



Monitoring and evaluation of investments

Summary of quantitative and qualitative data

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1. Quantitative analysis

Data has been collected through a quantitative survey conducted from October 2017 until January 2018 and through the compilation of data extracted from the documents and deliverables produced by the pilot regions during the CITYinvest project, in particular the Grant Agreement and the Actions Plans published at the end of 2016.

1.1. Investment Projects data

The inputs of the investment projects delivery monitoring are the following:

- Beneficiaries
- Type of buildings (Education, Administration, Health, Sports, Other Public, Various Public, Street Lighting Infrastructures)
- Building reference
- Project reference
- Stage of development
- Groundfloor (m2)
- Energy Consumption (kWh_{ep})
- Investment (euros) – when available, split of investment per categories (HVAC, Elec, Building Envelope, Renewable)
- Energy savings (kWh_{ep})
- Renewable (kWh)
- Funding mechanism (Unknown, Own funding, Financial Institutions, ESCO, PDU, Investment Fund, Other)

Data has been collected for each stage of development of the project delivery assuming the following stages:

- Assessment: evaluation of the KPIs potential before pooling and document preparation for tendering
- Preparation: document preparation for tendering completed when appropriate with additional studies and/or KPIs assessment through energy audit or detailed studies.
- Tendering
- Implementation

When it was not possible to collect individualize data (per building and/or per beneficiary), compiled data has been collected. This is the case for the Liège Province (BE) for the Program Renowatt+.

The following tables give the synthesis of the results.

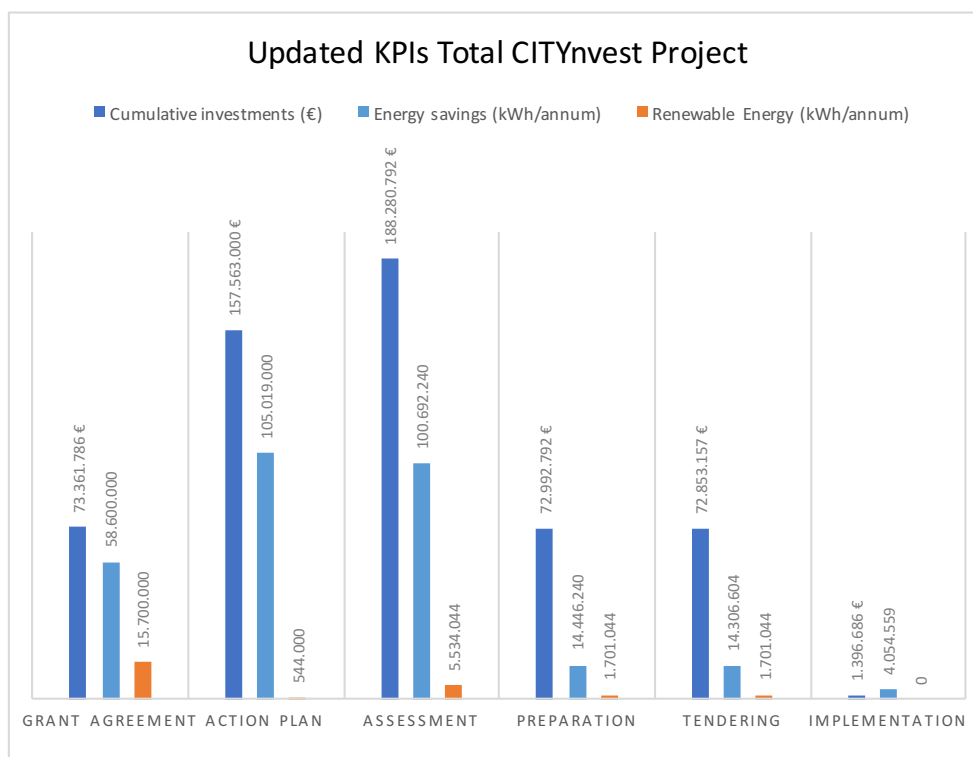


WPS: Monitoring and evaluation of investments						
Table	Updated KPIs					
Pilot Region	All pilot regions					
Period of reporting	30/01/18					
Liège Province (BE)	Grant Agreement	Action Plan	Assessment	Preparation	Tendering	Implementation
# of beneficiaries served	10	30	33	2	2	1
# of buildings served	151	500	513	2	2	1
Cumulative Investment (euros)	40.000.000 €	100.000.000 €	104.354.129 €	2.239.129 €	2.239.129 €	1.396.686 €
Energy Consumption (kWh/annum)	n/a	n/a	395.644.176	66.291.571	66.291.571	14.548.855
Energy Savings (kWh/annum)	28.200.000	32.100.000	85.260.944	7.780.944	7.780.944	4.054.559
Renewable Energy (kWh/annum)	n/a	0	3.434.568	155.568	155.568	0
Energy Savings (%)	n/a	n/a	21,55%	11,74%	11,74%	27,87%
Murcia Region (ES)	Grant Agreement	Action Plan	Assessment	Preparation	Tendering	Implementation
# of beneficiaries served	1	17	10	2	2	0
# of buildings served	111	409	58	58	52	0
Cumulative Investment (euros)	25.061.786 €	44.390.000 €	70.753.663 €	70.753.663 €	70.614.028 €	0 €
Energy Consumption (kWh/annum)	n/a	278.800.000	23.552.938	23.552.938	22.945.828	0
Energy Savings (kWh/annum)	12.800.000	64.119.000	6.665.296	6.665.296	6.525.661	0
Renewable Energy (kWh/annum)	n/a	0	1.545.476	1.545.476	1.545.476	0
Energy Savings (%)	n/a	23,00%	28,30%	28,30%	28,44%	n/a
Rhodope Region (BG)	Grant Agreement	Action Plan	Assessment	Preparation	Tendering	Implementation
# of beneficiaries served	3	6	6	0	0	0
# of buildings served	n/a	79	79	0	0	0
Cumulative Investment (euros)	8.300.000 €	13.173.000 €	13.173.000 €	0 €	0 €	0 €
Energy Consumption (kWh/annum)	n/a	18.703.883	18.703.883	0	0	0
Energy Savings (kWh/annum)	17.600.000	8.766.000	8.766.000	0	0	0
Renewable Energy (kWh/annum)	n/a	544.000	554.000	0	0	0
Energy Savings (%)	n/a	46,87%	46,87%	n/a	n/a	n/a
Total CITYnvest Project	Grant Agreement	Action Plan	Assessment	Preparation	Tendering	Implementation
# of beneficiaries served	14	53	49	4	4	1
# of buildings served	n/a	988	650	60	54	1
Cumulative Investment (euros)	73.361.786 €	157.563.000 €	188.280.792 €	72.992.792 €	72.853.157 €	1.396.686 €
Energy Consumption (kWh/annum)	n/a	n/a	437.900.997	89.844.509	89.237.399	14.548.855
Energy Savings (kWh/annum)	58.600.000	104.985.000	100.692.240	14.446.240	14.306.604	4.054.559
Renewable Energy (kWh/annum)	15.700.000	544.000	5.534.044	1.701.044	1.701.044	0
Energy Savings (%)	n/a	n/a	22,99%	16,08%	16,03%	27,87%

Globally, the three pilot regions significantly increased their investment and savings targets commitment (as approved by the Public Authorities) during the CITYnvest project, while the renewable energy targets commitment decreases:

- Cumulative investment: +157% between the grant agreement and the assessment
- Energy savings: +72% between the grant agreement and the assessment
- Renewable energy: -65% between the grant agreement and the assessment

There is also a significant increase in the number of beneficiaries served (+250% between the grant agreement and the assessment) as well as the building stock addressed by the pilot project (513 buildings against 151 for Liège Province, 409 against 111 for Murcia Region).



This is mainly due to the revision of the scope of the pilot regions projects when elaborating the action plan and to a more refined assessment methodology when reaching implementation. Some of the pilot regions have also incorporated renewable energy results in the calculation of energy savings, which partially explains the decrease of this KPI.

Pilot Region	Revision of the scope	Assessment refinement
Liège Province (BE)	Extension of the project to the Province of Hainaut that lead to a significant increase both in investment and energy savings commitment targets.	Based on the results of the past implementation of the Renowatt project, the Renowatt+ program (500 buildings) has been refined with more accurate data. This led to a significant increase in energy savings commitment targets. Cogen and renewable energy have been included in energy savings.
Murcia Region (ES)	Extension of the project from the high schools building stock (111 buildings) to the whole regional owned building stock (409 buildings) with a new assessment methodology, that led to a significant increase both in investment and energy savings commitment targets.	The execution of energy audits in the assessment stage of development led to a significant increase in investment commitment targets. As only 59 buildings (on 409) were audited as of January 30, 2018, the final cumulative investments will undoubtedly be significantly higher when the 409 buildings will be fully implemented.
Rhodope Region	Extension of the project to 6	The collection and processing of

(BG)	municipalities (against 3), that led to a significant increase in investment commitment targets.	more accurate building data led to a significant decrease in savings commitment targets.
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Nevertheless, during the course of the CITYinvest project, a very few investment projects have been implemented: only 39% of the investment potential assessed has reached the tendering phase while only one project (CHRH Hospital project from Liège Province pilot) has been fully implemented. The main reasons for this underperformance comes from the minimum timeframe to set-up an operational Program Delivery Unit (PDU), from 12 to 24 months, and the difficulties encountered by two of the pilot regions in funding their PDU:

- At date, the Liège Province is still negotiating with the EIB Elena Facility and the Regional Government (Wallonia) the funding of the Renowatt+ program;
- Rhodope Region has closed the funding for its Rhodoshop in June 2017.

As very few investment projects have been delivered during the course of the CITYinvest project by the pilot regions, it has not been possible to conduct a timeframe analysis of the project financing instruments used as forecasted neither an analysis of the success or failure criteria of the investment projects.

Due to a lack of sufficient and consistent data, it has not been possible to conduct a cross-analysis of the performance per project and/or per beneficiary (savings rate per project and/or building, investment cost per project and/or building, investment cost per kWh saved, etc.).

The following tables shows the consolidate results per pilot regions, projects and stage of development.

	Assessment					
	Total # buildings	Total Groundfloor	Total Energy Consumption	Total Investment	Total Energy savings	Total Renewable
		(m2)	(kWh)	(euros)	(kWh)	(kWh)
Liège Province (BE)	513	992.200	395.644.176	104.354.129 €	85.260.944	3.434.568
Hospitals	13	342.200	203.894.176	9.312.129 €	19.285.944	280.568
CHRH	1	30.000	14.548.855	1.396.686 €	4.054.559	0
CHRSM	1	92.000	51.742.717	842.443 €	3.726.385	155.568
ISPPC	11	220.200	137.602.605	7.073.000 €	11.505.000	125.000
Program RenoWatt+	500	650.000	191.750.000	95.042.000 €	65.975.000	3.154.000
RenoWatt+	500	650.000	191.750.000	95.042.000 €	65.975.000	3.154.000
Rhodope Region (BG)	79	85.429	18.703.883	13.173.000 €	8.766.000	554.000
Building pool	33	85.429	14.863.583	11.489.000 €	7.468.000	554.000
Banite Municipality	4	6.295	417.536	748.000 €	244.000	554.000
Chepelare Municipality	4	14.521	2.831.337	1.309.000 €	2.078.000	
Devin Municipality	1	1.805	335.730	240.000 €	151.000	
Nedelino Municipality	1	3.800	729.600	586.000 €	255.000	
Smolyan Municipality	5	23.477	4.935.482	1.934.000 €	2.775.000	
Zlatograd Municipality	18	35.531	5.613.898	6.672.000 €	1.965.000	
Street lighting	46		3.840.300	1.684.000 €	1.298.000	
Banite Municipality	19		270.000	125.000 €	94.000	
Chepelare Municipality	1		222.300	136.000 €	78.000	
Nedelino Municipality	16		285.000	250.000 €	142.000	
Smolyan Municipality	1		2.041.000	423.000 €	473.000	
Zlatograd Municipality	9		1.022.000	750.000 €	511.000	
Murcia Region (ES)	59	247.666	23.552.938	70.753.663 €	6.665.296	1.545.476
Project 1	30	188.969	4.375.138	3.516.386 €	2.254.402	1.545.476
Consejería de Educación y Universidades	30	188.969	4.375.138	3.516.386 €	2.254.402	1.545.476
Project 2	6	58.697	607.110	139.635 €	139.635	
Consejería de Educación y Universidades	6	58.697	607.110	139.635 €	139.635	
Project 3	23	0	18.570.690	67.097.642 €	4.271.259	
Consejería de Educación y Universidades	1	0	767.223	3.155.131 €	176.461	
Consejería de Hacienda y Administración Pública	3	0	2.597.640	9.888.582 €	597.457	
Consejería de Desarrollo Económico, Turismo y Empleo	3	0	523.504	2.184.262 €	120.406	
Consejería de Fomento e Infraestructuras	3	0	1.541.467	6.106.881 €	354.537	
Agua, Agricultura y Medio Ambiente	3	0	2.792.808	11.635.819 €	642.346	
Consejería de Cultura y Portavocía	2	0	1.247.220	5.086.564 €	286.861	
Consejería de Presidencia	1	0	564.276	1.989.812 €	129.783	
Otras	1	0	806.759	3.366.112 €	185.555	
Consejería de Sanidad	1	0	889.219	3.710.167 €	204.520	
IMAS- Instituto Murciano de Acción Social	5	0	6.840.574	19.974.313 €	1.573.332	
Total général	651	1.325.295	437.900.997	188.280.792 €	100.692.240	5.534.044

