INFORMACIJA

o realizaciji ugovora na implementaciji Informacionog sistema za monitoring potrošnje energije i vode u javnom sektoru sa predlogom aneksa ugovora za Faze 2 i 3

1. Opšte informacije

Projekat „Unapređenje energetske efikasnosti u javnim zgradama“ se realizuje po osnovu Ugovora o kreditu i Ugovora finansijskom doprinosu, potpisanim u decembru 2019. godine i Posebnog ugovora, potpisanog u avgustu 2020. godine, između Vlade Crne Gore i KfW banke. U skladu sa Posebnim ugovorom za implementaciju projekta zadužen je Direktorat za energetiku i energetsku efikasnost, u okviru Ministarstva kapitalnih investicija.

Za realizaciju projekta obezbijeđena su sredstva iz kredita od KfW banke u iznosu od 45 miliona eura, zatim grant od strane Evropske komisije, preko Regionalnog fonda za energetsku efikasnost (REEP Plus), kroz Western Balkan Investment Framework (WBIF) u iznosu od 4.7 miliona eura. Takođe, navedenim ugovorima je predviđeno da Vlada Crne Gore obezbijedi sopstveni doprinos do iznosa od 10 miliona eura.

Cilj projekta je poboljšanje energetske efikasnosti u odabranim administrativnim zgradama, obrazovnim i socijalnim ustanovama, za koje se troškovi za energiju i vodu pokrivaju iz budžeta Crne Gore, kao i ispunjavanje obaveza propisanih Zakonom o efikasnom korišćenju energije, a koje su proizašle iz EU direktiva.

U implementaciji učestvuju Ministarstvo kapitalnih investicija, u saradnji sa Ministarstvom prosvjete, nauke, kulture i sporta, Ministarstvom finansija i socijalnog staranja i Upravom za katastar i državnu imovinu.

Projektom će biti obuhvaćeno sljedeće:

- rekonstrukcija i adaptacija administrativnih objekata i obrazovnih i socijalnih ustanova sa ciljem optimizacije potrošnje energije i poboljšanja uslova za boravak i rad korisnika;
- izgradnja administrativnog objekta površine 5000-8000 m², za potrebe državnih organa, koji će biti projektovan i izgrađen po visokim standardima energetske efikasnosti;
- implementacija Informacionog sistema za monitoring potrošnje energije i vode u javnom sektoru i podrška javnom sektoru u uspostavljanju sistema za energetski menadžment, a što predstavlja zakonsku obavezu;
- realizacija niza pratećih mjera koje su podrška implementaciji zakonskih obaveza, a koje su uglavnom proizašle iz Direktive o energetskim karakteristikama zgrada i podrška na uspostavljanju sistema za energetsko sertifikovanje zgrada u Crnoj Gori.

Implementacija projekta je počela u julu 2020. godine sa rokom završetka do decembra 2026. godine.

2. Predlog aneksa ugovora o pružanju konsultantskih usluga na implementaciji Informacionog sistema za monitoring potrošnje energije i vode u javnom sektoru – Faze 2 i 3

U okviru projekta „Program energetske efikasnosti u javnim zgradama – faza II“ potpisan je ugovor o izvođenju radova sa **kompanijom Alarm Automatika (Hrvatska)** (ugovor br. 310-2019/2049-1 od 27. avgusta 2020. godine) na implementaciji Informacionog sistema za monitoring potrošnje energije i vode u javnom sektoru. Ugovor o izvođenju radova je pripremljen u skladu sa FIDIC Green book (Short Form of Contract, 1st edition, 1999).

Ukupna vrijednost ponuđene opreme i radova iznosi 3.000.025,00 EUR, dok je rok za izvođenje radova 2 godine. Ovom cijenom su obuhvaćene sve tri faze implementacije projekta. Pregled ponuđenih vrijednosti opreme i radova, kao i trajanja realizacije po

fazama, dat je u narednoj tabeli. Realizacija Faze 1 je otpočela u februaru 2021. godine, dok realizacija narednih faza počinje potpisivanjem odgovarajućeg aneksa ugovora.

	Vrijednost opreme i radova	Rok završetka radova
Faza 1	749.601 EUR	287 dana
Faza 2	470.505 EUR	141 dana
Faza 3	1.779.919 EUR	302 dana
Ukupno:	**3.000.025 EUR**	**730 dana**

Fazna implementacija informacionog sistema predviđa sljedeće aktivnosti:

- Faza 1 - razvoj informacionog sistema (baza i veb aplikacija); razvoj interfejsa za automatsko prikupljanja podataka o potrošnji el. energije i vode od snabdjevača energijom i vodom; automatizacija procesa prikupljanja podataka za 50 testnih javnih objekata na osnovnom nivou; implementacija naprednog nivoa monitoringa za 10 pilot javnih objekata;
- Faza 2 - implementacija naprednog nivoa monitoringa za dodanih 49 javnih objekata (rekonstruisanih u okviru namjenskih projekata energetske efikasnosti);
- Faza 3 - automatizacija procesa prikupljanja podataka za 2500 javnih objekata na osnovnom nivou i implementacija naprednog nivoa monitoringa za dodatnih 191 javni objekat (rekonstruisanih u okviru namjenskih projekata energetske efikasnosti i drugih većih potrošača energije u javnom sektoru).

Realizacija Faze 1 uspostavljanja Informacionog sistema za monitoring potrošnje energije i vode u javnom sektoru je uspješno završena u martu 2022. godine, a što je potvrđeno od strane nadzora (konsultant Fichtner GmbH & Kopring PMC & Belit).

Imajući u vidu značajan porast cijena opreme i usluga na tržištu, koje nisu mogle biti predviđene u trenutku davanja ponude izvođač, Alarm automatika, je dostavio zahtjev za odobrenje povećanje jediničnih cijena u nastavku realizacije projekta (Faza 2 i 3). Nadzor nad izvođenjem radova, je u julu 2022.godine, dao saglasnost za odobrenje zahtjeva za povećanje cijene.

Ministarstvo kapitalnih investicija je u oktobru 2022. godine angažovalo eksperta sa ciljem pribavljanja nezavisnog stručnog mišljenja, u vezi navedenog zahtjeva za odobrenje povećanja cijene (Vlatko Mihajlov, Ugovor br. 03/04-302/22-11695/6 od 02.11.2022. godine). Mišljenje nezavisnog eksperta je potvrdilo da izvođač Alarm Automatika može podnijeli zahtjev za povećanje cijene u skladu za Zakonom o obligacionim odnosima (član 706), iako povećanje troškova nije predviđen ugovorom, uz odgovarajuće dokaze.

