Group organisation and structure

If there have been changes to the organisation and structure of the working group since your last submission to SETIS, please provide:

1. A concise description of the governance, structure, membership and role of the various entities comprising the Implementation Working Group.

2. A schematic representation or organigram of the various entities and their positioning in the operation of the Working Group.
   (If this is available as a separate image or PDF file it can be provided as an attachment)

3. Ongoing R&I Projects

Please provide a list of relevant national, regional and EU co-funded R&I projects[1][2], key to your opinion (e.g. based on budget), that address the targets of the Implementation Plan, as presented in section 2, highlighting the role of the project in addressing the targets.

Project name	Website or short description	Start year	End year	Budget (EUR million)	Relevant activities addressed/ targets achieved	Results open to SET Plan community (Y/N)
Design2PV - Development of industrially manufacturable BIPV modules with high efficiency and innovative design	https://www.htwg-konstanz.de/de/forschung-und-transfer/institute-und-labore/energie/forschung/laufende-projekte/design2pv/	2017	2020	1.5	R&I Activity n. 1 - PV for BIPV and similar applications	partly
Street – Joint project: Use of highly efficient solar cells in electrically powered utility vehicles	https://isfh.de/en/forschung/photovoltaik/projekte/street/	2018	2021	4.7	R&I Activity n. 1 - PV for BIPV and similar applications	partly
POWERDCDC – Design and development of a DC/DC converter for PV applications	Individual R&I project. The main objective of this project is to design, develop and validate a prototype of DC/DC converter up to 500 kw for photovoltaic applications.	2017	2018	0,94	R&I Activity n. 1 - PV for BIPV and similar applications	Funded by CDTI
COMCO-PHOTOVOLTAIC DEVICES BASED ON COMPOSITE MATERIAL AND ADVANCED FUNCTIONAL COATINGS	EUROSTAR PROJECT. The project aims to develop a new lightweight, aesthetic and flexible shape design product based on the combination of transparent fiber reinforced composite material, crystalline silicon technology and a project-developed multi-functional coating, resulting in a high cost-effectiveness and aesthetical final	Nov-2018	Apr-2021	0.7	R&I Activity n. 1 - PV for BIPV and similar applications & R&I Activity n. 3 - New Technologies & Materials	

[1] Please only list projects for which a funding decision was taken after 1/1/2017.

[2] Should you have information from your industrial members, you are welcome to also include privately-led projects.

	product for Building Integrated Photovoltaics (BIPV) and Smart Cities markets solutions.					
ISPLUS - STRING INVERTER FOR UTILITY SCALE PLANTS	The aim of the project is to develop a new string inverter specially designed for large photovoltaic plant. It will become the string inverter with the highest power density worldwide, reducing by more than 5% the highest density achieved by the competition, which will allow to reach a ratio of inverter's cost of only 0.05 €/W	Jul-2018	Dec-2019	0,78	R&I Activity n. 1 - PV for BIPV and similar applications	
POWERTREE	Individual R&I project. This project involves the development of a generator of high concentration photovoltaic for ground mounting and specially designed for installation in cities	Jan-2018	Dec-2020	0.55 (total funding)	R&I Activity n. 1 - PV for BIPV and similar applications	
CONFORTFV	Development of devices for direct coupling of solar PV energy in efficient advanced water heating systems in the tertiary and residential sector	Nov—2017	Dec-2019	0.64	R&I Activity n. 1 - PV for BIPV and similar applications	
Research Centre for Sustainable Solar Cell Technology	https://www.susoltech.no				R&I Activity n. 2 – Technologies for silicon solar cells and modules with higher quality (also contains activities related to n. 1, n. 3, n. 4 and n. 5)	Research Centre for Sustainable Solar Cell Technology
LeTID in multicrystalline PERC cells	The project addresses the root causes for light and elevated temperature inducted degradation (LeTID) in multi-crystalline Si passivated emitter and rear cells (mc-PERC).	2017	2020	1.0	R&I Activity n. 2 – Technologies for silicon solar cells and modules with higher quality	Y