	Preparation					
	Total # buildings	Total Groundfloor	Total Energy Consumption	Total Investment	Total Energy savings	Total Renewable
		(m2)	(kWh)	(euros)	(kWh)	(kWh)
Liège Province (BE)	2	122.000	66.291.571	2.239.129 €	7.780.944	155.568
Hospitals	2	122.000	66.291.571	2.239.129 €	7.780.944	155.568
CHRH	1	30.000	14.548.855	1.396.686 €	4.054.559	0
CHRSM	1	92.000	51.742.717	842.443 €	3.726.385	155.568
Murcia Region (ES)	58	247.666	23.552.938	70.753.663 €	6.665.296	1.545.476
Project 1	29	188.969	4.375.138	3.516.386 €	2.254.402	1.545.476
Consejería de Educación y Universidades	29	188.969	4.375.138	3.516.386 €	2.254.402	1.545.476
Project 2	6	58.697	607.110	139.635 €	139.635	
Consejería de Educación y Universidades	6	58.697	607.110	139.635 €	139.635	
Project 3	23	0	18.570.690	67.097.642 €	4.271.259	
Consejería de Educación y Universidades	1	0	767.223	3.155.131 €	176.461	
Consejería de Hacienda y Administración Pública	3	0	2.597.640	9.888.582 €	597.457	
Consejería de Desarrollo Económico, Turismo y Empleo	3	0	523.504	2.184.262 €	120.406	
Consejería de Fomento e Infraestructuras	3	0	1.541.467	6.106.881 €	354.537	
Agua, Agricultura y Medio Ambiente	3	0	2.792.808	11.635.819 €	642.346	
Consejería de Cultura y Portavocía	2	0	1.247.220	5.086.564 €	286.861	
Consejería de Presidencia	1	0	564.276	1.989.812 €	129.783	
Otras	1	0	806.759	3.366.112 €	185.555	
Consejería de Sanidad	1	0	889.219	3.710.167 €	204.520	
IMAS- Instituto Murciano de Acción Social	5	0	6.840.574	19.974.313 €	1.573.332	
Total général	60	369.666	89.844.509	72.992.792 €	14.446.240	1.701.044

	Tendering					
	Total # buildings	Total Groundfloor (m2)	Total Energy Consumption (kWh)	Total Investment (euros)	Total Energy savings (kWh)	Total Renewable (kWh)
	Liège Province (BE)	2	122.000	66.291.571	2.239.129 €	7.780.944	155.568
Hospitals	2	122.000	66.291.571	2.239.129 €	7.780.944	155.568
CHRH	1	30.000	14.548.855	1.396.686 €	4.054.559	0
CHRSM	1	92.000	51.742.717	842.443 €	3.726.385	155.568
Murcia Region (ES)	52	188.969	22.945.828	70.614.028 €	6.525.661	1.545.476
Project 1	29	188.969	4.375.138	3.516.386 €	2.254.402	1.545.476
Consejería de Educación y Universidades	29	188.969	4.375.138	3.516.386 €	2.254.402	1.545.476
Project 3	23	0	18.570.690	67.097.642 €	4.271.259	
Consejería de Educación y Universidades	1	0	767.223	3.155.131 €	176.461	
Consejería de Hacienda y Administración Pública	3	0	2.597.640	9.888.582 €	597.457	
Consejería de Desarrollo Económico, Turismo y Empleo	3	0	523.504	2.184.262 €	120.406	
Consejería de Fomento e Infraestructuras	3	0	1.541.467	6.106.881 €	354.537	
Agua, Agricultura y Medio Ambiente	3	0	2.792.808	11.635.819 €	642.346	
Consejería de Cultura y Portavocía	2	0	1.247.220	5.086.564 €	286.861	
Consejería de Presidencia	1	0	564.276	1.989.812 €	129.783	
Otras	1	0	806.759	3.366.112 €	185.555	
Consejería de Sanidad	1	0	889.219	3.710.167 €	204.520	
IMAS- Instituto Murciano de Acción Social	5	0	6.840.574	19.974.313 €	1.573.332	
Total général	54	310.969	89.237.399	72.853.157 €	14.306.604	1.701.044

	Implementation					
	Total # buildings	Total Groundfloor (m2)	Total Energy Consumption (kWh)	Total Investment (euros)	Total Energy savings (kWh)	Total Renewable (kWh)
	Liège Province (BE)	1	30.000	14.548.855	1.396.686 €	4.054.559	0
Hospitals	1	30.000	14.548.855	1.396.686 €	4.054.559	0
CHRH	1	30.000	14.548.855	1.396.686 €	4.054.559	0
Total général	1	30.000	14.548.855	1.396.686 €	4.054.559	0

1.2. PA-PDU Development & Funding data

The financing requirements of the PDU to execute the investment program approved by the Public Authority as well as the funding plan were estimated by each pilot region during the development of the action plan. The following table gives the synthesis of the results.

The funding of the PDU remains an issue as shown for two of the pilot regions. Despite the strength of the Public Authorities of Liège Province (GRE Liège and relay partners) and Rhodope Region (local municipalities), the self-financing has not been possible and both projects mainly involve European funding for above 78% of the financing requirements. While Rhodope Region succeeded to obtain an Horizon2020 grant (June 2017), Liège Province is still negotiating with the EIB Elena Facility and the Regional Government (Wallonia) the funding of the Renowatt+ program. This has led to a drastic delay in the execution of the action plan of these two pilot projects.

WP5: Monitoring and evaluation of investments						
Table	PA-PDU Development & Funding					
Pilot Region	All pilot regions					
Period of reporting	30/01/18					
	Liège Province (BE)		Rhodope Region (BG)		Murcia Region (ES)	
Staff requirements	# FTP	Cost (EUR)	# FTP	Cost (EUR)	# FTP	Cost (EUR)
Management & project management	1	357.344 €	1	85.000 €	1	240.000 €
Technical	6	1.688.400 €	1	68.000 €	1	240.000 €
Administrative	1	289.440 €	1	42.500 €	1	144.000 €
Legal	1	289.440 €	0	0 €	1	12.000 €
Financial	1	257.280 €	0	0 €	0	0 €
TOTAL	10	2.881.904 €	3	195.500 €	4	636.000 €
External experts/subcontracts	Cost (EUR)		Cost (EUR)		Cost (EUR)	
Training		0 €		31.250 €		0 €
Management & project management		102.000 €		150.000 €		0 €
Technical		1.922.500 €		25.000 €		250.000 €
Administrative		0 €		0 €		0 €
Legal		158.000 €		16.000 €		0 €
Financial		34.000 €		35.000 €		0 €
Other costs		0 €		17.800 €		0 €
TOTAL		2.216.500 €		275.050 €		250.000 €
Funding	(EUR)		(EUR)		(EUR)	
Funding requirements		5.098.404 €		470.550 €		886.000 €
Own funding (PA/PDU)		938.404 €		0 €		886.000 €
European Grants*		4.000.000 €		470.550 €		0 €
Others		160.000 €		0 €		0 €
Commitment targets (Action Plan)						
Cumulative investment (euros)		100.000.000 €		13.173.000 €		44.390.000 €
Energy savings (kWh/annum)		32.100.000		8.766.000		64.119.000
# of beneficiaries served		30		6		17
# of building served		500		79		409
Operational KPI	Cost (EUR)		Cost (EUR)		Cost (EUR)	
Operational costs per 1 million € investment		50.984 €		35.721 €		19.959 €
Operational costs per beneficiary served		169.947 €		78.425 €		52.118 €
Operational costs per building served		10.197 €		5.956 €		2.166 €


*Other grants than the Cityinvest grant (e.g. Elena Grants)

The comparison of the costs of implementation between the three pilot regions shows some significant differences that cannot be explained only by national levels of labour costs. The operational costs, for example, vary from 19.959 € to 50.984 € per 1 million € investment. The number of beneficiaries served as well as the size of the program explain partly the differences as they require more resources when higher. But the operational model (facilitation vs integration) of the PDU plays also an important role! The comparison report (deliverable D2.4_CITYinvest_649730_ComparisonReport) has shown that the integration model requires inherently more resources, as the PDU play the role of contracting authority of the projects while the facilitation model can rely on the beneficiary to play that role. Liège Province relies on the integration model while Rhodope Region relies on the facilitation one. This explains the costs gap between the Liège Province project and the Rhodope Region project. Murcia Region relies also on the integration

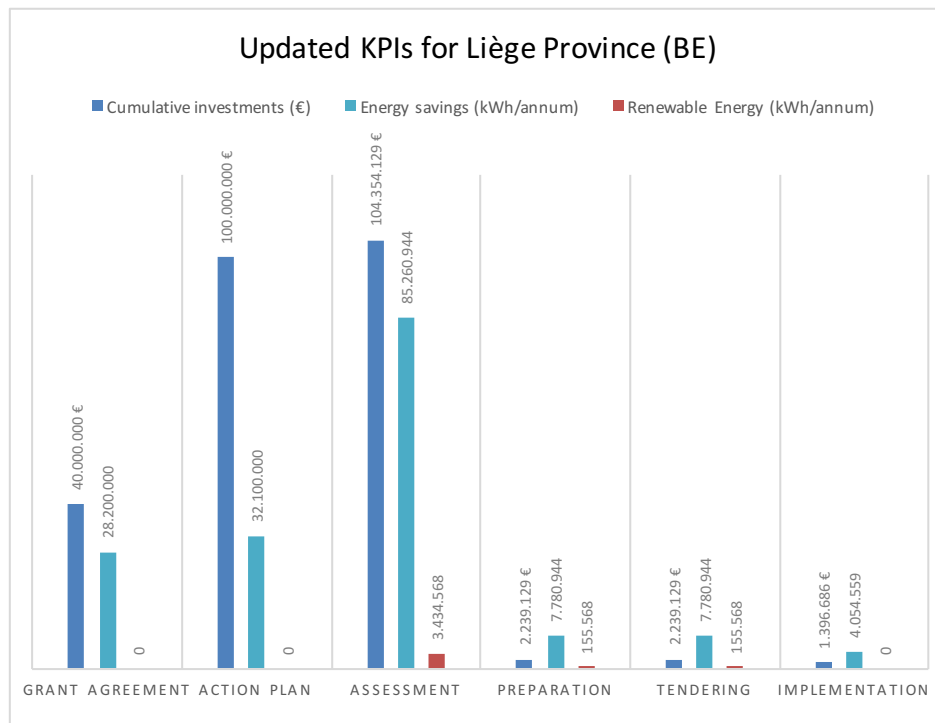
model but shows lower cost of implementation than Liège Province. This can be explained by the level of integration between the Program Delivery Unit and the beneficiaries:

- in the case of Murcia Region, beneficiaries and Program Delivery Unit are at the same level as they are both regional public administrations of the Murcia Regional Government. The work process of the project delivery is also distributed between internal existing administration (DGP and DGEAIM). This greatly simplifies the contracting engagement between parties as well as lowers the costs of implementation.
- In the case of Liège Province and Rhodope Region, a Program Delivery Unit has been formed from scratch requiring more resources to execute the program. Both PDU also offer their services to third party municipalities with a more complex contracting process that leads to higher costs of implementation.

1.3. Liège Province (BE) Data & KPI

						
WPS: Monitoring and evaluation of investments						
Table	Updated KPIs					
Pilot Region:	Liège Province (BE)					
Period of reporting:	30/01/18					
	Commitment		Project Delivery (per stage of development)*			
	Grant Agreement	Action plan	Assessment	Preparation	Tendering	Implementation
Cumulative investments (€)	40.000.000 €	100.000.000 €	104.354.129 €	2.239.129 €	2.239.129 €	1.396.686 €
Energy savings (kWh/annum)	28.200.000	32.100.000	85.260.944	7.780.944	7.780.944	4.054.559
Renewable Energy (kWh/annum)	0	0	3.434.568	155.568	155.568	0

* KPIs achieved for each stage of development at the given date.