Izvođač, Alarm automatika je izvršio dopunu zahtjeva na osnovu mišljenja nezavisnog eksperta (03/5-302/22-13865/1 od 13.12.2022. godine) kojim je prikazao povećanje troškova od 18.0317%.

Ministarstvo kapitalnih investicija je izvršilo evaluaciju zahtjeva za povećanje troškova i konstatovalo da:

- Odredbe Zakona o obligacionim odnosima nijesu adekvatno primijenjene u konkretnom slučaju iz razloga što realizacija Ugovora za Faze 2 i 3 još uvijek nije počela niti je Izvođač u mogućnosti da dokumentuje povećanje cijena, već je procjenu povećanja uradio na osnovu indeksne metode (koja nije prepoznata navedenim Zakonom);

- Izvođač ima pravo na povećanje troškova shodno odredbama osnovnog Ugovora (Kratka forma ugovora, tačka 10 – Izmjene i potraživanja) i u cilju dokazivanja povećanja troškova može primijeniti indeksnu metodu koja je međunarodno priznata i odobrena od strane KfW banke za ovu vrstu ugovora.

Imajući u vidu navedeno Ministarstvo kapitalnih investicija je uputilo predlog Izvođaču u kojem odobrava povećanje troškova za 8.0137% u ovom trenutku, sa mogućnošću da, ukoliko dođe do dodatnog povećanja cijena materijala i opreme, Izvođač zahtijeva dodatne troškove tokom implementacije projekta na bazi dokumentacije (fakture, plaćanja i dr.).

Izvođač se saglasio sa predlogom Ministarstva kapitalnih investicija za povećanje troškova za 8.0317% . Nadzor je dostavio pisanu izjavu kojom se odobrava povećanje troškova.

Na osnovu navedenog predlaže se potpisivanje Aneksa 1 ugovora kojim bi se izvođaču radova odobrilo povećanje troškova za implementaciju Faza 2 i 3 projekta u iznosu od 8.0317%. Kako se zahtjev za povećanje troškova odnosi na nabavku i ugradnju opreme u iznosu od 1.970.424,00 € povećanje troškova izraženo u novcu iznosi 158,258.16 €.

Detaljan pregled troškova sa povećanjem cijene dat je u Tabeli 1. Pozicije na koje se odnosi povećanje troškova su date u kurziv fontu.

Tabela 1: Pregled troškova sa povećanjem cijene na osnovu zahtjeva Izvođača

	Ugovorena cijena	**Povećana cijena (8,0317%)**
Faza 1 - Ukupno	**749,601.00**	**749,601.00**
Faza 2		
- Ugradnja mjerne opreme	*410,505.00*	*443,475.45*
- Održavanje i podrška (5 godina)	60,000.00	60,000.00
Faza 2 - Ukupno	**470,505.00**	**503,475.45**
Faza 3		
- Ugradnja mjerne opreme	*1,559,919.00*	*1,685,206.71*
- Održavanje i podrška (5 godina)	220,000.00	220,000.00
Faza 3 - Ukupno	**1,779,919.00**	**1,905,206.71**
Ukupna vrijednosti ugovora (sve tri faze)	**3,000,025.00**	**3,158,283.16**
Uvećanje ugovorenog iznosa		*158,258.16*

Sredstva za plaćanje konsultantskih usluga obuhvaćenih Aneksom 1 Ugovora obezbijeđena su u okviru projekta „Unapređenje energetske efikasnosti u javnim zgradama“.

Sastavni dio Aneksa 1 Ugovora su i Zahtjev izvođača za povećanje troškova za implementaciju Informacionog sistema za monitoring potrošnje energije i vode u javnom sektoru (Faze 2 i 3) i Izjava nadzora kojom se odobrava povećanje troškova.

Predlog Aneksa 1 Ugovora je dobio saglasnost od KfW banke (u Prilogu 2).

Predlog Aneksa 1 Ugovora je usvojen od strane Koordinacionog odbora (zapisnik dat u Prilogu 2).

Za potrebe usvajanja dostavljamo predloge teksta Aneksa ugovora, sa prevodom na crnogorski jezik i zapisnik sa sjednice Koordinacionog odbora.

Prilozi:

Prilog 1 - Predlog aneksa ugovora o pružanju konsultantskih usluga na implementaciji Informacionog sistema za monitoring potrošnje energije i vode u javnom sektoru (Faza 2 i 3)

Prilog 2 - Zapisnik sa sjednice Koordinacionog odbora projekta i saglasnost KfW banke

PRILOG 1: Predlog aneksa ugovora o pružanju konsultantskih usluga na implementaciji Informacionog sistema za monitoring potrošnje energije i vode u javnom sektoru (Faza 2 i 3)

Aneks br. 1

sačinjen _____

za

Ugovor No. 005-302/20-3877/1 (EEPPB II)

od 27/08/2020

između

Ministarstva ekonomije (Ministarstva kapitalnih investicija)
Rimski trg 46
81000 Podgorica
Crna Gora
("Naručilac")

i

Alarm automatika d.o.o.
Dražice 123/c (Zamet)
HR-51000 Rijeka
Hrvatska
("Izvođač")

za

Ugovor o nabavci opreme i izvođenju radova na uspostavljanju Sistema energetskog monitoringa u javnim objektima
("Projekat")

Ovaj aneks Ugovora o nabavci opreme i izvođenju radova na uspostavljanju sistema energetskog monitoringa u javnim zgradama u okviru „Programu energetske efikasnosti u javnim zgradama – faza II“ (EEPPB II) sačinjava se između Naručioca i Izvođača.

Osim ako nisu posebno izmjenjeni u ovom aneksu, svi uslovi prvobitnog Ugovora su potpunosti primjenljivi i ostaju na snazi.

1. Dodatak ponudi (Aneks 3c - klauzula 3.1)

Odgovorna osoba: Marija Vujadinovic se mijenja sa Bozidar Pavlovic

2. Dodatak ponudi (Aneks 3c - klauzula 3.2)

Predstavnik naručioca može s vremena na vrijeme dodjeljivati dužnosti i delegirati ovlašćenja na pomoćnike, a može ih i opozvati. Pomoćnik može uključivati rezidentnog inženjera i/ili nezavisne kontrolore imenovane za inspekciju i/ili testiranje određenog postrojenja i/ili opreme.