ProSelect - Production technology for high efficiency solar cells based on selective contacts	https://www.enargus.de/pub/bscw.cgi/26?op=enargus.eps2&m=0&v=10&p=0&s=1&q=0324189	2017	2020	5.3	R&I Activity n. 2 - Technologies for silicon solar cells and modules with higher quality	partly
HJT4.0 – Next generation production and process technology for heterojunction solar cells and modules using industry 4.0 technologies	https://ais-automation.com/unternehmen/kooperation/	2017	2020	15.0	R&I Activity n. 2 - Technologies for silicon solar cells and modules with higher quality	partly
NanoPERC – Industrial processes for c-Si cells with passivated contacts applying polysilicon layers	https://www.enargus.de/pub/bscw.cgi/?op=enargus.eps2&q=nanoperc&v=10&id=1221465	2019	2022	1.9	R&I Activity n. 2 - Technologies for silicon solar cells and modules with higher quality	partly
BLUE SOLAR - Hybridization solutions – PV – CSP	R&I Project in Cooperation. Three Spanish entities are involved in the project: Magtel Operaciones, SL; PROYECTOS Y MONTAJES INGEMONT SA and ENERGY PANEL, SL . https://www.magtel.es/projects/solar-blue/ The Project **Solar Blue** consists on the basic design of a new typology of Solar Plant that implies the first concept at world level of a PV Plant with thermal cogeneration.	OCT-2018	DIC-2020	1,5	R&I Activity n. 3 - New Technologies & Materials	
SHALTER-NEW PHOTOVOLTAIC-THERMOSOLAR HYBRID SYSTEM WITH ENERGY STORAGE - Hybridization solutions – PV – CSP	Individual R&I project. The GENERAL OBJECTIVE of the project is to develop a new photovoltaic-thermosolar hybrid technology in large-scale power plants, which allows the generation of electricity through both technologies and implements the combined potential of both technologies to store thermal	Feb-2019	Jul-2020	1.4	R&I Activity n. 3 - New Technologies & Materials	

	energy through the heating of molten salts and guarantee the continuous and efficient electricity production					
Advanced Si/Thin Film Chalcogenide Hybrid Technologies for sustainable, low cost and very high efficiency PV	The sub-projects will have a strong interaction with two large European projects, STARCELL (H2020-NMBP-03-2016.720907, WWW.STARCELL.EU) and INFINITE-CELL (H2020-MSCA-RISE-2017-777968), both of them coordinated by the PI of IGNITE	Jan-2018	Dec-2020	0.22 (total Aid)	R&I Activity n. 3 - New Technologies & Materials	
ProTandem - Demonstration of the manufacturability of perovskite-silicon tandem solar cells	https://www.see.tu-berlin.de/menue/forschung/projekte/protandem/	2018	2021	4.0	R&I Activity n. 3 - New Technologies & Materials	partly
Capitano - Development of Cu(In,Ga)Se2 / perovskite tandem solar modules	https://www.enargus.de/pub/bscw.cgi/26?op=enargus.eps2&m=0&v=10&p=0&s=8&q=+03EE1038	2019	2022	5.2	R&I Activity n. 3 - New Technologies & Materials	partly
Automation of field inspection in large scale solar farms	This project aims to realize fault models from the field arrays, high-resolution and multispectral sensing for automated airborne monitoring and inspection from remote distances. Machine learning will be established to correlate inspection with electrical data to evaluate the impact of the defects on the production. A cost-benefit analysis will be integrated to control the operation and maintenance of solar farms.	2019	2022	0,8	R&I Activity n. 4 - Operation and diagnosis of photovoltaic plants	N
PV TOOL- DEVELOPMENT OF TOOLS FOR EFFECTIVE CONTROL OF LARGE PV POWER PLANTS	ERANET PROJECT The project proposal aims at developing relevant control architectures and control algorithms to ensure optimal performance in different kinds of systems	Mar-2018	Dec-2020	0.5	R&I Activity n. 4 - Operation and diagnosis of photovoltaic plants	