WP5: Monitoring and evaluation of investments			
Table	PA-PDU Input		
Pilot Region	Liège Province (BE)		
Period of reporting	30/01/18		
PDU Identification			
	GRE Liege		
Public Authority			
	GRE Liege		
Beneficiaries served			
	CHRH		
	CHRSM		
	Program RenoWatt+		
	ISPPC		
PA Commitment			
Grant Agreement KPI	Target as per GA	Target as per Action Plan	
Cumulative investments (EUR)	40.000.000 €	100.000.000 €	
Energy savings (kWh/annum)	28.200.000	32.100.000	
Renewable energy (kWh/annum)	0	0	
PDU Development & Funding		Target as per Action Plan	
Staff requirements	FTP Monthly Cost (EUR)	# FTP	# months work
Management & project management	11.167 €	1	32
Technical	8.040 €	6	35
Administrative	8.040 €	1	36
Legal	8.040 €	1	36
Financial	8.040 €	1	32
TOTAL			2.881.904 €
External experts/subcontracts	Cost (EUR)		
Training	0 €		
Management & project management	102.000 €		
Technical	1.922.500 €		
Administrative	0 €		
Legal	158.000 €		
Financial	34.000 €		
Other cots	0 €		
TOTAL	2.216.500 €		
Funding	(EUR)		
Funding requirements	5.098.404 €		
Own funding (PA/PDU)	938.404 €		
European Grants*	4.000.000 €		
Others	160.000 €		
*Other grants than the Cityinvest grant (e.g. Elena Grants)			



WP5: Monitoring and evaluation of investments	
Table	Project Data Input
Pilot Region	Liège Province (BE)
Period of reporting	30/01/18

Beneficiaries	Type of buildings	Building code	# buildings	Stage of development	Projects	Groundfloor (m2)	Energy Consumption (kWh)	Investment (euros)	Energy savings (kWh)	Renewable (kWh)	Funding mechanism
CHRH	Health	-	1	Assessment	Hospitals	30.000	14.548.855	1.396.686 €	4.054.559	-	Financial Institutions
CHRH	Health	-	1	Preparation	Hospitals	30.000	14.548.855	1.396.686 €	4.054.559	-	Financial Institutions
CHRH	Health	-	1	Tendering	Hospitals	30.000	14.548.855	1.396.686 €	4.054.559	-	Financial Institutions
CHRSM	Health	-	1	Assessment	Hospitals	92.000	51.742.717	842.443 €	3.726.385	155.568	Financial Institutions
CHRH	Health	-	1	Implementation	Hospitals	30.000	14.548.855	1.396.686 €	4.054.559	-	Financial Institutions
CHRSM	Health	-	1	Preparation	Hospitals	92.000	51.742.717	842.443 €	3.726.385	155.568	Financial Institutions
CHRSM	Health	-	1	Tendering	Hospitals	92.000	51.742.717	842.443 €	3.726.385	155.568	Financial Institutions
RenoWatt+	Various public	-	500	Assessment	Program RenoWatt+	650.000	191.750.000	95.042.000 €	65.975.000	3.154.000	Financial Institutions
ISPPC	Health	-	11	Assessment	Hospitals	220.200	137.602.605	7.073.000 €	11.505.000	125.000	Financial Institutions




WP5: Monitoring and evaluation of investments	
Table	Reporting by project
Pilot Region	Liège Province (BE)
Period of reporting	30/01/18

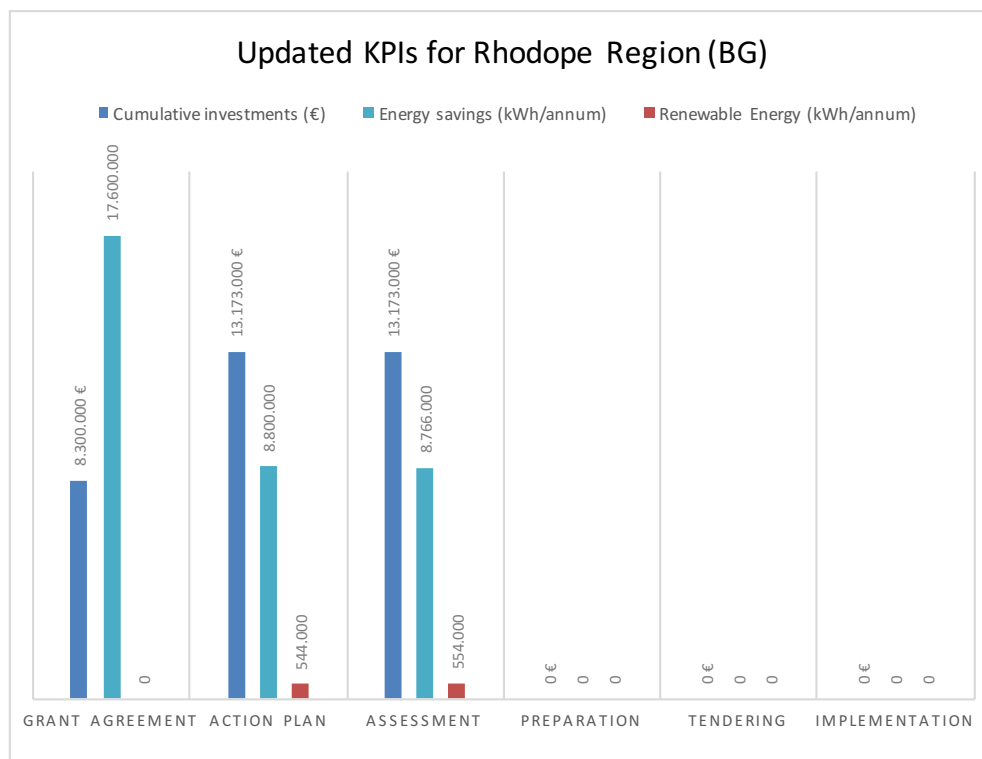
Assessment							
	Total Buildings	Total	Total Energy	Total	Total Energy	Total	
[-] Hospitals	3	342.200	203.894.176	9.312.129 €	19.285.944	280.568	
CHRH	1	30.000	14.548.855	1.396.686 €	4.054.559	0	
CHRSM	1	92.000	51.742.717	842.443 €	3.726.385	155.568	
ISPPC	1	220.200	137.602.605	7.073.000 €	11.505.000	125.000	
[-] Program RenoWatt+	1	650.000	191.750.000	95.042.000 €	65.975.000	3.154.000	
RenoWatt+	1	650.000	191.750.000	95.042.000 €	65.975.000	3.154.000	
Total général	4	992.200	395.644.176	104.354.129 €	85.260.944	3.434.568	
Preparation							
	Total Buildings	Total	Total Energy	Total	Total Energy	Total	
[-] Hospitals	2	122.000	66.291.571	2.239.129 €	7.780.944	155.568	
CHRH	1	30.000	14.548.855	1.396.686 €	4.054.559	0	
CHRSM	1	92.000	51.742.717	842.443 €	3.726.385	155.568	
Total général	2	122.000	66.291.571	2.239.129 €	7.780.944	155.568	
Tendering							
	Total Buildings	Total	Total Energy	Total	Total Energy	Total	
[-] Hospitals	2	122.000	66.291.571	2.239.129 €	7.780.944	155.568	
CHRH	1	30.000	14.548.855	1.396.686 €	4.054.559	0	
CHRSM	1	92.000	51.742.717	842.443 €	3.726.385	155.568	
Total général	2	122.000	66.291.571	2.239.129 €	7.780.944	155.568	
Implementatio							
	Total Buildings	Total Groundflc	Total Energy Co	Total Investmer	Total Energy sa	Total Renewabl	
[-] Hospitals	1	30.000	14.548.855	1.396.686 €	4.054.559	0	
CHRH	1	30.000	14.548.855	1.396.686 €	4.054.559	0	
Total général	1	30.000	14.548.855	1.396.686 €	4.054.559	0	



1.4. Rhodope Region (BG) Data & KPI

							
WPS: Monitoring and evaluation of investments							
Table	Updated KPIs						
Pilot Region	Rhodope Region (BG)						
Period of reporting	30/01/18						
		Commitment		Project Delivery (per stage of development)*			
Updated KPIs as of 31/12/2017		Grant Agreement	Action plan	Assessment	Preparation	Tendering	Implementation
Cumulative investments (€)		8.300.000 €	13.173.000 €	13.173.000 €	0 €	0 €	0 €
Energy savings (kWh/annum)		17.600.000	8.800.000	8.766.000	0	0	0
Renewable Energy (kWh/annum)		0	544.000	554.000	0	0	0

** KPIs achieved for each stage of development at the given date.*



WP5: Monitoring and evaluation of investments				
Table	PA-PDU Input			
Pilot Region	Rhodope Region (BG)			
Period of reporting	30/01/18			
PDU Identification				
Rhodoshop				
Public Authority				
Banite Municipality				
Chepelare Municipality				
Devin Municipality				
Nedelino Municipality				
Smolyan Municipality				
Zlatograd Municipality				
Beneficiaries served				
Banite Municipality				
Chepelare Municipality				
Devin Municipality				
Nedelino Municipality				
Smolyan Municipality				
Zlatograd Municipality				
PA Commitment				
Grant Agreement KPI	Target as per GA	Target as per Action Plan		
Cumulative investments (EUR)	8.300.000 €	13.173.000 €		
Energy savings (kWh/annum)	17.600.000	8.800.000		
Renewable energy (kWh/annum)	0	544.000		
PDU Development & Funding		Target as per Action Plan		
Staff requirements	FTP Monthly Cost (EUR)	# FTP	# months work	Cost (EUR)
Management & project management	2.500 €	1	34	85.000 €
Technical	2.000 €	1	34	68.000 €
Administrative	1.250 €	1	34	42.500 €
Legal				0 €
Financial				0 €
TOTAL				195.500 €
External experts/subcontracts		Cost (EUR)		
Training		31.250 €		
Management & project management		150.000 €		
Technical		25.000 €		
Administrative		0 €		
Legal		16.000 €		
Financial		35.000 €		
Other costs		17.800 €		
TOTAL		275.050 €		
Funding		(EUR)		
Funding requirements		470.550 €		
Own funding (PA/PDU)		0 €		
European Grants*		470.550 €		
Others		0 €		
*Other grants than the Cityinvest grant (e.g. Elena Grants)				

WP5: Monitoring and evaluation of investments	
Table	Investment Project Data
Pilot Region	Rhodope Region (BG)
Period of reporting	30/01/18

Beneficiaries	Type of buildings	# Buildings	Building code	Stage of development	Projects	Groundfloor (m2)	Energy Consumption (kWh)	Investment (euros)	Energy savings (kWh)	Renewable (kWh)	Funding mechanism
Banite Municipality	Education	2	-	Assessment	Building pool	4.213	n.a.	490.000 €	0	554.000	Unknown
Banite Municipality	Administration	1	-	Assessment	Building pool	1.478	354.720	59.000 €	213.000	0	Unknown
Banite Municipality	Other public	1	-	Assessment	Building pool	604	62.816	199.000 €	31.000	0	Unknown
Chepelare Municipality	Education	1	-	Assessment	Building pool	2.557	462.817	241.000 €	338.000	0	Unknown
Chepelare Municipality	Education	1	-	Assessment	Building pool	1.508	672.568	292.000 €	504.000	0	Unknown
Chepelare Municipality	Education	1	-	Assessment	Building pool	3.832	636.112	217.000 €	420.000	0	Unknown
Chepelare Municipality	Education	1	-	Assessment	Building pool	6.624	1.059.840	559.000 €	816.000	0	Unknown
Devin Municipality	Education	1	-	Assessment	Building pool	1.805	335.730	240.000 €	151.000	0	Unknown
Nedelino Municipality	Education	1	-	Assessment	Building pool	3.800	729.600	586.000 €	255.000	0	Unknown
Smolyan Municipality	Administration	1	-	Assessment	Building pool	3.586	570.174	513.000 €	445.000	0	Unknown
Smolyan Municipality	Administration	1	-	Assessment	Building pool	2.049	458.976	328.000 €	317.000	0	Unknown
Smolyan Municipality	Administration	1	-	Assessment	Building pool	1.434	249.516	140.000 €	139.000	0	Unknown
Smolyan Municipality	Administration	1	-	Assessment	Building pool	2.188	627.956	415.000 €	539.000	0	Unknown
Smolyan Municipality	Administration	1	-	Assessment	Building pool	14.220	3.028.860	538.000 €	1.335.000	0	Unknown
Zlatograd Municipality	Various public	18	-	Assessment	Building pool	35.531	5.613.898	6.672.000 €	1.965.000	0	Unknown
Banite Municipality	Street lighting	19	-	Assessment	Street lighting	-	270.000	125.000 €	94.000	0	Unknown
Chepelare Municipality	Street lighting	1	-	Assessment	Street lighting	-	222.300	136.000 €	78.000	0	Unknown
Nedelino Municipality	Street lighting	16	-	Assessment	Street lighting	-	285.000	250.000 €	142.000	0	Unknown
Smolyan Municipality	Street lighting	1	-	Assessment	Street lighting	-	2.041.000	423.000 €	473.000	0	Unknown
Zlatograd Municipality	Street lighting	9	-	Assessment	Street lighting	-	1.022.000	750.000 €	511.000	0	Unknown