3. Dodatak ponudi (Aneks 3c - klauzula 4.4)

Riječi „10% ugovorene cijene“ mijenjaju se sa:
Odvojene garancije za izvršenje posla za svaku fazu. Vrijednost garancije za izvršenje posla iznosi 10% originalne ponude za svaku fazu.

4. Dodatak ponudi (Aneks 3c - klauzula 11.9)

Drugi stav klauzule 11.9 mijenja se i glasi:
Odvojeno avansno plaćanje za svaku fazu. 15% iznosa **originalne ponude za svaku fazu** u jednoj uplati. Osim ako i dok Naručilac ne dobije odgovarajuću garanciju, ova odredba se neće primjenjivati.
Pretposljednji stav klauzule 11.9 mijenja se i glasi:
Svako avansno plaćanje će se otplatiti kroz procentualne odbitke (30%) od privremenih plaćanja za odgovarajuću Fazu.

5. Dodatak ponudi (Aneks 3c - klauzula 4.5)

Na kraju klauzule 4.5 se dodaje:
Za periode održavanja, Izvođač priprema kvartalne izvještaje o napretku i dostavlja ih Predstavniku naručioca u digitalnom obliku. Prvi izveštaj obuhvata period do kraja prvog tromjesečja nakon obavještenja o prihvatanju. Izvještaji se nakon toga dostavljaju tromjesečno, svaki u roku od 10 radnih dana nakon posljednjeg dana tromjesečja na koje se odnose.
Odvojeno izvještavanje za svaku odgovarajuću fazu. Izvještavanje se nastavlja do kraja Perioda održavanja za odgovarajuću Fazu.
Svaki izveštaj trba da uključi sažetak radova na održavanju koji su obavljeni tokom odgovarajućeg tromjesečja. Realizovane aktivnosti navode se kao lista glavnih obavljenih poslova.

6. Izmjene predmjera (Aneks 7)

Izmijenjeni predmjer dat u Prilogu 1 ovog aneksa.

7. Zahtjev za povećanje troškova

Vrijednost opreme i radova za implementaciju EMS-a FAZA 2 i FAZA 3 za napredni nivo monitoringa povećan je sa 1.970.424 eura a na 2.325.724,56 eura. Izraženo u procentima ovo povećanje iznosi 18,0317% (zaokružena vrijednost).

Na osnovu Aneksa 5 Ugovora – Kratka forma ugovora, tačka 10 (Izmjene i potraživanja) Naručilac i Izvođač su postigli zajednički dogovor o povećanju troškova za 8,0317% (zaokružena vrijednost). Izvođač ima pravo da zahtijeva povećanje ugovora do iznosa od 2.128.682,16 EUR u skladu sa izmijenjenim predmjerom (Prilog 1 ovog aneksa).

8. Vrijednost ugovora

Usljed zahtjeva za povećanje troškova (Prilog 2) vrijednost ugovora za „EMS Faza 2 i Faza 3 za napredni nivo monitoringa“ je izmijenjena kako slijedi:

Ukupna cijena (bez poreza i dažbina) Faza 1:		**749,601.00 EUR**
što uključuje:	1.EMS softver, mjernu opremu	577,601.00 EUR
	2.Održavanje i podršku	172,000.00 EUR
Ukupna cijena (bez poreza i dažbina) Faza 2:		**503,475.45 EUR**
što uključuje:	1.Ugradnju mjerne opreme	443,475.45 EUR
	2.Održavanje i podršku	60,000.00 EUR
Ukupna cijena (bez poreza i dažbina) Faza 3:		**1,905,206.71 EUR**
što uključuje:	1.Ugradnju mjerne opreme	1,685,206.71 EUR
	2.Održavanje i podršku	220,000.00 EUR

Ukupna vrijednosti ugovora (uključujući Fazu 1, Fazu 2 i Fazu 3) je **3,158,283.16 EUR.**

Ministarstvo kapitalnih investicija:

_____ _____

Ministar Državni sekretar

Alarm automatika

_____ _____

Direktor

Prilog 1 – Izmjene predmjera

Izmjene predmjera su date u posebnom dokumentu.

ALARM AUTOMATIKA D.O.O.

Datum: *28.02.2020.* 13.12.2022.

ICB No. and title: **310-618/2019-1, Nabavka sistema za energetski monitoring**

KfW Procurement No.: **503297**

To: **Ministarstvo ekonomije**

SUMARNI PREGLED		
1	**Faza 1 – Osnovni nivo 1 (bez PDVa)**	400,000 €
2	**Faza 1 – Osnovni nivo 2 (bez PDVa)**	90,000 €
3	**Faza 1 – Napredni nivo (bez PDVa)**	82,101 €
4	**Faza 1 – Dnevnice (bez PDVa)**	5,500 €
5	**Faza 1 – Održavanje i podrška (bez PDVa)**	172,000 €
6	**Faza 2 – Napredni nivo (bez PDVa)**	443,475 €
7	**Faza 2 – Održavanje i podrška (bez PDVa)**	60,000 €
8	**Faza 3 – Napredni nivo (bez PDVa)**	1,685,207 €
9	**Faza 3 – Održavanje i podrška (bez PDVa)**	220,000 €
	Ukupna cijena (bez poreza i dažbina) za Fazu 1	749,601 €
	Ukupna cijena (bez poreza i dažbina) za Fazu 2	503,475 €
	Ukupna cijena (bez poreza i dažbina) za Fazu 3	1,905,207 €
	Ukupna cijena (bez poreza i dažbina) za sve faze = CIJENA PONUDE	3,158,283 €
	Očekivani troškovi uvoza (ako postoje) za Fazu 1	
	Očekivani troškovi uvoza (ako postoje) za Fazu 2 – Napredni nivo	
	Očekivani troškovi uvoza (ako postoje) za Fazu 3 – Napredni nivo	
	PDV (21%) za Fazu 1	
	PDV (21%) za Fazu 2	
	PDV (21%) za Fazu 3	
	Vrijednost radova za Fazu 1	749,601.00 €
	Vrijednost radova za Fazu 2	503,475.45 €
	Vrijednost radova za Fazu 3	1,905,206.71 €

Miroslav Ćirić, dipl.ing.
(Ime)

_____
(Potpis)

Član odbora

13.12.2022.
(Datum)

Prilog 2 – Zahtjev za povećanje troškova

Zahtjev za povećanje troškova i odobrenje nadzora su dati kao poseban dokument

ISPRAVKA 5 – ZAHTJEV ZA POVEĆANJE TROŠKOVA No. 001	**Zavodni br.** 20221212_EMS_STAGE_2_AND_STAGE_3_ADVANCED_LEVEL_EEPPBII_CIC_REV5	**Datum:** 12.12.2022.
Opis: **EMS projekat - FAZA 2 I FAZA 3 - ZAHTJEV ZA POVEĆANJE TROŠKOVA – ISPRAVKA 5** **PROGRAM ENERGETSKE EFIKASNOSTI U JAVNIM ZGRADAMA, FAZA II** **SISTEM ENERGETSKOG MONITORINGA (EMS)**		

Ispravka 5 Zahtjeva za povećanje troškova odnosi se na implementaciju EMS-a – FAZA 2 i FAZA 3 – Napredni nivo monitoringa.