DOCTOR-PV_Development of optimised tools for the operation and predictive maintenance of photovoltaic plants	DOCTOR-PV intends to develop a combined system for early detection of anomalies and fault identification in photovoltaic plants, but in a fully automated way	May-2018	Oct-2020	1.0 (total aid)	R&I Activity n. 4 - Operation and diagnosis of photovoltaic plants	
FOTOFLOTANTE	DESIGN AND DEVELOPMENT OF A FLOATING PHOTOVOLTAIC PLANT DEMONSTRATOR FOR FRESHWATER AND RESERVOIR ENVIRONMENTS	Jan-2019	Apr-2021	0.55	R&I Activity n. 4 - Operation and diagnosis of photovoltaic plants	FOTOFLOTANTE
EPESOL	The main objective is to develop a decision support tool for assessing and monitoring the feasibility in solar energy production installations on the basis of a precise solar production prediction.	Jun-2018	Dec-2020	0.53 (Total Aid)	R&I Activity n. 4 - Operation and diagnosis of photovoltaic plants	
PV power plant 2025 - Innovations for the next Generation of PV Power Plants	https://www.enargus.de/pub/bscw.cgi/26?op=enargus.eps2&m=0&v=10&p=0&s=1&q=0324211	2017	2020	9.6	R&I Activity n. 4 - Operation and diagnosis of photovoltaic plants	partly
COSIMA - Quality control and prediction of solar parks using intelligent quality management	https://www.fz-juelich.de/hi-ern/HighThroughputPV/CharacterizationAndModelling/Projects/Project_Cosima.html?nn=2463484	2018	2021	4.2	R&I Activity n. 4 - Operation and diagnosis of photovoltaic plants	partly
Crucibles for next generation high quality silicon solar cells (CruGenSi)	The crucible and coating are the main sources of O, C and N in the Si ingot. Although most of the negative effects of these impurities are known, their formation and transport mechanisms are not fully understood and involve complex interactions.	2017	2021	1,8	R&I Activity n. 5 – Manufacturing technologies	Y
FOTOSENS	New industrial processes for the production of photovoltaic devices integrated in autonomous sensors and systems (FOTOSENS) (CIGS Technologies)	Oct-2018	Sep-2021	0.71 (total aid)	R&I Activity n. 5 – Manufacturing technologies	
FlexFab – Flexible solar cell production technology for future PV production	https://www.enargus.de/pub/bscw.cgi/26?op=enargus.eps2&m=0&v=10&p=0&s=1&q=0324194	2017	2020	2.8	R&I Activity n. 5 - Technologies for silicon solar cells and modules	partly

					with higher quality	
NextTec - Identification, evaluation and selection of next generation production technology providing the potential for a significant throughput increase in PV-production	https://www.enargus.de/pub/bscw.cgi/26?op=enargus.eps2&m=0&v=10&p=0&s=1&q=03EE1001	2019	2022	7.1	R&I Activity n. 5 - Technologies for silicon solar cells and modules with higher quality	partly

4. Progress and prioritisation of activities

Please provide an assessment for each of the activities of the Implementation Plan, as listed in the table below on:

- **the prospect for progress** within the time horizon[3] considered in your IP by using a traffic light system
  - Green: There are ongoing projects addressing this activity
  - Orange: coordination is mature enough to enable projects to take-off in the near future
  - Red: no activity or progress
- whether the activity is **a priority** in 2019-20 for the success of this IP

Implementation Plan activities[4] as in the endorsed IP[5]	**Progress**Fehler! Textmarke nicht definiert.	**Priority**	**Comment**
PV for BIPV and similar applications		☒	see IWG-PV report "Actual and future RI Activities at SET-Plan Country level - Interim Results of February 2019" and list of ongoing R&I Projects above
Technologies for silicon solar cells and modules with higher quality		☒	
New Technologies & Materials		☒	
Operation and diagnosis of photovoltaic plants		☐	
Manufacturing technologies		☒	
Cross-sectoral research at lower TRL		☐	

[3] You can specify the time frame or add more context in the 'Comment' column
[4] Including Non-Technological Barriers/Enablers (NTBE) or Cross-cutting Issues
[5] https://setis.ec.europa.eu/actions-towards-implementing-integrated-set-plan/implementation-plans

5. Future R&I Programme calls

Please provide information on forthcoming relevant national and EU R&I project calls in support of the Implementation Plan:

Call name	Funding agency	Short description and web link if available	Start year	End year	Budget (EUR million)	Relevant targets or activities addressed
Solar ERA-Net 7th call	agencies of the Solar ERA-Net consortium	SOLAR-ERA.NET is a network bringing together more than 20 RTD and innovation programmes in the field of solar electricity technologies in the European Research Area. An additional call is foreseen to be launched in autumn 2019. http://www.solar-era.net/	2019	tbd	tbd	see web link
EnergiX	The Research Council of Norway	The Large-scale Programme for Energy Research (ENERGIX) was launched in 2013. The programme is designed to generate new knowledge and solutions that promote the long-term development of the energy system. This will require increasing use of renewable energy, more energy-efficient solutions, closer energy integration with Europe, and a greater need for flexibility. The primary objective of the programme is to promote the long-term, sustainable development of the energy system to enhance the competitiveness of Norwegian trade and industry and facilitate the transition to a low-emission society.			EnergiX	The Research Council of Norway
7th Energy Research Programme of the German Federal Government / Applied Energy Research	PtJ – Project management Jülich	The German Federal Government's 7th Energy Research Programme was adopted in September 2018. The programme sets out guidelines for the Federal Government's energy research policy in the coming years. Approximately € 6 billion has been earmarked for this area of research until 2022. PV is an integral part of this program. https://www.ptj.de/en/project-funding/applied-	2018	2022	for PV tbd	• Development of production technologies • Improvement of lifetime and quality assurance at the component and system level • Development of alternative PV materials and

		energy-research				concepts • Development and demonstration of marketable solutions for intelligent sector coupling • Solutions for new markets • Reduction or avoidance of environmental hazardous materials or scarce resources
RETOS COLABORACION	STATE RESEARCH AGENCY (ES)	• Experimental development projects, carried out in collaboration between companies and public and private research agents, led by the industry and based on demand, mobilizers of private investment, generators of employment and with strong component International. Consortiums are formed minimum by a company and an agent of R&D, and maximum by 10 entities, always led by a company. • Minimum budget €500,000. The sum of the percentage of business participation must be greater than 60% of the total budget presented and the minimum participation per entity is 10% of the total budget of the project. • Duration between 2 and 4 years. • Aid includes subsidy for public and private R&D agents, loan for private companies (Euribor of interest and amortization in 10 years, with 3 of lack and 7 of return), and possibility of refundable advance ERDF to the public agents of Research. Open to all technologies, not only in the energy field. Competitive concurrency Call	30-Sept-2019	20-Oct-2019	EU 70 Million in Grants EU 190 Million in Loans	This program covers all sectors, including Energy sector. It is no specific for PV
RETOS INVESTIGACION	STATE RESEARCH AGENCY (ES)	http://www.ciencia.gob.es/portal/site/MICINN/menuitem.791459a43fdf738d70fd325001432ea0/?vgnextoid=6ee6cda50b1bb610VgnVCM1000001d04140aRCRD&vgnextchannel=b24e067c468a4610VgnVCM10	26-Sept-2019	17-oct-2019	EUR 362 Million	This program covers all sectors, including Energy sector. It is no specific for PV

		00001d04140aRCRD&vgnextfmt=formato2&id3=59e6cda50b1bb610VgnVCM1000001d04140a____ • Research projects consisting of experimental or theoretical works undertaken with the primary objective of acquiring new knowledge with specific orientation that allows an advance in the resolution of one of the eight major challenges that Spanish society has raised. • Beneficiaries are R&D agents, both public and private, such as public research Organizations (OPIS), Universities, R&D centers and Technology centers. There is only one beneficiary per project. • Duration of 3 or 4 years, exceptionally 2 years. • The aid consists of subsidies that may be co-financed with ERDF according to the project's development. Open to all technologies, not only in the energy field. Competitive concurrency Call				
TRANSFER R&D PROJECTS "CERVERA"	CDTI (ES) http://www.cdti.es/index.asp?MP=100&MS=881&MN=2&r=1536*864	Individual R&D projects (covering industrial research and experimental development activities) developed by companies in collaboration with Technology Centers in the CERVERA priority technologies. Two of the Cervera priorities areas are: - **ENERGY TRANSITION** and – **ECO-INNOVATION** Aid Modality: Loans covering up to 85% of the budget with a non-repayable tranche incorporated to the loan (33% of the aid).	2018	Open Call	+)	Activities included in the IP-PV of Set-plan are covered under this program +) There is not a dedicated budget per sector but almost no budget limitation either
CDTI "MISSIONS"	CDTI (ES)	This programme intends to support large consortia	Last		TBC	Activities included in PV-IP