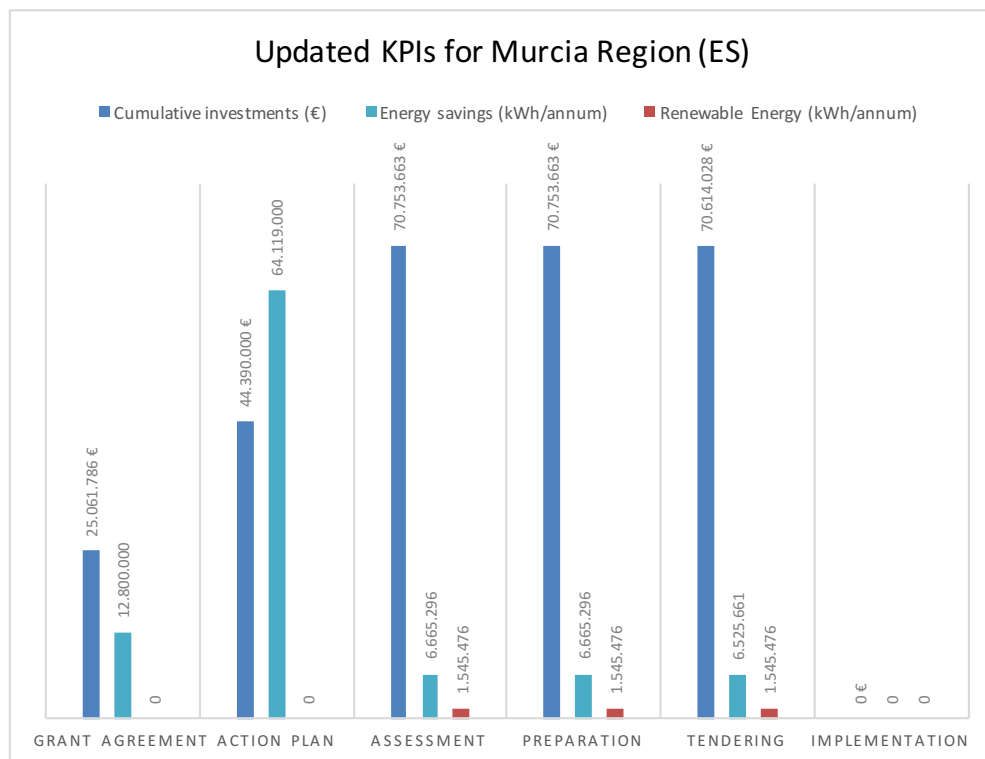
WP5: Monitoring and evaluation of investments	
Table	Reporting by project
Pilot Region:	Rhodope Region (BG)
Period of reporting:	30/01/18

Assessment							
	Total Buildings	Total Groundfloor (m2)	Total Energy Consumption (kWh)	Total Investment (euros)	Total Energy savings (kWh)	Total Renewable (kWh)	
<input type="checkbox"/> Street lighting	46	0	3.840.300	1.684.000 €	1.298.000	0	
Banite Municipality	19	0	270.000	125.000 €	94.000	0	
Chepelare Municipality	1	0	222.300	136.000 €	78.000	0	
Nedelino Municipality	16	0	285.000	250.000 €	142.000	0	
Smolyan Municipality	1	0	2.041.000	423.000 €	473.000	0	
Zlatograd Municipality	9	0	1.022.000	750.000 €	511.000	0	
<input type="checkbox"/> Building pool	33	85.429	14.863.583	11.489.000 €	7.468.000	554.000	
Banite Municipality	4	6.295	417.536	748.000 €	244.000	554.000	
Chepelare Municipality	4	14.521	2.831.337	1.309.000 €	2.078.000	0	
Devin Municipality	1	1.805	335.730	240.000 €	151.000	0	
Nedelino Municipality	1	3.800	729.600	586.000 €	255.000	0	
Smolyan Municipality	5	23.477	4.935.482	1.934.000 €	2.775.000	0	
Zlatograd Municipality	18	35.531	5.613.898	6.672.000 €	1.965.000	0	
Total général	79	85.429	18.703.883	13.173.000 €	8.766.000	554.000	

1.5. Murcia Region (ES) Data & KPI

CITYNVEST							
WPS: Monitoring and evaluation of investments							
Table		Updated KPIs					
Pilot Region:		Murcia Region (ES)					
Period of reporting:		30/01/18					
Murcia Region (ES)							
Updated KPIs as of 31/12/2017		Commitment		Project Delivery (per stage of development)*			
		Grant Agreement	Action Plan	Assessment	Preparation	Tendering	Implementation
Cumulative investments (€)		25.061.786 €	44.390.000 €	70.753.663 €	70.753.663 €	70.614.028 €	0 €
Energy savings (kWh/annum)		12.800.000	64.119.000	6.665.296	6.665.296	6.525.661	0
Renewable Energy (kWh/annum)		0	0	1.545.476	1.545.476	1.545.476	0

* KPIs achieved for each stage of development at the given date.



WPS: Monitoring and evaluation of investments	
Tables:	Project Data Input
Pilot Region:	Murcia Region (ES)
Date of reporting:	30/01/18

Beneficiaries	Type of buildings	Building code	Stage of development	Projects	Groundfloor (m2)	Energy Consumption (kWh)	Investment (euros)	Energy savings (kWh)	Renewable (kWh)	Funding mechanism
Consejería de Educación y Universidades	Education	IES Francisco Salzillo	Assessment	Project 1	10.125	147.470	121.355 €	82.846	64.337	Own funding
Consejería de Educación y Universidades	Education	IES Alcántara	Assessment	Project 1	4.121	161.025	131.784 €	105.673	77.415	Own funding
Consejería de Educación y Universidades	Education	IES Alfonso X El Sabio	Assessment	Project 1	10.736	157.668	317.785 €	17.072	0	Own funding
Consejería de Educación y Universidades	Education	IES Floridablanca	Assessment	Project 1	9.367	188.923	92.130 €	115.798	64.337	Own funding
Consejería de Educación y Universidades	Education	IES Saavedra Fajardo	Assessment	Project 1	7.266	132.082	103.038 €	52.039	23.149	Own funding
Consejería de Educación y Universidades	Education	IES Infante Don Juan Manuel	Assessment	Project 1	5.800	147.089	75.026 €	86.527	68.500	Own funding
Consejería de Educación y Universidades	Education	IES Miguel de Cervantes	Assessment	Project 1	12.250	256.437	103.038 €	52.039	23.149	Own funding
Consejería de Educación y Universidades	Education	Escuela de Arte	Assessment	Project 1	3.598	80.879	129.495 €	31.468	19.466	Own funding
Consejería de Educación y Universidades	Education	IES El Camen	Assessment	Project 1	5.867	101.930	88.640 €	38.877	25.705	Own funding
Consejería de Educación y Universidades	Education	IES Ramón y Cajal	Assessment	Project 1	9.042	225.763	160.924 €	109.281	81.173	Own funding
Consejería de Educación y Universidades	Education	IES Licenciado Francisco Cascales	Assessment	Project 1	7.954	301.882	145.420 €	156.266	89.440	Own funding
Consejería de Educación y Universidades	Education	Conservatorio Superior de Música "Manuel Massotti Littel"	Assessment	Project 1	4.500	159.948	116.506 €	87.162	65.615	Own funding
Consejería de Educación y Universidades	Education	Escuela Oficial de Idiomas de Murcia	Assessment	Project 1	3.320	89.977	140.040 €	115.307	103.206	Own funding
Consejería de Educación y Universidades	Education	IES Mariano Baquero Goyanes	Assessment	Project 1	5.760	123.885	127.510 €	84.820	64.337	Own funding
Consejería de Educación y Universidades	Education	IES Miguel Espinosa	Assessment	Project 1	5.418	101.032	71.487 €	52.475	32.544	Own funding
Consejería de Educación y Universidades	Education	IES Juan Carlos I	Assessment	Project 1	8.000	173.795	124.952 €	88.640	60.353	Own funding
Consejería de Educación y Universidades	Education	IES La Flota	Assessment	Project 1	7.157	226.135	260.819 €	160.608	127.998	Own funding
Consejería de Educación y Universidades	Education	IES Ingeniero de la Cierva	Assessment	Project 1	6.859	209.406	191.237 €	129.425	102.969	Own funding
Consejería de Educación y Universidades	Education	IES Beniján	Assessment	Project 1	4.166	138.802	85.874 €	72.575	56.500	Own funding
Consejería de Educación y Universidades	Education	IES José Planes	Assessment	Project 1	4.500	133.981	62.265 €	38.666	15.408	Own funding
Consejería de Educación y Universidades	Education	IES Alquibla	Assessment	Project 1	5.434	134.951	128.628 €	48.469	19.758	Own funding
Consejería de Educación y Universidades	Education	IES Aljada	Assessment	Project 1	8.506	214.247	130.261 €	94.268	50.958	Own funding
Consejería de Educación y Universidades	Education	IES Rector D. Francisco Sabater García	Assessment	Project 1	7.500	141.961	114.297 €	77.216	61.782	Own funding
Consejería de Educación y Universidades	Education	IES Monte Miravete	Assessment	Project 1	4.350	84.648	51.453 €	29.868	15.408	Own funding
Consejería de Educación y Universidades	Education	Conservatorio de Música de Murcia	Assessment	Project 1	3.110	105.029	6.054 €	13.858	0	Own funding
Consejería de Educación y Universidades	Education	IES Poeta Sánchez Bautista	Assessment	Project 1	5.745	109.831	104.175 €	70.011	51.485	Own funding
Consejería de Educación y Universidades	Education	IES Poeta Julián Andugar	Assessment	Project 1	6.890	106.105	118.093 €	76.194	57.873	Own funding
Consejería de Educación y Universidades	Education	IES Sierra de Carrascoy	Assessment	Project 1	7.028	160.785	128.350 €	95.353	64.337	Own funding
Consejería de Educación y Universidades	Education	IES Octavio Carpena Artés	Assessment	Project 1	4.600	59.472	85.750 €	71.601	58.274	Own funding
Consejería de Educación y Universidades	Education	IES Vicente Medina	Assessment	Project 2	7.500	88.635	20.386 €	20.386		Unknown
Consejería de Educación y Universidades	Education	IES Politécnico	Assessment	Project 2	13.069	205.994	47.379 €	47.379		Unknown
Consejería de Educación y Universidades	Education	IES Diego Tortosa	Assessment	Project 2	15.000	119.824	27.560 €	27.560		Unknown
Consejería de Educación y Universidades	Education	IES José Ibañez Martín	Assessment	Project 2	4.016	96.171	22.119 €	22.119		Unknown
Consejería de Educación y Universidades	Education	IES Francisco Ros Giner	Assessment	Project 2	2.900	11.007	2.532 €	2.532		Unknown
Consejería de Educación y Universidades	Education	CIFP de Ciencias de la Salud. Edificio F	Assessment	Project 2	16.212	85.479	19.660 €	19.660		Unknown
Consejería de Educación y Universidades	Education	IES Francisco Salzillo	Tendering	Project 1	10.125	147.470	121.355 €	82.846	64.337	Own funding
Consejería de Educación y Universidades	Education	IES Alcántara	Tendering	Project 1	4.121	161.025	131.784 €	105.673	77.415	Own funding
Consejería de Educación y Universidades	Education	IES Alfonso X El Sabio	Tendering	Project 1	10.736	157.668	317.785 €	17.072	0	Own funding