Ovom ISPRAVKOM ZAHTJEVA se mijenja ZAHTJEV ZA POVEĆANJE TROŠKOVA br. 001 od 30.03.2022. godine; ISPRAVKA 1 ZAHTJEVA ZA POVEĆANJE TROŠKOVA br. 001 od 26.04.2022. godine; ISPRAVKA 2 ZAHTJEVA ZA POVEĆANJE TROŠKOVA br. 001 od 15.07.2022. godine; ISPRAVKA 3 ZAHTJEVA ZA POVEĆANJE TROŠKOVA br. 001 od 21.11.2022. godine i ISPRAVKA 4 ZAHTJEVA ZA POVEĆANJE TROŠKOVA br.001 od 25.11.2022. godine, u skladu sa zaključcima sa on-line koordinacionog sastanka EMS projekta održanog 12.12.2022. godine, a uvažavajući instrukcije konsultanta/nadzora od 2. decembra 2022. – odgovor na 20221125_EMS_STAGE_2_AND_STAGE_3_ADVANCED_LEVEL_EEPPBII_CIC_REV4.

Pravni osnov za podnošenje zahtjeva je zasnovan na odredbama ZAKONA O OBLIGACIONIM ODNOSIMA (Sl. list CG, br. 47/2008, 4/2011, 22/2017). Shodno članu 706. ZAKONA O OBLIGACIONIM ODNOSIMA, Izvođač može zahtijevati povećanje troškova radova ako se cijene elemenata povećaju do te mjere da su ukupni troškovi radova veći za više od deset procenata. U tom slučaju, Izvođač može zahtijevati samo razliku u troškovima koji prelaze deset posto.

Metodologija dokazivanja povećanja troškova zasnovana je na zvaničnim statističkim podacima iz EU i nacionalnim izvora, a kako su se saglasile sve strane.

Ponuđena cijena se sastoji od sledećih stavki:

- Troškovi opreme i materijala
- Troškovi rada
- Troškovi transporta.

Sve strane su se saglasile da se primijeni formula za prilagođavanje cijena opreme i materijala na bazi indeksa iz zvanične EU statistike - OECD (vidi priloženu tabelu OECD – PROIZVOĐAČKE CIJENE - DOMAĆE PROIZVOĐAČKE CIJENE - TRAJNA POTROŠAČKA DOBRA):

$P_n = P_o$ x (0,05 + 0,95 x L_n/L_o)
gdje su:
P_n – Revidovana cijena
P_o – Osnovna cijena
L_n – Revidovani indeks - za Q3 2022 (indeksi su preuzeti iz priloga OECD – PROIZVOĐAČKE CIJENE - DOMAĆE PROIZVOĐAČKE CIJENE - TRAJNA POTROŠAČKA DOBRA u zavisnosti od zemlje porijekla opreme i materijala)
L_o – Osnovni indeks - za Q3 2020 (indeksi su preuzeti iz priloga OECD - PROIZVOĐAČKE CIJENE - DOMAĆE PROIZVOĐAČKE CIJENE - TRAJNA POTROŠAČKA DOBRA u zavisnosti od zemlje porijekla opreme i materijala).

U navedenoj formuli, koeficijent 0,05 je fiksni dio (profit i režijski troškovi) i predstavlja 5% vrijednosti na koje se povećanje cijene ne odnosi.

0,95 x L_n/L_o je promenljivi dio i zavisi od odnosa indeksa L_n/L_o (pogledajte priloženu tabelu PROMJENA PROSJEČNE CIJENE Q3 2020 - Q3 2022).

Sve strane su se saglasile da se prethodna formula može primijeniti za prilagođavanje troškova rada i troškova transporta, gdje je faktor L_n/L_o zamenjen faktorom (1+dP), gde je dP (%) povećanje troškova za relevantni period prema nacionalnoj statistici – „MONSTAT – MJESEČNI STATISTIČKI PREGLED br. 10 za oktobar 2022. godine" (vidi tabelu u prilogu PROMJENA PROSJEČNE CIJENE Q3 2020 – Q3 2022).

Sve strane su se složile da se povećanje jedinične cijene za poziciju „ Koncentrator podataka" mora podijeliti na dva dijela, imajući u vidu udio opreme i materijala iz Litvanije i EU:
- 50% udjela u jediničnoj cijeni se uvećava sa indeksom koji se primjenjuje za Litvaniju (32,22%)
- 50% udjela u jediničnoj cijeni se uvećava sa indeksom koji se primjenjuje za EU (13,44%).

Dogovorena metodologija dokazivanja povećanja troškova rezultira povećanjem vrijednosti EMS projekta od 18,0317% za implementaciju FAZE 2 i FAZE 3 za napredni nivo monitoringa (pogledajte priloženu tabelu PREGLED TROŠKOVA ZA IMPLEMENTACIJU EMS-a FAZA 2 I FAZA 3 ZA NAPREDNI NIVO MONITORINGA - 12.12.2022.)

Imajući u vidu član 706 ZAKONA O OBLIGACIONIM ODNOSIMA, Izvođač može zahtijevati samo razliku u troškovima veću od deset odsto, te stoga **tražimo povećanje troškova za EMS projekat od 8,03% za implementaciju FAZA 2 I FAZA 3 - Napredni nivo monitoringa.**

Prilozi:
- OECD – PROIZVOĐAČKE CIJENE – DOMAĆE PROIZVOĐAČKE CIJENE – TRAJNA POTROŠAČKA DOBRA
- PROSJEČNA PROMJENA CIJENA Q3 2020 - Q3 2022

- PRIKAZ TROŠKOVA ZA IMPLEMENTACIJU EMS-a FAZA 2 I FAZA 3 ZA NAPREDNI NIVO MONITORINGA - 12.12.2022.