PROGRAMME	Pending approval by the Cabinet of Ministries	projects, mainly with a focus on industrial research activities that will contribute to solve some of the problems arising in the MISSIONS. **MISSIONS** are defined as large thematic umbrellas/challenges under which specific sub-objectives will be specified. One of the MISSIONs that have been defined is called "Secure, clean and efficient Energy for the XXI century". Technologies and activities included in the PV-IP of SET-PLAN are covered under this MISSION.	quarter 2019			will be covered under this program
R&D programme Flanders Innovation & Entrepreneurship; Strategic Basic Research Programme	Flanders Innovation & Entrepreneurship; Research Foundation Flanders	R&D funding for companies (research organizations as subcontracting organizations); research funding for universities and research organizations		Open calls	++)	Both programmes are open, covering all thematic areas, including the energy sector ++) No earmarked budget for energy
Cluster programme and intercluster programme	Flanders Innovation & Entrepreneurship	R&D funding for spearhead clusters in Flanders and for cooperation between spearhead clusters	2017	tbd		Appr. 8 mio euro for projects of Flux50 (= the spearhead cluster for energy in Flanders); appr. 20 mio euro for interclusterprojects

6. Policies and measures (Optional)

Please provide information and examples of policies and measures that are conducive to the progress of the Implementation Plan:

Policy or measure	EU or Member State	Type of support (monetary, regulatory etc- details)	End year	Start year	Relevance / effect on Implementation Plan
Erneuerbare-Energien-Gesetz (EEG, German Renewable Energy Sources Act)	MS	The Renewable Energy Sources Act is a series of German laws that originally provided a feed-in tariff (FIT) scheme to encourage the generation of renewable electricity. The EEG 2014 specified the transition to an auction system for most technologies which has been finished with the current version EEG 2017.	ongoing	2000	High relevance due to the effect of market regulatory tool and therefore impact on market demand.
Regulatory framework for regulatory innovation zones for energy	Flemish Region, BE	Regulatory		April 2019	Facilitate RD&I demonstration and accelerate innovation and market uptake of clean energy technologies

7. Synergies with other Implementation Plans

Please indicate, by ticking the boxes below, which other Implementation Plans – if any – are critically important for the success of the Implementation Plan on Photovoltaics. Please mention any already established cooperation, or other relevant information:

SET Plan Implementation Plans	Of critical importance to the success of the Photovoltaic Energy Implementation Plan	Comment / Description of established collaboration –if any.
1&2 Ocean	☐	
1&2 CSP	☐	
1&2 Offshore Wind	☐	
1&2 Geothermal	☐	
3.1 Consumers	☐	
3.2 Smart Cities	☒	
4 Energy Systems	☒	
5 EE Buildings	☒	
6 EE in Industry	☐	
7 Batteries	☐	
8 Renewable Fuels and Bioenergy	☐	
9 CCUS	☐	
10 Nuclear Safety	☐	

8. Synergies beyond the SET Plan

Please provide a list of cooperation initiatives that exits beyond the SET Plan community (e.g. Mission Innovation Challenges), with a short description and information on the involvement of Implementation Plan Working Group members – if any:

Initiative	Short description and web link if available	Start year	End year	Implementation Plan participation	Relevant targets or activities addressed
IEA PVPS TASK 1	http://iea-pvps.org/index.php?id=346	1993	2023	none	
IEA PVPS TASK 12	http://iea-pvps.org/index.php?id=56#c87	2018	2022	partly	Activity No. 2
IEA PVPS TASK 13	http://iea-pvps.org/index.php?id=57#c90	2010	2021	given	Activity No. 4
IEA PVPS TASK 14	http://iea-pvps.org/index.php?id=58#c92	2011	2022	partly	Activity No. 4 and 5
IEA PVPS TASK 15	http://iea-pvps.org/index.php?id=task15	2017	2023	given	Activity No. 1
IEA PVPS TASK 16	http://iea-pvps.org/index.php?id=389	2019 (planned)	2022	partly	Activity No. 4 and 5
IEA PVPS TASK 17	http://iea-pvps.org/index.php?id=484	2018	2021	partly	Activity No. 2 and 3

9. Additional suggestions for monitoring

Please list any additional aspects relevant to the Implementation Plan that should be monitored and/or any specific metrics to measure progress.

Additional aspect to be monitored	Metric	Baseline	Comment / Reasoning
Key Performance Indicators (see attachment), development together with PV Impact			