Consejería de Educación y Universidades	Education	IES Floridablanca	Tendering	Project 1	9.367	188.923	92.130 €	115.798	64.337	Own funding
Consejería de Educación y Universidades	Education	IES Saavedra Fajardo	Tendering	Project 1	7.266	132.082	103.038 €	52.039	23.149	Own funding
Consejería de Educación y Universidades	Education	IES Infante Don Juan Manuel	Tendering	Project 1	5.800	147.089	75.026 €	86.527	68.500	Own funding
Consejería de Educación y Universidades	Education	IES Miguel de Cervantes	Tendering	Project 1	12.250	256.437	103.038 €	52.039	23.149	Own funding
Consejería de Educación y Universidades	Education	Escuela de Arte	Tendering	Project 1	3.598	80.879	129.495 €	31.468	19.466	Own funding
Consejería de Educación y Universidades	Education	IES El Camen	Tendering	Project 1	5.867	101.930	88.640 €	38.877	25.705	Own funding
Consejería de Educación y Universidades	Education	IES Ramón y Cajal	Tendering	Project 1	9.042	225.763	160.924 €	109.281	81.173	Own funding
Consejería de Educación y Universidades	Education	IES Licenciado Francisco Cascales	Tendering	Project 1	7.954	301.882	145.420 €	156.266	89.440	Own funding
Consejería de Educación y Universidades	Education	Conservatorio Superior de Música "Manuel Massotti Littel"	Tendering	Project 1	4.500	159.948	116.506 €	87.162	65.615	Own funding
Consejería de Educación y Universidades	Education	Escuela Oficial de Idiomas de Murcia	Tendering	Project 1	3.320	89.977	140.040 €	115.307	103.206	Own funding
Consejería de Educación y Universidades	Education	IES Mariano Baquero Goyanes	Tendering	Project 1	5.760	123.885	127.510 €	84.820	64.337	Own funding
Consejería de Educación y Universidades	Education	IES Miguel Espinosa	Tendering	Project 1	5.418	101.032	71.487 €	52.475	32.544	Own funding
Consejería de Educación y Universidades	Education	IES Juan Carlos I	Tendering	Project 1	8.000	173.795	124.952 €	88.640	60.353	Own funding
Consejería de Educación y Universidades	Education	IES La Flota	Tendering	Project 1	7.157	226.135	260.819 €	160.608	127.998	Own funding
Consejería de Educación y Universidades	Education	IES Ingeniero de la Cierva	Tendering	Project 1	6.859	209.406	191.237 €	129.425	102.969	Own funding
Consejería de Educación y Universidades	Education	IES Benijájan	Tendering	Project 1	4.166	138.802	85.874 €	72.575	56.500	Own funding
Consejería de Educación y Universidades	Education	IES José Planes	Tendering	Project 1	4.500	133.981	62.265 €	38.666	15.408	Own funding
Consejería de Educación y Universidades	Education	IES Alquibla	Tendering	Project 1	5.434	134.951	128.628 €	48.469	19.758	Own funding
Consejería de Educación y Universidades	Education	IES Aljada	Tendering	Project 1	8.506	214.247	130.261 €	94.268	50.958	Own funding
Consejería de Educación y Universidades	Education	IES Rector D. Francisco Sabater García	Tendering	Project 1	7.500	141.961	114.297 €	77.216	61.782	Own funding
Consejería de Educación y Universidades	Education	IES Monte Miravete	Tendering	Project 1	4.350	84.648	51.453 €	29.868	15.408	Own funding
Consejería de Educación y Universidades	Education	Conservatorio de Música de Murcia	Tendering	Project 1	3.110	105.029	6.054 €	13.858	0	Own funding
Consejería de Educación y Universidades	Education	IES Poeta Sánchez Bautista	Tendering	Project 1	5.745	109.831	104.175 €	70.011	51.485	Own funding
Consejería de Educación y Universidades	Education	IES Poeta Julián Andugar	Tendering	Project 1	6.890	106.105	118.093 €	76.194	57.873	Own funding
Consejería de Educación y Universidades	Education	IES Sierra de Carrascoy	Tendering	Project 1	7.028	160.785	128.350 €	95.353	64.337	Own funding
Consejería de Educación y Universidades	Education	IES Octavio Carpena Artés	Tendering	Project 1	4.600	59.472	85.750 €	71.601	58.274	Own funding
Consejería de Educación y Universidades	Education	IES Vicente Medina	Preparation	Project 2	7.500	88.635	20.386 €	20.386		Unknown
Consejería de Educación y Universidades	Education	IES Politécnico	Preparation	Project 2	13.069	205.994	47.379 €	47.379		Unknown
Consejería de Educación y Universidades	Education	IES Diego Tortosa	Preparation	Project 2	15.000	119.824	27.560 €	27.560		Unknown
Consejería de Educación y Universidades	Education	IES José Ibañez Martín	Preparation	Project 2	4.016	96.171	22.119 €	22.119		Unknown
Consejería de Educación y Universidades	Education	IES Francisco Ros Giner	Preparation	Project 2	2.900	11.007	2.532 €	2.532		Unknown
Consejería de Educación y Universidades	Education	CIFP de Ciencias de la Salud. Edificio F	Preparation	Project 2	16.212	85.479	19.660 €	19.660		Unknown
Consejería de Educación y Universidades	Education	IES Francisco Salzillo	Preparation	Project 1	10.125	147.470	121.355 €	82.846	64.337	Own funding
Consejería de Educación y Universidades	Education	IES Alcántara	Preparation	Project 1	4.121	161.025	131.784 €	105.673	77.415	Own funding
Consejería de Educación y Universidades	Education	IES Alfonso X El Sabio	Preparation	Project 1	10.736	157.668	317.785 €	17.072	0	Own funding
Consejería de Educación y Universidades	Education	IES Floridablanca	Preparation	Project 1	9.367	188.923	92.130 €	115.798	64.337	Own funding
Consejería de Educación y Universidades	Education	IES Saavedra Fajardo	Preparation	Project 1	7.266	132.082	103.038 €	52.039	23.149	Own funding
Consejería de Educación y Universidades	Education	IES Infante Don Juan Manuel	Preparation	Project 1	5.800	147.089	75.026 €	86.527	68.500	Own funding
Consejería de Educación y Universidades	Education	IES Miguel de Cervantes	Preparation	Project 1	12.250	256.437	103.038 €	52.039	23.149	Own funding
Consejería de Educación y Universidades	Education	Escuela de Arte	Preparation	Project 1	3.598	80.879	129.495 €	31.468	19.466	Own funding
Consejería de Educación y Universidades	Education	IES El Camen	Preparation	Project 1	5.867	101.930	88.640 €	38.877	25.705	Own funding
Consejería de Educación y Universidades	Education	IES Ramón y Cajal	Preparation	Project 1	9.042	225.763	160.924 €	109.281	81.173	Own funding
Consejería de Educación y Universidades	Education	IES Licenciado Francisco Cascales	Preparation	Project 1	7.954	301.882	145.420 €	156.266	89.440	Own funding
Consejería de Educación y Universidades	Education	Conservatorio Superior de Música "Manuel Massotti Littel"	Preparation	Project 1	4.500	159.948	116.506 €	87.162	65.615	Own funding
Consejería de Educación y Universidades	Education	Escuela Oficial de Idiomas de Murcia	Preparation	Project 1	3.320	89.977	140.040 €	115.307	103.206	Own funding
Consejería de Educación y Universidades	Education	IES Mariano Baquero Goyanes	Preparation	Project 1	5.760	123.885	127.510 €	84.820	64.337	Own funding
Consejería de Educación y Universidades	Education	IES Miguel Espinosa	Preparation	Project 1	5.418	101.032	71.487 €	52.475	32.544	Own funding
Consejería de Educación y Universidades	Education	IES Juan Carlos I	Preparation	Project 1	8.000	173.795	124.952 €	88.640	60.353	Own funding
Consejería de Educación y Universidades	Education	IES La Flota	Preparation	Project 1	7.157	226.135	260.819 €	160.608	127.998	Own funding
Consejería de Educación y Universidades	Education	IES Ingeniero de la Cierva	Preparation	Project 1	6.859	209.406	191.237 €	129.425	102.969	Own funding

Consejería de Educación y Universidades	Education	IES Ingenierio de la Cierva	Preparation	Project 1	6.859	209.406	191.237 €	129.425	102.969	Own funding
Consejería de Educación y Universidades	Education	IES Beniján	Preparation	Project 1	4.166	138.802	85.874 €	72.575	56.500	Own funding
Consejería de Educación y Universidades	Education	IES José Planes	Preparation	Project 1	4.500	133.981	62.265 €	38.666	15.408	Own funding
Consejería de Educación y Universidades	Education	IES Alquibla	Preparation	Project 1	5.434	134.951	128.628 €	48.469	19.758	Own funding
Consejería de Educación y Universidades	Education	IES Aljada	Preparation	Project 1	8.506	214.247	130.261 €	94.268	50.958	Own funding
Consejería de Educación y Universidades	Education	IES Rector D. Francisco Sabater García	Preparation	Project 1	7.500	141.961	114.297 €	77.216	61.782	Own funding
Consejería de Educación y Universidades	Education	IES Monte Miravete	Preparation	Project 1	4.350	84.648	51.453 €	29.868	15.408	Own funding
Consejería de Educación y Universidades	Education	Conservatorio de Música de Murcia	Preparation	Project 1	3.110	105.029	6.054 €	13.858	0	Own funding
Consejería de Educación y Universidades	Education	IES Poeta Sánchez Bautista	Preparation	Project 1	5.745	109.831	104.175 €	70.011	51.485	Own funding
Consejería de Educación y Universidades	Education	IES Poeta Julián Andugar	Preparation	Project 1	6.890	106.105	118.093 €	76.194	57.873	Own funding
Consejería de Educación y Universidades	Education	IES Sierra de Carrascoy	Preparation	Project 1	7.028	160.785	128.350 €	95.353	64.337	Own funding
Consejería de Educación y Universidades	Education	IES Octavio Carpena Artés	Preparation	Project 1	4.600	59.472	85.750 €	71.601	58.274	Own funding
Consejería de Hacienda y Administración Pública	Administration	ASEINFANTE	Assessment	Project 3	-	1.118.338	4.316.284 €	257.218		ESCO
Consejería de Hacienda y Administración Pública	Administration	FORO I EN C/ CAMPOS DE CARTAGENA	Assessment	Project 3	-	160.408	669.284 €	36.894		ESCO
Consejería de Hacienda y Administración Pública	Administration	PALACIO REGIONAL EN AV/ TENIENTE FLORESTA	Assessment	Project 3	-	1.318.894	4.903.013 €	303.346		ESCO
Consejería de Desarrollo Económico, Turismo y Empleo	Administration	SEDE INDUSTRIAL EN C/ SAN CRISTOBAL	Assessment	Project 3	-	304.402	1.270.083 €	70.012		ESCO
Consejería de Desarrollo Económico, Turismo y Empleo	Administration	DIRECCIÓN GENERAL ENERGÍA AIYM	Assessment	Project 3	-	143.871	600.286 €	33.090		ESCO
Consejería de Desarrollo Económico, Turismo y Empleo	Administration	CENTRO ARTESANÍA	Assessment	Project 3	-	75.231	313.893 €	17.303		ESCO
Consejería de Fomento e Infraestructuras	Administration	MECANICA DEL SUELO	Assessment	Project 3	-	213.468	890.671 €	49.098		ESCO
Consejería de Fomento e Infraestructuras		PARQUE MOVIL DE MAQUINARIA	Assessment	Project 3	-	31.721	132.352 €	7.296		ESCO
Consejería de Fomento e Infraestructuras	Administration	SEDE OBRAS PUBLICAS EN PLAZA SANTOÑA	Assessment	Project 3	-	1.296.278	5.083.857 €	298.144		ESCO
Agua, Agricultura y Medio Ambiente	Administration	SEDE IMIDA EN LA ALBERCA	Assessment	Project 3	-	1.295.709	5.389.341 €	298.013		ESCO
Agua, Agricultura y Medio Ambiente	Administration	SEDE AGRICULTURA EN PLZA JUAN XXIII	Assessment	Project 3	-	1.058.207	4.415.251 €	243.388		ESCO
Agua, Agricultura y Medio Ambiente	Administration	LABORATORIO AGRARIO EL PALMAR	Assessment	Project 3	-	438.892	1.831.228 €	100.945		ESCO
Consejería de Cultura y Portavocía	Administration	ARCHIVO HISTÓRICO EN AVDA DE LOS PINOS	Assessment	Project 3	-	374.927	1.546.059 €	86.233		ESCO
Consejería de Cultura y Portavocía		BIBLIOTECA REGIONAL	Assessment	Project 3	-	872.293	3.540.505 €	200.627		ESCO
Consejería de Presidencia	Administration	SEDE PRESIDNCIA PALAC SAN ESTEBAN	Assessment	Project 3	-	564.276	1.989.812 €	129.783		ESCO
Consejería de Educación y Universidades	Education	SEDE EDUCACIÓN EN AVDA LA FAMA 15	Assessment	Project 3	-	767.223	3.155.131 €	176.461		ESCO
Otras	Administration	EDIF. INFO/FAMILIA EN AVDA LA FAMA 3	Assessment	Project 3	-	806.759	3.366.112 €	185.555		ESCO
Consejería de Sanidad	Administration	SEDE C. EN RONDA DE LEVANTE 11	Assessment	Project 3	-	889.219	3.710.167 €	204.520		ESCO
IMAS- Instituto Murciano de Acción Social	Health	CENTRO OCUPACIONAL EL PALMAR	Assessment	Project 3	-	568.433	1.656.891 €	130.740		ESCO
IMAS- Instituto Murciano de Acción Social	Health	RESIDENCIA LOPEZ AMBIT DE EL PALMAR	Assessment	Project 3	-	859.832	2.213.564 €	197.761		ESCO
IMAS- Instituto Murciano de Acción Social	Health	RESIDENCIA LUIS VALENCIANO DE EL PALMAR	Assessment	Project 3	-	2.119.917	6.523.063 €	487.581		ESCO
IMAS- Instituto Murciano de Acción Social	Health	RESIDENCIA VIRGEN DEL VALLE	Assessment	Project 3	-	939.914	3.063.778 €	216.180		ESCO
IMAS- Instituto Murciano de Acción Social	Health	RESIDENCIA MAYORES SAN BASILIO	Assessment	Project 3	-	2.352.478	6.517.017 €	541.070		ESCO
Consejería de Hacienda y Administración Pública	Administration	ASEINFANTE	Preparation	Project 3	-	1.118.338	4.316.284 €	257.218		ESCO
Consejería de Hacienda y Administración Pública	Administration	FORO I EN C/ CAMPOS DE CARTAGENA	Preparation	Project 3	-	160.408	669.284 €	36.894		ESCO
Consejería de Hacienda y Administración Pública	Administration	PALACIO REGIONAL EN AV/ TENIENTE FLORESTA	Preparation	Project 3	-	1.318.894	4.903.013 €	303.346		ESCO
Consejería de Desarrollo Económico, Turismo y Empleo	Administration	SEDE INDUSTRIAL EN C/ SAN CRISTOBAL	Preparation	Project 3	-	304.402	1.270.083 €	70.012		ESCO
Consejería de Desarrollo Económico, Turismo y Empleo	Administration	DIRECCIÓN GENERAL ENERGÍA AIYM	Preparation	Project 3	-	143.871	600.286 €	33.090		ESCO
Consejería de Desarrollo Económico, Turismo y Empleo	Administration	CENTRO ARTESANÍA	Preparation	Project 3	-	75.231	313.893 €	17.303		ESCO
Consejería de Fomento e Infraestructuras	Administration	MECANICA DEL SUELO	Preparation	Project 3	-	213.468	890.671 €	49.098		ESCO
Consejería de Fomento e Infraestructuras		PARQUE MOVIL DE MAQUINARIA	Preparation	Project 3	-	31.721	132.352 €	7.296		ESCO
Consejería de Fomento e Infraestructuras	Administration	SEDE OBRAS PUBLICAS EN PLAZA SANTOÑA	Preparation	Project 3	-	1.296.278	5.083.857 €	298.144		ESCO
Agua, Agricultura y Medio Ambiente	Administration	SEDE IMIDA EN LA ALBERCA	Preparation	Project 3	-	1.295.709	5.389.341 €	298.013		ESCO
Agua, Agricultura y Medio Ambiente	Administration	SEDE AGRICULTURA EN PLZA JUAN XXIII	Preparation	Project 3	-	1.058.207	4.415.251 €	243.388		ESCO
Agua, Agricultura y Medio Ambiente	Administration	LABORATORIO AGRARIO EL PALMAR	Preparation	Project 3	-	438.892	1.831.228 €	100.945		ESCO
Consejería de Cultura y Portavocía	Administration	ARCHIVO HISTÓRICO EN AVDA DE LOS PINOS	Preparation	Project 3	-	374.927	1.546.059 €	86.233		ESCO
Consejería de Cultura y Portavocía		BIBLIOTECA REGIONAL	Preparation	Project 3	-	872.293	3.540.505 €	200.627		ESCO
Consejería de Presidencia	Administration	SEDE PRESIDNCIA PALAC SAN ESTEBAN	Preparation	Project 3	-	564.276	1.989.812 €	129.783		ESCO
Consejería de Educación y Universidades	Education	SEDE EDUCACIÓN EN AVDA LA FAMA 15	Preparation	Project 3	-	767.223	3.155.131 €	176.461		ESCO