ZA ALARM AUTOMATIKA **MENADŽER PROJEKTA**

Miroslav Ćirić, dipl.ing. Milan Đukanović, dipl.ing.

ODOBRENO OD KONSULTANTA **ODOBRENO OD KLIJENTA**

OECD – PROIZVOĐAČKE CIJENE – DOMAĆE PROIZVOĐAČKE CIJENE – TRAJNA POTROŠAČKA DOBRA

Dataset: Producer Prices

Subject	Type of goods - Domestic Producer prices - Durable consumer goods																						
Measure	Index																						
Unit	Index, 2015=100																						
Frequency	Quarterly																			Monthly			
Time	Q1-2020		Q2-2020		Q3-2020 (Lo)		Q4-2020		Q1-2021		Q2-2021		Q3-2021		Q4-2021		Q1-2022		Q2-2022		Q3-2022 (Ln)		Sep-2022		Oct-2022	
Country																										
Austria		103,2		103,6		104,4		104,3		104,5		105,2		105,5		106,1		108,8		110,8		112,0		112,3		..
Belgium		106,1		107,7		107,8		104,9		104,2		105,7		109,5		113,7		118,6		123,8		127,3		128,1		..
Czech Republic		103,1		104,6		105,2		106,0		106,7		109,2		113,0		114,9		120,7		124,4		127,0		127,9		129,3
Denmark		108,1		108,2		107,9		108,2		109,6		110,9		113,3		116,0		118,7		123,3		125,8		126,7		126,7
Estonia		107,3		107,3		106,8		109,1		110,8		119,6		123,3		120,4		123,3		136,5		140,3		142,4		142,4
Finland		107,4		108,2		108,7		109,3		110,6		111,7		113,7		115,1		118,0		124,3		127,4		128,0		..
France		101,9		102,2		102,3		102,3		102,7		104,3		106,2		107,6		112,4		114,3		116,5		116,8		..
Germany		106,5		106,9		107,1		107,3		108,1		108,7		110,0		111,2		115,4		118,9		121,9		122,4		..
Greece		101,4		101,4		101,5		101,6		101,6		101,9		102,3		102,3		102,6		103,6		103,4		102,9		..
Hungary		105,0		106,5		107,7		109,1		111,5		113,5		116,5		119,7		129,9		129,5		131,0		133,0		..
Italy		103,4		103,4		104,2		104,4		105,2		106,5		107,9		109,9		112,4		115,1		116,7		117,2		..
Japan		95,7		96,6		96,5		95,7		95,2		95,8		96,1		95,9		96,0		..		..		..		..
Latvia		108,2		107,9		109,0		111,2		112,4		112,7		116,2		121,2		123,5		129,3		131,3		132,1		..
Lithuania		114,8		114,1		113,2		111,3		110,4		113,2		118,3		123,5		132,0		147,5		151,6		150,6		153,2
Netherlands		113,1		113,4		114,2		113,9		116,2		117,3		120,3		122,2		127,5		129,9		136,2		136,3		..
Norway		111,2		115,2		117,0		117,6		118,9		119,7		120,9		124,0		125,9		129,0		132,7		134,1		137,1
Poland		103,1		103,6		103,8		103,9		104,9		106,9		109,3		111,0		112,5		117,4		120,9		121,0		..
Portugal		102,5		102,7		103,0		103,0		103,1		104,1		104,5		105,6		108,0		109,9		111,3		111,5		112,7
Slovak Republic		102,4		102,4		103,4		102,5		105,2		106,6		108,7		111,2		111,0		112,3		116,2		117,5		..
Slovenia		101,9		100,6		101,6		101,9		101,8		102,7		103,5		105,5		109,4		112,4		114,4		116,2		117,4
Spain		104,6		104,9		105,1		105,4		106,0		107,2		108,2		109,5		113,0		115,3		116,6		117,0		..
Sweden		110,0		112,8		109,1		109,5		109,9		112,1		113,8		115,8		120,1		123,1		126,0		128,1		..
Switzerland		99,9		99,8		99,8		100,3		100,4		100,6		101,3		103,3		103,5		105,3		106,3		106,5		..
Türkiye		187,0		196,9		208,1		225,7		242,4		257,0		270,4		306,8		407,0		471,8		534,4		553,5		566,1
United Kingdom		106,8		107,2		107,5		107,8		108,3		109,2		110,6		112,4		115,2		118,3		121,7		122,9		123,7
Euro area (19 countries)		105,1		105,4		105,8		105,8		106,5		107,6		109,1		110,6		114,4		117,4		119,8		120,3		..
European Union – 27 countries (from 01/02/2020)		105,5		105,9		106,3		106,4		107,1		108,3		110,0		111,7		115,5		118,7		121,3		121,8		..

PROSJEČNA PROMJENA CIJENA Q3 2020 - Q3 2022

Opis	OECD – PROIZVOĐAČKE CIJENE - DOMAĆE PROIZVOĐAČKE CIJENE - TRAJNA POTROŠAČKA DOBRA Q3 2020 (Lo)	OECD – PROIZVOĐAČKE CIJENE - DOMAĆE PROIZVOĐAČKE CIJENE - TRAJNA POTROŠAČKA DOBRA Q3 2022 (Ln)	Ln/Lo	Faktor povećanja % k=(0.05+0.95*Ln/Lo)-1	Izvor	Link izvora
Kalorimetar / Maddalena, Italija	104.2	116.7	1.1200	11.40%	OECD – PROIZVOĐAČKE CIJENE - DOMAĆE PROIZVOĐAČKE CIJENE - TRAJNA POTROŠAČKA DOBRA	https://stats.oecd.org/Index.aspx?DataSetCode=MEI_PRICES_PPI#
Mjerač protoka goriva / Aquametro, Švajcarska	99.8	106.3	1.0648	6.15%		
Mjerač protoka vode / Maddalena, Italija	104.2	116.7	1.1200	11.40%		
Temperaturni senzori / Holosys, Hrvatska (EU vrijednost)	106.3	121.3	1.1415	13.44%		
CO2 senzori / Lansen, Švedska	109.1	126.0	1.1544	14.66%		
Koncentratori podataka i modemi / Viltrus, Litvanija	113.2	151.6	1.3391	32.22%		
Mjerač električne energije / Siemens, Njemačka	107.1	121.9	1.1385	13.16%		