Otras	Administration	EDIF. INFO/FAMILIA EN AVDA LA FAMA 3	Preparation	Project 3	-	806.759	3.366.112 €	185.555		ESCO
Consejería de Sanidad	Administration	SEDE C. EN RONDA DE LEVANTE 11	Preparation	Project 3	-	889.219	3.710.167 €	204.520		ESCO
IMAS- Instituto Murciano de Acción Social	Health	CENTRO OCUPACIONAL EL PALMAR	Preparation	Project 3	-	568.433	1.656.891 €	130.740		ESCO
IMAS- Instituto Murciano de Acción Social	Health	RESIDENCIA LOPEZ AMBIT DE EL PALMAR	Preparation	Project 3	-	859.832	2.213.564 €	197.761		ESCO
IMAS- Instituto Murciano de Acción Social	Health	RESIDENCIA LUIS VALENCIANO DE EL PALMAR	Preparation	Project 3	-	2.119.917	6.523.063 €	487.581		ESCO
IMAS- Instituto Murciano de Acción Social	Health	RESIDENCIA VIRGEN DEL VALLE	Preparation	Project 3	-	939.914	3.063.778 €	216.180		ESCO
IMAS- Instituto Murciano de Acción Social	Health	RESIDENCIA MAYORES SAN BASILIO	Preparation	Project 3	-	2.352.478	6.517.017 €	541.070		ESCO
Consejería de Hacienda y Administración Pública	Administration	ASEINFANTE	Tendering	Project 3	-	1.118.338	4.316.284 €	257.218		ESCO
Consejería de Hacienda y Administración Pública	Administration	FORO I EN C/ CAMPOS DE CARTAGENA	Tendering	Project 3	-	160.408	669.284 €	36.894		ESCO
Consejería de Hacienda y Administración Pública	Administration	PALACIO REGIONAL EN AV/ TENIENTE FLORESTA	Tendering	Project 3	-	1.318.894	4.903.013 €	303.346		ESCO
Consejería de Desarrollo Económico, Turismo y Empleo	Administration	SEDE INDUSTRIAL EN C/ SAN CRISTOBAL	Tendering	Project 3	-	304.402	1.270.083 €	70.012		ESCO
Consejería de Desarrollo Económico, Turismo y Empleo	Administration	DIRECCIÓN GENERAL ENERGÍA AIYM	Tendering	Project 3	-	143.871	600.286 €	33.090		ESCO
Consejería de Desarrollo Económico, Turismo y Empleo	Administration	CENTRO ARTESANÍA	Tendering	Project 3	-	75.231	313.893 €	17.303		ESCO
Consejería de Fomento e Infraestructuras	Administration	MECANICA DEL SUELO	Tendering	Project 3	-	213.468	890.671 €	49.098		ESCO
Consejería de Fomento e Infraestructuras		PARQUE MOVIL DE MAQUINARIA	Tendering	Project 3	-	31.721	132.352 €	7.296		ESCO
Consejería de Fomento e Infraestructuras	Administration	SEDE OBRAS PUBLICAS EN PLAZA SANTOÑA	Tendering	Project 3	-	1.296.278	5.083.857 €	298.144		ESCO
Agua, Agricultura y Medio Ambiente	Administration	SEDE IMIDA EN LA ALBERCA	Tendering	Project 3	-	1.295.709	5.389.341 €	298.013		ESCO
Agua, Agricultura y Medio Ambiente	Administration	SEDE AGRICULTURA EN PLZA JUAN XXIII	Tendering	Project 3	-	1.058.207	4.415.251 €	243.388		ESCO
Agua, Agricultura y Medio Ambiente	Administration	LABORATORIO AGRARIO EL PALMAR	Tendering	Project 3	-	438.892	1.831.228 €	100.945		ESCO
Consejería de Cultura y Portavocía	Administration	ARCHIVO HISTÓRICO EN AVDA DE LOS PINOS	Tendering	Project 3	-	374.927	1.546.059 €	86.233		ESCO
Consejería de Cultura y Portavocía		BIBLIOTECA REGIONAL	Tendering	Project 3	-	872.293	3.540.505 €	200.627		ESCO
Consejería de Presidencia	Administration	SEDE PRESIDENCIA PALAC SAN ESTEBAN	Tendering	Project 3	-	564.276	1.989.812 €	129.783		ESCO
Consejería de Educación y Universidades	Education	SEDE EDUCACIÓN EN AVDA LA FAMA 15	Tendering	Project 3	-	767.223	3.155.131 €	176.461		ESCO
Otras	Administration	EDIF. INFO/FAMILIA EN AVDA LA FAMA 3	Tendering	Project 3	-	806.759	3.366.112 €	185.555		ESCO
Consejería de Sanidad	Administration	SEDE C. EN RONDA DE LEVANTE 11	Tendering	Project 3	-	889.219	3.710.167 €	204.520		ESCO
IMAS- Instituto Murciano de Acción Social	Health	CENTRO OCUPACIONAL EL PALMAR	Tendering	Project 3	-	568.433	1.656.891 €	130.740		ESCO
IMAS- Instituto Murciano de Acción Social	Health	RESIDENCIA LOPEZ AMBIT DE EL PALMAR	Tendering	Project 3	-	859.832	2.213.564 €	197.761		ESCO
IMAS- Instituto Murciano de Acción Social	Health	RESIDENCIA LUIS VALENCIANO DE EL PALMAR	Tendering	Project 3	-	2.119.917	6.523.063 €	487.581		ESCO
IMAS- Instituto Murciano de Acción Social	Health	RESIDENCIA VIRGEN DEL VALLE	Tendering	Project 3	-	939.914	3.063.778 €	216.180		ESCO
IMAS- Instituto Murciano de Acción Social	Health	RESIDENCIA MAYORES SAN BASILIO	Tendering	Project 3	-	2.352.478	6.517.017 €	541.070		ESCO

Assessment						
	Total Buildings	Total Groundfloor (m2)	Total Energy Consumption (kWh)	Total Investment (euros)	Total Energy savings (kWh)	Total Renewable (kWh)
<input type="checkbox"/> Project 1	29	188.969	4.375.138	3.516.386 €	2.254.402	1.545.476
Consejería de Educación y Universidades	29	188.969	4.375.138	3.516.386 €	2.254.402	1.545.476
<input type="checkbox"/> Project 2	6	58.697	607.110	139.635 €	139.635	
Consejería de Educación y Universidades	6	58.697	607.110	139.635 €	139.635	
<input type="checkbox"/> Project 3	23	0	18.570.690	67.097.642 €	4.271.259	
Consejería de Educación y Universidades	1	0	767.223	3.155.131 €	176.461	
Consejería de Hacienda y Administración Pública	3	0	2.597.640	9.888.582 €	597.457	
Consejería de Desarrollo Económico, Turismo y Empleo	3	0	523.504	2.184.262 €	120.406	
Consejería de Fomento e Infraestructuras	3	0	1.541.467	6.106.881 €	354.537	
Agua, Agricultura y Medio Ambiente	3	0	2.792.808	11.635.819 €	642.346	
Consejería de Cultura y Portavocía	2	0	1.247.220	5.086.564 €	286.861	
Consejería de Presidencia	1	0	564.276	1.989.812 €	129.783	
Otras	1	0	806.759	3.366.112 €	185.555	
Consejería de Sanidad	1	0	889.219	3.710.167 €	204.520	
IMAS- Instituto Murciano de Acción Social	5	0	6.840.574	19.974.313 €	1.573.332	
Total general	58	247.666	23.552.938	70.753.663 €	6.665.296	1.545.476
Preparation						
	Total Buildings	Total Groundfloor (m2)	Total Energy Consumption (kWh)	Total Investment (euros)	Total Energy savings (kWh)	Total Renewable (kWh)
<input type="checkbox"/> Project 1	29	188.969	4.375.138	3.516.386 €	2.254.402	1.545.476
Consejería de Educación y Universidades	29	188.969	4.375.138	3.516.386 €	2.254.402	1.545.476
<input type="checkbox"/> Project 2	6	58.697	607.110	139.635 €	139.635	
Consejería de Educación y Universidades	6	58.697	607.110	139.635 €	139.635	
<input type="checkbox"/> Project 3	23	0	18.570.690	67.097.642 €	4.271.259	
Consejería de Educación y Universidades	1	0	767.223	3.155.131 €	176.461	
Consejería de Hacienda y Administración Pública	3	0	2.597.640	9.888.582 €	597.457	
Consejería de Desarrollo Económico, Turismo y Empleo	3	0	523.504	2.184.262 €	120.406	
Consejería de Fomento e Infraestructuras	3	0	1.541.467	6.106.881 €	354.537	
Agua, Agricultura y Medio Ambiente	3	0	2.792.808	11.635.819 €	642.346	
Consejería de Cultura y Portavocía	2	0	1.247.220	5.086.564 €	286.861	
Consejería de Presidencia	1	0	564.276	1.989.812 €	129.783	
Otras	1	0	806.759	3.366.112 €	185.555	
Consejería de Sanidad	1	0	889.219	3.710.167 €	204.520	
IMAS- Instituto Murciano de Acción Social	5	0	6.840.574	19.974.313 €	1.573.332	
Total general	58	247.666	23.552.938	70.753.663 €	6.665.296	1.545.476
Tendering						
	Total Buildings	Total Groundfloor (m2)	Total Energy Consumption (kWh)	Total Investment (euros)	Total Energy savings (kWh)	Total Renewable (kWh)
<input type="checkbox"/> Project 1	29	188.969	4.375.138	3.516.386 €	2.254.402	1.545.476
Consejería de Educación y Universidades	29	188.969	4.375.138	3.516.386 €	2.254.402	1.545.476
<input type="checkbox"/> Project 3	23	0	18.570.690	67.097.642 €	4.271.259	
Consejería de Educación y Universidades	1	0	767.223	3.155.131 €	176.461	
Consejería de Hacienda y Administración Pública	3	0	2.597.640	9.888.582 €	597.457	
Consejería de Desarrollo Económico, Turismo y Empleo	3	0	523.504	2.184.262 €	120.406	
Consejería de Fomento e Infraestructuras	3	0	1.541.467	6.106.881 €	354.537	
Agua, Agricultura y Medio Ambiente	3	0	2.792.808	11.635.819 €	642.346	
Consejería de Cultura y Portavocía	2	0	1.247.220	5.086.564 €	286.861	
Consejería de Presidencia	1	0	564.276	1.989.812 €	129.783	
Otras	1	0	806.759	3.366.112 €	185.555	
Consejería de Sanidad	1	0	889.219	3.710.167 €	204.520	
IMAS- Instituto Murciano de Acción Social	5	0	6.840.574	19.974.313 €	1.573.332	
Total general	52	188.969	22.945.828	70.614.028 €	6.525.661	1.545.476

2. Qualitative analysis

Data has been collected through a qualitative survey conducted from October 2017 until January 2018 and through the compilation of data extracted from the documents and deliverables produced by the pilot regions during the CITYinvest project.

2.1. Qualitative data

The Pilot regions have been surveyed to identify and qualify the mains barriers/difficulties encountered during the execution of the CITYinvest project. These barriers were then classified in main categories (structural, organizational, decisional, economical/financial) and structured in a self-administered questionnaire that the pilot regions completed. For each of the barriers/difficulties, pilot regions were asked:


- to specify the occurrence of the barriers/difficulties (Yes/No);
- to describe the barriers/difficulties encountered;
- to specify which stage of development has been impacted (Action Plan, PA Commitment, PDU Funding, PDU operationalization, Project Assessment, Project Preparation, Project Tendering, Project Implementation);
- to specify the type of impact (delay, revision, abortion)
- to qualify on a scale of 1 to 5 the impact intensity;
- to qualify on a scale of 1 to 5 the impact scope (a part of the whole project);
- to qualify on a scale of 1 to 5 the impact duration
- to describe the effect of the barriers/difficulties
- to describe the reactions & issues to the barriers/difficulties

The barriers/difficulties surveyed are listed and described in the following table:

Category	Level	Type	Examples
Structural	Market level	Political context/capacity	Lack of interest, low awareness, political priorities, political crisis, etc.
		Beneficiaries context/capacity	Lack of interest, low drivers, size and/or number of the beneficiaries/projects, willingness to cooperate, etc.
		Suppliers context/capacity	Lack of ESCOs/suppliers, lack of interest, low drivers, short term vision, lack of financing capacity and/or contracting capacity, etc.
Organizational	Project owner, project team levels	Stakeholders on-boarding process	Difficulties to identify and/or get requested stakeholders on board of the project team
		Capacity & know-how availability	Lack of or difficulties to enhance capabilities, know-how and expertise of the project team & the stakeholders on board
		Reliable and accurate data	Lack of or difficulties to collect accurate and reliable data on buildings, beneficiaries,

		availability	suppliers and/or financial resources
Decisional	Public Authority & Market levels	PA on-boarding process	Difficulties to identify, raise awareness and get PA on board
		PA commitment process	Difficulties to get the PA Commitment
		PDU Financing process	Difficulties to get the PDU Financing Commitment
Economical & Financial	Public Authority & Market levels	Public Debt situation	Difficulties to overcome debt consolidation, limited debt capacity
		Resources to fund the PDU	Difficulties to get equity and/or funds for the PDU
		Resources to fund the projects	Difficulties to get resources to fund the projects, projects too expensive, ROI consideration, investment priorities, etc.

The following tables give the synthesis of the results.



WP5: Monitoring and evaluation of investments																	
Tables	Qualitative data input																
Pilot Region:	All Pilot Regions																
Date of reporting:	30/01/18																
		Rhodope Region (BG)				Liège Province (BE)				Murcia Region (ES)				Total CITYnvest Project			
Barriers/Difficulties	Type	Occurrence	Intensity	Scope	Impact	Occurrence2	Intensity3	Scope4	Impact5	Occurrence6	Intensity7	Scope8	Impact9	Occurrence10	Intensity (average)	Scope (average)	Duration (average)
Beneficiaries context/capacity	Structural	Yes	3	2	5	Yes	1	2	5	Yes	3	2	5	3	3,5	2,0	5,0
Capacity & know-how availability	Organisational	Yes	2	2	3	Yes	4	2	2	Yes	2	2	3	3	2,7	2,0	2,7
Reliable and accurate data availability	Organisational	Yes	4	4	1	Yes	4	4	3	Yes	4	4	4	3	4,0	4,0	2,7
Public Debt situation	Economical/Financial	Yes	3	1	3	Yes	4	3	2	Yes	3	3	3	3	3,3	2,3	2,7
Political context/capacity	Structural	No	0	0	0	Yes	5	4	5	Yes	3	2	3	2	4,0	3,0	4,0
PDU Financing process	Decisional	Yes	5	4	5	Yes	5	4	5	No	0	0	0	2	5,0	4,0	5,0
Ressources to fund the PDU	Economical/Financial	Yes	5	4	5	Yes	5	4	5	No	0	0	0	2	5,0	4,0	5,0
Ressources to fund the projects	Economical/Financial	Yes	4	4	1	No	0	0	0	Yes	4	4	4	2	4,0	4,0	2,5
Suppliers context/capacity	Structural	Yes	1	4	1	No	0	0	0	No	0	0	0	1	1,0	4,0	1,0
Stakeholders on-boarding process	Organisational	No	0	0	0	Yes	0	0	2	No	0	0	0	1	0,0	0,0	2,0
PA on-boarding process	Decisional	No	0	0	0	No	0	0	0	No	0	0	0	0	0,0	0,0	0,0
PA commitment process	Decisional	No	0	0	0	No	0	0	0	No	0	0	0	0	0,0	0,0	0,0

From this table, three groups of barriers/difficulties are emerging:

Group 1 Barriers/difficulties encountered by all the pilot projects		
Structural	Beneficiaries context/capacity	<p><u>Rhodope Region (BG)</u>: Difficulties to enhance capabilities, know-how and expertise of the beneficiaries & the stakeholders on board</p> <p><u>Liège Province (BE)</u>: Municipalities do not understand what is an EPC</p>

		<p><u>Murcia Region (ES)</u>: The beneficiaries are part of the Regional Government, partly political and partly public administrations. Therefore, they are conditioned by political moment (electoral campaigns, elections, parliamentary majorities, etc.) but also because of their administrative nature (They are subject to Administrative Laws: procedures, contracts, budgets). The latter are very strong conditions, since its breach has serious consequences.</p>
Organizational	Capacity & know how availability	<p><u>Rhodope Region (BG)</u>: Difficulties to enhance capabilities, know-how and expertise of the project team</p> <p><u>Liège Province (BE)</u>: Lack of knowledge on the Belgian market on EPC</p> <p><u>Murcia Region (ES)</u>: The know-how is created as the Plan progresses. In all productive activities, there is a learning curve. The management of an Energy Efficiency plan is not an exception.</p>
	Reliable and accurate data availability	<p><u>Rhodope Region (BG)</u>: Lack of reliable and accurate data</p> <p><u>Liège Province (BE)</u>: Consumption records were not accurate and were estimated (40% of the building stock)</p> <p><u>Murcia Region (ES)</u>: Getting consumption data has been the longest and most laborious part of the project. Based on the Government's general inventory, with thousands of properties (many of them non-energy consumers: farms, plots of land, small buildings for construction, maintenance, etc.), we have prepared an energy inventory with a realistic number of buildings and CUPS.</p>
Economical & financial	Public Debt Situation	<p><u>Rhodope Region (BG)</u>: Public Debt constraints</p> <p><u>Liège Province (BE)</u>: EPC was (before Sept 2017) included in the government debt and had to be consolidated</p> <p><u>Murcia Region (ES)</u>: The Regional Government is willing to meet the requirements of the National Government of Spain in terms of control of the budget deficit. This is a strong condition for the development of the Plan.</p>

Group 2 Barriers/difficulties encountered by 2 pilot projects		
Structural	Political context/capacity	<p><u>Liège Province (BE)</u>: Need to involve the highest level of the government. To get the Elena funding, the government guarantee was needed. The government changed unexpectedly and all negotiation with the new government had to start again. We lost at least 6 months in the decision process</p> <p><u>Murcia Region (ES)</u>: A Work Plan to improve the energy efficiency of buildings of the Regional Government, where the Program Authority is the government itself and the PDU is a part of it, must necessarily be conditioned by the political context, since the government itself is a political organ, conditioned by the political situation at every</p>

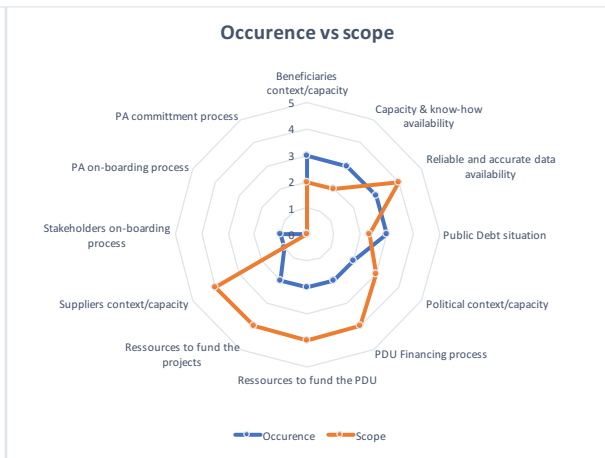
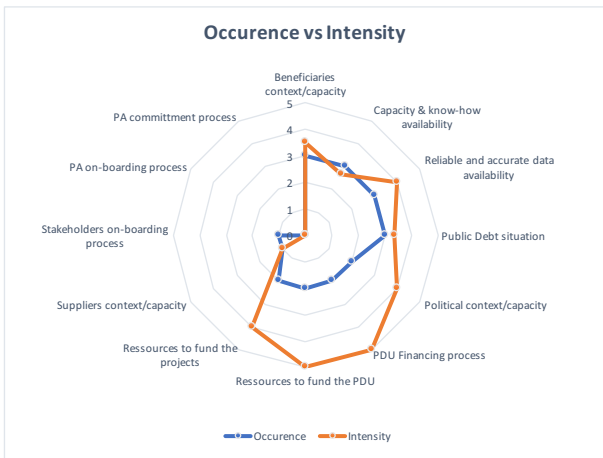
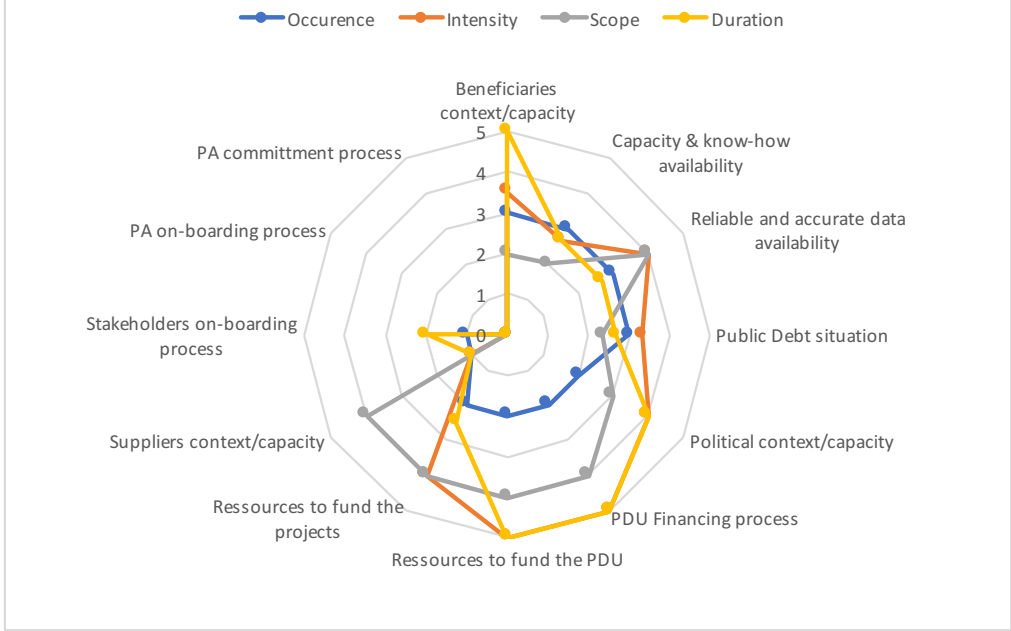
		moment (electoral campaigns, elections, parliamentary majorities, etc.)
Economical & financial	PDU Financing process	<u>Rhodope Region (BG)</u> : Difficulties to get the PDU Financing Commitment from the PA <u>Liège Province (BE)</u> : Request to Elena introduced and pre-acceptance received. However, need to receive the guarantee from the government and a funding for the beneficiary contribution. Due to the change of government, we had to delay the launch of the PDU for RenoWatt+
	Resources to fund the PDU	<u>Rhodope Region (BG)</u> : Difficulties to get the PDU Financing Commitment from the PA <u>Liège Province (BE)</u> : Request to Elena introduced and pre-acceptance received. However, need to receive the guarantee from the government and a funding for the beneficiary contribution. Due to the change of government, we had to delay the launch of the PDU for RenoWatt+
	Resources to fund the projects	<u>Rhodope Region (BG)</u> : <u>Murcia Region (ES)</u> : The Plan contains many buildings, with very different characteristics. Various forms of financing will be used: ESCO for some of the largest buildings, FEDER funds (Murcia Operational Program) for buildings for educational use and other forms (still to be decided)

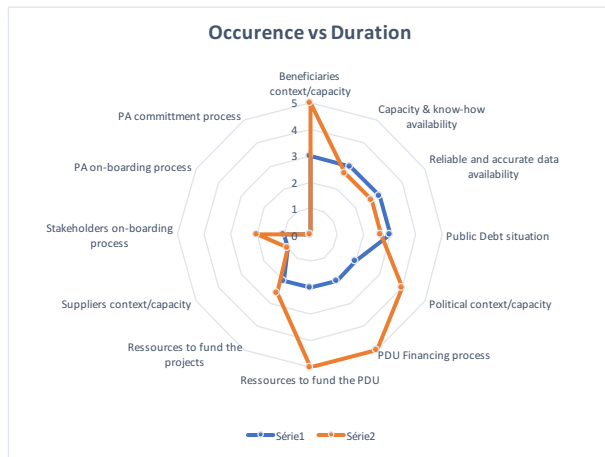
Group 3		
Barriers/difficulties encountered by 1 pilot project		
Structural	Suppliers context/capacity	<u>Rhodope Region (BG)</u> : Underdeveloped ESCO market
Organizational	Stakeholders onboarding process	<u>Liège Province (BE)</u> : Municipalities do not understand what is an EPC

As showed in the following graphs, groups of barriers/difficulties follow the same drawing when considering the level of impact in terms of intensity, scope and duration, with some remarkable differences:

- the second group of barriers/difficulties present the highest impacts in terms of intensity, scope and duration
- the first group of barriers/difficulties comes in second position.
- economical/financial and organizational barriers/difficulties have the strongest impact in terms of intensity, scope and duration.