Opis	MONSTAT, PROSJEČNE BRUTO ZARADE PO SEKTORIMA DJELATNOSTI, za građevinarstvo, za 2020	MONSTAT, PROSJEČNE BRUTO ZARADE PO SEKTORIMA DJELATNOSTI, za građevinarstvo, za 2022	dP	Faktor povećanja % k=(0.05+0.95*Ln/Lo)-1	Izvor	Link izvora
Povećanje troškova Bruto zarada od 2020. do 2022. godine	664.0 €	818.0 €	1.2319	22.03%	MONSTAT – MJESEČNI STATISTIČKI PREGLED br. 10 za oktobar 2022. godine, podaci PROSJEČNE BRUTO ZARADE PO SEKTORIMA DJELATNOSTI, U EUR, za sektor Građevinarstvo, strana 20	https://monstat.org/uploads/files/Bilten/2022/10/BILTEN%20BR.%2010.pdf

Opis	MONSTAT, INDEKSI POTROŠAČKIH CIJENA PO GRUPAMA PROIZVODA, za Transportne usluge, 2021/2020	MONSTAT, NDEKSI POTROŠAČKIH CIJENA PO GRUPAMA PROIZVODA, za Transportne usluge, (I-IX 2022/I-IX 2021)	dP	Faktor povećanja % k=(0.05+0.95*Ln/Lo)-1	Izvor	Link izvora
Troškovi transporta/amortizacija po km	101.8	109.2	1.0727	6.91%	MONSTAT – MJESEČNI STATISTIČKI PREGLED br. 10 za oktobar 2022. godine, podaci INDEKSI POTROŠAČKIH CIJENA PO GRUPAMA PROIZVODA, za Transportne usluge, strana 3	https://monstat.org/uploads/files/Bilten/2022/10/BILTEN%20BR.%2010.pdf

PRICE BREAKDOWN EMS STAGE 2 AND STAGE 3 FOR ADVANCED LEVEL EEPPBII - 12.12.2022.

No.	Stage 2 and Stage 3 - Advanced Level	Unit	Contracted Quantities for Stage 2 -	Contracted Quantities for Stage 3 -	Total Contracted Quantities for	Current Unit price	Breakdown of unit price			Contracted Unit price			New unit price				Unit price increase	Total Contracted amount for Stage 2 and Stage 3,	Total amount for Stage 2 and Stage 3, Advanced level,
							Cost of goods and materials	Labor costs	Transport. costs	Cost of goods and materials	Labor costs	Transport. costs	Cost of goods and materials	Labor costs	Transport. costs	New Unit price			
1	**Installation of Supplemental Heat Meters**																		
1.1	nom flow: 6 m³/h; max flow 12 m³/h; connection by means of standard flange DN25, PN16/25	pcs	5	19	**24**	**880,00 €**	55%	40%	5%	484,00 €	352,00 €	44,00 €	539,16 €	429,56 €	47,04 €	**1.015,75 €**	**15,43%**	21.120,00 €	24.378,08 €
1.2	nom flow: 10 m³/h, max flow: 20 m³/h; connection by means of standard flange DN40, PN16/25	pcs	10	38	**48**	**925,00 €**	55%	40%	5%	508,75 €	370,00 €	46,25 €	566,73 €	451,52 €	49,44 €	**1.067,70 €**	**15,43%**	44.400,00 €	51.249,38 €
1.3	nom flow: 15 m³/h; max flow: 30 m³/h; connection by means of standard flange **DN50**, PN16/25	pcs	10	38	**48**	**1.045,00 €**	55%	40%	5%	574,75 €	418,00 €	52,25 €	640,25 €	510,10 €	55,86 €	**1.206,21 €**	**15,43%**	50.160,00 €	57.897,95 €
1.4	nom flow: 25 m³/h; max flow: 50 m³/h; connection by means of standard flange **DN65**, PN16/25	pcs	10	38	**48**	**1.190,00 €**	55%	40%	5%	654,50 €	476,00 €	59,50 €	729,09 €	580,88 €	63,61 €	**1.373,58 €**	**15,43%**	57.120,00 €	65.931,64 €
1.5	nom flow: 40 m³/h; max flow: 80 m³/h; connection by means of standard flange **DN80**, PN16/25	pcs	10	38	**48**	**1.345,00 €**	55%	40%	5%	739,75 €	538,00 €	67,25 €	824,05 €	656,54 €	71,89 €	**1.552,49 €**	**15,43%**	64.560,00 €	74.519,37 €
1.6	nom flow: 60 m³/h; max flow: 120 m³/h; connection by means of standard flange **DN100,** PN16/25	pcs	10	38	**48**	**305,00 €**	55%	40%	5%	167,75 €	122,00 €	15,25 €	186,87 €	148,88 €	16,30 €	**352,05 €**	**15,43%**	14.640,00 €	16.898,44 €
1.7	installation or retrofit of already existing heat meters	pcs	5	19	**24**	**50,00 €**	10%	85%	5%	5,00 €	42,50 €	2,50 €	5,57 €	51,86 €	2,67 €	**60,11 €**	**20,21%**	1.200,00 €	1.442,56 €
2	**Installation of Supplemental Fuel Meters (oil, diesel, etc.)**																		
2.1	connection dimension 1/2"; flow min/nom/max: 10/400/600 l/h; weight of device set and connection ≤ 2.2 kg	pcs	5	19	**24**	**1.920,00 €**	70%	25%	5%	1.344,00 €	480,00 €	96,00 €	1.426,68 €	585,76 €	102,63 €	**2.115,07 €**	**10,16%**	46.080,00 €	50.761,61 €
2.2	connection dimension 3/4"; flow min/nom/max: 30/1000/1500 l/h; weight of device set and connection ≤ 2.5 kg	pcs	10	38	**48**	**210,00 €**	70%	25%	5%	147,00 €	52,50 €	10,50 €	156,04 €	64,07 €	11,23 €	**231,34 €**	**10,16%**	10.080,00 €	11.104,10 €
2.3	connection dimension 1"; flow min/nom/max: 75/2000/3000 l/h; weight of device set and connection ≤ 4.2 kg	pcs	10	38	**48**	**240,00 €**	70%	25%	5%	168,00 €	60,00 €	12,00 €	178,33 €	73,22 €	12,83 €	**264,38 €**	**10,16%**	11.520,00 €	12.690,40 €
2.4	connection dimension 1-1/2"; flow min/nom/max: 225/6000/9000 l/h; weight of device set and connection ≤ 17.3 kg	pcs	10	38	**48**	**260,00 €**	70%	25%	5%	182,00 €	65,00 €	13,00 €	193,20 €	79,32 €	13,90 €	**286,42 €**	**10,16%**	12.480,00 €	13.747,93 €
2.5	installation or retrofit of already existing fuel meters	pcs	5	19	**24**	**10,00 €**	10%	85%	5%	1,00 €	8,50 €	0,50 €	1,06 €	10,37 €	0,53 €	**11,97 €**	**19,69%**	240,00 €	287,25 €
3	**Installation of Supplemental Fuel Meters (natural gas, LPG, etc.)**																		
3.1	connecting dimensions 1"; flow min/max: 2.0/25 m³/h; weight of set of devices with connections ≤ 1.7 kg	pcs	5	19	**24**	**160,00 €**	70%	25%	5%	112,00 €	40,00 €	8,00 €	118,89 €	48,81 €	8,55 €	**176,26 €**	**10,16%**	3.840,00 €	4.230,13 €
3.2	connecting dimensions 1"; flow min/max: 3.3/65 m³/h; weight of set of devices with connections ≤ 1.7 kg	pcs	5	19	**24**	**190,00 €**	70%	25%	5%	133,00 €	47,50 €	9,50 €	141,18 €	57,97 €	10,16 €	**209,30 €**	**10,16%**	4.560,00 €	5.023,28 €
3.3	connecting dimensions DN50; flow min/max: 6.0/100 m³/h; weight of set of devices with connections ≤ 1.3 kg	pcs	5	19	**24**	**230,00 €**	70%	25%	5%	161,00 €	57,50 €	11,50 €	170,90 €	70,17 €	12,29 €	**253,37 €**	**10,16%**	5.520,00 €	6.080,82 €
3.4	connecting dimensions DN80; flow min/max: 13/250 m³/h; weight of set of devices with connections ≤ 5.3 kg	pcs	5	19	**24**	**260,00 €**	70%	25%	5%	182,00 €	65,00 €	13,00 €	193,20 €	79,32 €	13,90 €	**286,42 €**	**10,16%**	6.240,00 €	6.873,97 €
3.5	installation or retrofit of already existing fuel meters	pcs	5	19	**24**	**10,00 €**	10%	85%	5%	1,00 €	8,50 €	0,50 €	1,06 €	10,37 €	0,53 €	**11,97 €**	**19,69%**	240,00 €	287,25 €
4	**Installation of Temperature Sensors**																		
4.1	Indoor temperature sensors	pcs	200	760	**960**	**180,00 €**	85%	10%	5%	153,00 €	18,00 €	9,00 €	173,56 €	21,97 €	9,62 €	**205,15 €**	**13,97%**	172.800,00 €	196.943,81 €
4.2	Outdoor temperature sensors	pcs	50	190	**240**	**297,00 €**	55%	40%	5%	163,35 €	118,80 €	14,85 €	185,30 €	144,98 €	15,88 €	**346,15 €**	**16,55%**	71.280,00 €	83.077,00 €
5	**Installation of Supplemental Water Meters (≤ DN 40, outdoor)**																		
5.1	Water meter 1/2"	pcs	5	19	**24**	**80,00 €**	55%	40%	5%	44,00 €	32,00 €	4,00 €	49,01 €	39,05 €	4,28 €	**92,34 €**	**15,43%**	1.920,00 €	2.216,19 €
5.2	Water meter 3/4"	pcs	5	19	**24**	**137,00 €**	55%	40%	5%	75,35 €	54,80 €	6,85 €	83,94 €	66,87 €	7,32 €	**158,13 €**	**15,43%**	3.288,00 €	3.795,22 €
5.3	Water meter 1"	pcs	5	19	**24**	**452,00 €**	60%	35%	5%	271,20 €	158,20 €	22,60 €	302,11 €	193,06 €	24,16 €	**519,32 €**	**14,89%**	10.848,00 €	12.463,78 €
5.4	Water meter 5/4"	pcs	5	19	**24**	**482,00 €**	65%	30%	5%	313,30 €	144,60 €	24,10 €	349,00 €	176,46 €	25,76 €	**551,23 €**	**14,36%**	11.568,00 €	13.229,49 €
5.5	Water meter 6/4"	pcs	5	19	**24**	**497,00 €**	70%	25%	5%	347,90 €	124,25 €	24,85 €	387,55 €	151,63 €	26,57 €	**565,74 €**	**13,83%**	11.928,00 €	13.577,76 €
5.6	Manhole	pcs	20	76	**96**	**100,00 €**	15%	80%	5%	15,00 €	80,00 €	5,00 €	16,71 €	97,63 €	5,35 €	**119,68 €**	**19,68%**	9.600,00 €	11.489,40 €
6	**Installation of Supplemental Water Meters (> DN 40, outdoor)**																		
6.1	Water meter 2"	pcs	5	19	**24**	**288,00 €**	55%	40%	5%	158,40 €	115,20 €	14,40 €	176,45 €	140,58 €	15,39 €	**332,43 €**	**15,43%**	6.912,00 €	7.978,28 €
6.2	Water meter 2.5"	pcs	5	19	**24**	**70,00 €**	60%	35%	5%	42,00 €	24,50 €	3,50 €	46,79 €	29,90 €	3,74 €	**80,43 €**	**14,89%**	1.680,00 €	1.930,23 €
6.3	Water meter 3"	pcs	5	19	**24**	**80,00 €**	65%	30%	5%	52,00 €	24,00 €	4,00 €	57,93 €	29,29 €	4,28 €	**91,49 €**	**14,36%**	1.920,00 €	2.195,77 €
6.4	Water meter 4"	pcs	5	19	**24**	**90,00 €**	70%	25%	5%	63,00 €	22,50 €	4,50 €	70,18 €	27,46 €	4,81 €	**102,45 €**	**13,83%**	2.160,00 €	2.458,75 €
6.5	Manhole	pcs	10	38	**48**	**100,00 €**	15%	80%	5%	15,00 €	80,00 €	5,00 €	16,71 €	97,63 €	5,35 €	**119,68 €**	**19,68%**	4.800,00 €	5.744,70 €
7	**Installation of Supplemental Water Meters (≤ 6/4", indoor)**																		
7.1	Water meter 1/2"	pcs	5	19	**24**	**80,00 €**	55%	40%	5%	44,00 €	32,00 €	4,00 €	49,01 €	39,05 €	4,28 €	**92,34 €**	**15,43%**	1.920,00 €	2.216,19 €
7.2	Water meter 3/4"	pcs	5	19	**24**	**137,00 €**	55%	40%	5%	75,35 €	54,80 €	6,85 €	83,94 €	66,87 €	7,32 €	**158,13 €**	**15,43%**	3.288,00 €	3.795,22 €