Barriers/difficulties analysis All Pilot Regions





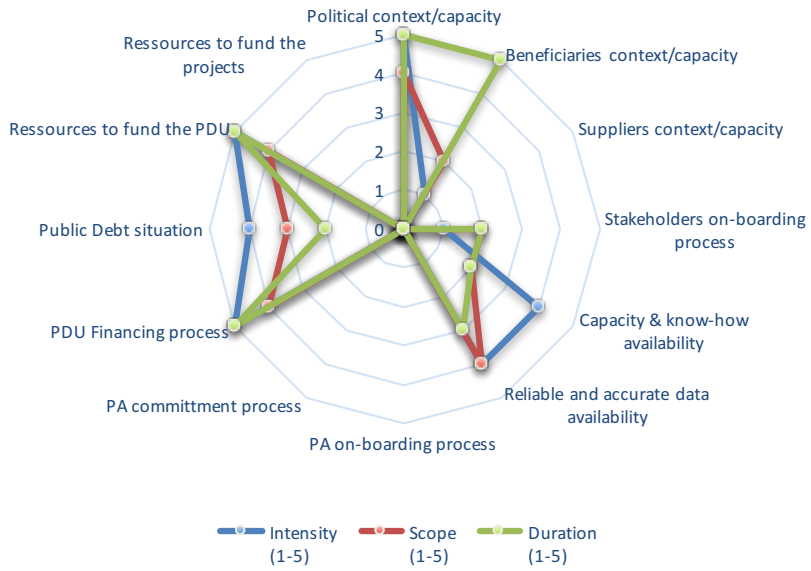
The following table shows the distribution of the barriers/difficulties regarding the impact effect and the stage of development impacted. The PDU operationalization and project preparation are the most impacted stages of development while delay or revision of the scope compete in terms of impact effect.

WPS: Monitoring and evaluation of investments									
Tables	Qualitative data input								
Pilot Region:	All pilot regions								
Date of reporting:	30/01/18								
		Stage of development impacted					Impact		
		PA Commitment	PDU Funding	PDU Operationalisation	Project Assessment	Project Preparation	Project Tendering	Delay	Revision
Political context/capacity	Structural		✓			✓		✓	
Beneficiaries context/capacity	Structural			✓		✓		✓	✓
Suppliers context/capacity	Structural	✓						✓	
Capacity & know-how availability	Organisational			✓					
Reliable and accurate data availability	Organisational				✓	✓		✓	✓
PDU Financing process	Decisional			✓					
Public Debt situation	Economical/Financial			✓					✓
Ressources to fund the PDU	Economical/Financial			✓				✓	
Ressources to fund the projects	Economical/Financial					✓	✓		✓
Occurrence		1	1	5	1	4	1	5	4


2.2. Liège Province (BE) Data

 WPS: Monitoring and evaluation of Investments Tables Qualitative data input Pilot Region: Liège Province (BE) Date of reporting: 30/04/18		Occurrence (Y/N)	Description of the Barrier/difficulty encountered	Stage of Development Impacted	Impact	Intensity (1-5)	Scope (1-5)	Duration (1-5)	Effect Description	Reaction & Issues
Barriers/Difficulties	Type									
Political context/capacity	Structural	Yes	Need to have the highest level of the government. To get the Elena funding, the government guarantee was needed. The government changed unexpectedly and all negotiation with the new government had to start again. We lost at least 6 months in the decision process	PDU Funding	Delay	5	4	5	Delay in the set up of the PDU (could have been stopped)	Lots of lobbying and meetings with the new government and with other sectorial institutions
Beneficiaries context/capacity	Structural	Yes	Municipalities do not understand what is a EPC	Project Preparation	N/A	1	2	5	Some municipalities found the process very difficult and wanted to leave	Tons of meetings with municipalities to explain them what was an EPC
Suppliers context/capacity	Structural	No		...	...	0	0	0		
Stakeholders on-boarding process	Organisational	Yes	Municipalities do not understand what is a EPC	Project Preparation	N/A	1	2	2	Some municipalities found the process very difficult and wanted to leave	Competition between municipalities (if one goes, I need to go) + tons of meetings to reassure on the EPC process
Capacity & know-how availability	Organisational	Yes	Lack of knowledge on the Belgian market on EPC	PDU Operationalisation	Delay	4	2	2	The first audits were not well estimated with wrong savings and 2. Investments estimation	We decided to change the consultant team advising us on EPC and tender a new agency with high expertise in EPC (schools of Paris)
Reliable and accurate data availability	Organisational	Yes	Consumption records were not accurate and were estimated (40% of the building stock)	Project Preparation	Revision	4	4	3	Baseline was not correct to estimate the potential savings	We made estimation of the consumption based on the building and municipalities, during the project, recorded manually all their consumptions. By the BAFO, we had a correct consumption baseline
PA on-boarding process	Decisional	No		...	...	0	0	0		
PA commitment process	Decisional	No	Request to Elena introduced and pre-acceptance received. However, need to receive the guarantee from the government and a funding for the beneficiary contribution. Due to the change of government, we had to delay the launch of the PDU for RenoWatt+	...	...	0	0	0		
PDU Financing process	Decisional	Yes		PDU Operationalisation	Delay	5	4	5	Delay in the set up of the PDU (could have been stopped)	Lots of lobbying and meetings with the new government and with other sectorial institutions
Public Debt situation	Economical/Financial	Yes	EPC was (before Sept 2017) included in the government debt and had to be consolidated	Project Implementation	N/A	4	3	2	The government was thinking to stop the project	After lobbying and explanation, it was decided to make an exception for municipalities working under EPC and consider it as "productive investment". The EPC investments are not considered in the municipality debt (but well for the Region)
Resources to fund the PDU	Economical/Financial	Yes	Request to Elena introduced and pre-acceptance received. However, need to receive the guarantee from the government and a funding for the beneficiary contribution. Due to the change of government, we had to delay the launch of the PDU for RenoWatt+	...	...	0	0	0		
Resources to fund the projects	Economical/Financial	No		...	...	0	0	0		

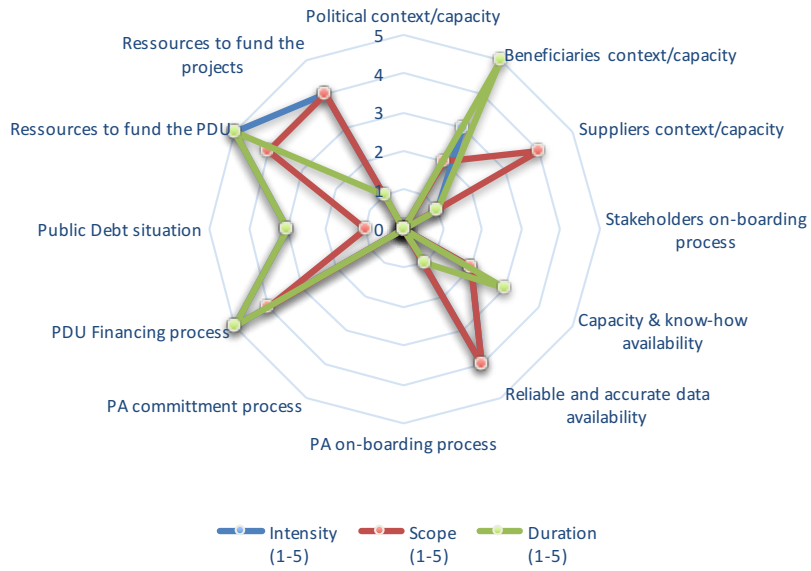
Barriers/Difficulties analysis Liège Province (BE)




2.3. Rhodope Region (BG) Data

		WPS: Monitoring and evaluation of Investments Tables Rhodope Region (BG) Date of reporting: 30/03/18		Occurrence (Y/N)	Description of the Barriers/difficulty encountered	Stage of Development Impacted	Impact	Intensity (1-5)	Scope (1-5)	Duration (1-5)	Effect Description	Reaction & Issues
Barriers/Difficulties	Type											
Political context/capacity	Structural	No	Difficulties to enhance capabilities, know-how and expertise of the beneficiaries & the stakeholders on board	...	...	0	0	0	0	0		
Beneficiaries context/capacity	Structural	Yes	Underdeveloped ESCO market	PDU Operationalisation	Revision	3	2	5				Creation of a dedicated PDU with specific expertise
Suppliers context/capacity	Structural	Yes	Difficulties to enhance capabilities, know-how and expertise of the project team	PA Commitment	Delay	1	4	1				Considering bank or other types of funding
Stakeholders on-boarding process	Organisational	No	Lack of reliable and accurate data	...	...	0	0	0				
Capacity & know-how availability	Organisational	Yes	Difficulties to get the PDU Financing Commitment from the PA	PDU Operationalisation	Delay	2	2	3				Training of PDU staff
Reliable and accurate data availability	Organisational	Yes	Public Debt constraints	Project Assessment	Delay	4	4	1				Resources for energy audits and base-line establishment
PA on-boarding process	Decisional	No	Difficulties to get the PDU Financing Commitment from the PA	...	...	0	0	0				Enter here your text
PA commitment process	Decisional	No	Approaching various sources to combine funding	...	...	0	0	0				
PDU Financing process	Decisional	Yes		PDU Operationalisation	Delay	5	4	5				Horizon2020 PDA funding
Public Debt situation	Economical/Financial	Yes		PDU Operationalisation	Revision	3	1	3				Considering off-balance funding solutions
Resources to fund the PDU	Economical/Financial	Yes		PDU Operationalisation	Delay	5	4	5				Horizon2020 PDA funding
Resources to fund the projects	Economical/Financial	Yes		Project Preparation	Revision	4	4	1				Approaching various sources to combine funding

Barriers/Difficulties analysis Rhodope Region (BG)



2.4. Murcia Region (ES) Data

		WPS: Monitoring and evaluation of investments Tables Pilot Region: Murcia Region (ES) Date of reporting: 30/01/18		Occurrence (Y/N)	Description of the Barrier/difficulty encountered	Stage of Development Impacted	Impact	Intensity (1-5)	Scope (1-5)	Duration (1-5)	Effect Description	Reaction & issues
Barriers/difficulties	Type	Structural	Yes	A Work Plan to improve the energy efficiency of buildings of the Regional Government, where the Program Authority is the government itself and the PDU is a part of it, must necessarily be conditioned by the political context, since the government itself is a political organ, conditioned by the political situation at every moment (electoral campaigns, elections, ...)	Project Preparation	Delay	3	2	3	The approval of the Regional Energy Plan (and within it, the Energy Efficiency Plan in Public Buildings) requires approval by political bodies of the Autonomous Community of the Region of Murcia. This requirement comes with some	The obligatory procedures must be fulfilled by legal requirement.	
Beneficiaries context/capacity	Type	Structural	Yes	The beneficiaries are parts of the Regional Government, partly political and partly public administrations. Therefore, they are conditioned by political moment (electoral campaigns, elections, parliamentary majorities, etc.) but also because of their administrative nature (They are subject to Administrative laws: procedures, contracts, budgets), ...	Project Preparation	Delay	3	2	5	Compliance with laws and procedures on public contracts: publication, bidding, adjudication, budgets, payments etc. This inevitably introduces delays.	The obligatory procedures must be fulfilled by legal requirement.	
Suppliers context/capacity	Type	Structural	No	...	...	...	0	0	0	0	0	0
Stakeholders on-boarding process	Type	Organisational	No	...	...	...	0	0	0	0	0	0
Capacity & know-how availability	Type	Organisational	Yes	The know-how is created as the Plan progresses, in all productive activities there is a learning curve. The management of an Energy Efficiency plan is not an exception.	PDU Operationalisation	Delay	2	2	3	The lack of experience in this kind of plans has led to a lot of time spent looking for success stories. There are many, but the singularities of each cause that they can not be directly	After analyzing many successful cases we have had to generate a way of acting adapted to our circumstances (climate, administrative organization, budget, ...)	
Reliable and accurate data availability	Type	Organisational	Yes	Getting consumption data has been the longest and most laborious part of the project. Based on the Government's general inventory, with thousands of properties (many of them non-energy consumers: farms, plots of land, small buildings for construction, maintenance, etc.), we have prepared an energy inventory with a realistic number of buildings and CUPS.	Project Preparation	Delay	4	4	4	Obtaining consumption data has been a team effort, in which public servants of our General Directorate have participated, maintenance employees of other Ministries, web platform for data storage and web applications for data management and billing verification.	We are implementing a monitoring system with 3G technology to facilitate the acquisition of data in the future. The system includes electricity meters + 3G modem + web platform for data storage and web applications for data management and billing verification.	
PA on-boarding process	Type	Decisional	No	...	...	...	0	0	0	0	0	0
PA commitment process	Type	Decisional	No	...	...	...	0	0	0	0	0	0
PDU Financing process	Type	Decisional	No	...	...	...	0	0	0	0	0	0
Public Debt situation	Type	Economical/Financial	Yes	The Regional Government is willing to meet the requirements of the National Government of Spain in terms of control of the budget deficit. This is a strong condition for the development of the Plan.	Project Tendering	Revision	3	3	3	The previous requirements make it necessary to review the expected expenses every short time.	Due to the above, the administrative files are being prepared taking into account the new Eurostat regulations for EPC contracts.	
Resources to fund the PDU	Type	Economical/Financial	No	...	...	...	0	0	0	0	0	0
Resources to fund the projects	Type	Economical/Financial	Yes	The Plan contains many buildings, with very different characteristics. Various forms of financing will be used: ESCO for some of the largest buildings, FEDER funds (Murcia Operational Program) for buildings for educational use and other forms (still to be decided)	Project Tendering	Revision	4	4	4	The multi-year projects are complex to develop in the Spanish Public Administrations.	This makes it necessary to advance the plan before having it fully defined and budgeted.	

Barriers/Difficulties analysis Murcia Region (ES)