No.	Stage 2 and Stage 3 - Advanced Level	Unit	Contracted Quantities for Stage 2 -	Contracted Quantities for Stage 3 -	Total Contracted Quantities for	Current Unit price	Breakdown of unit price			Contracted Unit price			New unit price				Unit price increase	Total Contracted amount for Stage 2 and Stage 3,	Total amount for Stage 2 and Stage 3, Advanced level,
							Cost of goods and materials	Labor costs	Transport. costs	Cost of goods and materials	Labor costs	Transport. costs	Cost of goods and materials	Labor costs	Transport. costs	New Unit price			
7.3	Water meter 1"	pcs	5	19	**24**	**452,00 €**	60%	35%	5%	271,20 €	158,20 €	22,60 €	302,11 €	193,06 €	24,16 €	**519,32 €**	**14,89%**	10.848,00 €	12.463,78 €
7.4	Water meter 5/4"	pcs	5	19	**24**	**482,00 €**	65%	30%	5%	313,30 €	144,60 €	24,10 €	349,00 €	176,46 €	25,76 €	**551,23 €**	**14,36%**	11.568,00 €	13.229,49 €
7.5	Water meter 6/4"	pcs	5	19	**24**	**497,00 €**	70%	25%	5%	347,90 €	124,25 €	24,85 €	387,55 €	151,63 €	26,57 €	**565,74 €**	**13,83%**	11.928,00 €	13.577,76 €
8	**Installation of Supplemental Water Meters (> 6/4", indoor)**																		
8.1	Water meter 2"	pcs	5	19	**24**	**238,00 €**	55%	40%	5%	130,90 €	95,20 €	11,90 €	145,82 €	116,18 €	12,72 €	**274,72 €**	**15,43%**	5.712,00 €	6.593,16 €
8.2	Water meter 2.5"	pcs	5	19	**24**	**70,00 €**	60%	35%	5%	42,00 €	24,50 €	3,50 €	46,79 €	29,90 €	3,74 €	**80,43 €**	**14,89%**	1.680,00 €	1.930,23 €
8.3	Water meter 3"	pcs	5	19	**24**	**80,00 €**	65%	30%	5%	52,00 €	24,00 €	4,00 €	57,93 €	29,29 €	4,28 €	**91,49 €**	**14,36%**	1.920,00 €	2.195,77 €
8.4	Water meter 4"	pcs	5	19	**24**	**90,00 €**	70%	25%	5%	63,00 €	22,50 €	4,50 €	70,18 €	27,46 €	4,81 €	**102,45 €**	**13,83%**	2.160,00 €	2.458,75 €
9	**Installation of Electricity Meters (semi-indirect)**																		
9.1	Electricity meter (existing or new switchboard)	pcs	5	19	**24**	**178,00 €**	55%	40%	5%	97,90 €	71,20 €	8,90 €	110,78 €	86,89 €	9,51 €	**207,18 €**	**16,40%**	4.272,00 €	4.972,40 €
9.2	Current reduction gear	pcs	5	19	**24**	**123,00 €**	65%	30%	5%	79,95 €	36,90 €	6,15 €	90,47 €	45,03 €	6,57 €	**142,07 €**	**15,51%**	2.952,00 €	3.409,78 €
9.3	New switchboard; cabinet	pcs	5	19	**24**	**60,00 €**	45%	50%	5%	27,00 €	30,00 €	3,00 €	30,55 €	36,61 €	3,21 €	**70,37 €**	**17,28%**	1.440,00 €	1.688,87 €
9.4	Integration or retrofit of already existing electricity meter	pcs	5	19	**24**	**15,00 €**	10%	85%	5%	1,50 €	12,75 €	0,75 €	1,70 €	15,56 €	0,80 €	**18,06 €**	**20,39%**	360,00 €	433,40 €
10	**Installation of Electricity Meters (direct)**																		
10.1	Electricity meter (existing or new switchboard)	pcs	40	152	**192**	**380,00 €**	55%	40%	5%	209,00 €	152,00 €	19,00 €	236,50 €	185,49 €	20,31 €	**442,30 €**	**16,40%**	72.960,00 €	84.921,89 €
10.2	New switchboard; cabinet	pcs	20	76	**96**	**212,00 €**	45%	50%	5%	95,40 €	106,00 €	10,60 €	107,95 €	129,36 €	11,33 €	**248,64 €**	**17,28%**	20.352,00 €	23.869,38 €
10.3	Integration or retrofit of already existing electricity meter	pcs	5	19	**24**	**15,00 €**	10%	85%	5%	1,50 €	12,75 €	0,75 €	1,70 €	15,56 €	0,80 €	**18,06 €**	**20,39%**	360,00 €	433,40 €
11	**Installation of Indoor Carbon Dioxide Sensor**																		
11.1	Carbon Dioxide Sensor	pcs	150	570	**720**	**340,00 €**	85%	10%	5%	289,00 €	34,00 €	17,00 €	331,38 €	41,49 €	18,17 €	**391,05 €**	**15,01%**	244.800,00 €	281.553,10 €
12	**Installation of Smart Data Concentrator**																		
12.1	Smart Data Concentrator	pcs	50	190	**240**	**3.770,00 €**													
					50% share Lithuania	**1.885,00 €**	70%	25%	5%	1.319,50 €	471,25 €	94,25 €	1.744,60 €	575,08 €	100,76 €	**2.420,44 €**	**28,41%**	452.400,00 €	580.905,30 €
					50% share EU	**1.885,00 €**	70%	25%	5%	1.319,50 €	471,25 €	94,25 €	1.496,83 €	575,08 €	100,76 €	**2.172,67 €**	**15,26%**	452.400,00 €	521.441,52 €
12.2	Modem for internet connection	pcs	50	190	**240**	**10,00 €**	90%	5%	5%	9,00 €	0,50 €	0,50 €	11,90 €	0,61 €	0,53 €	**13,04 €**	**30,44%**	2.400,00 €	3.130,61 €
	Total amount Stage 2 and Satge 3, Advanced Level (VAT excl.)																	**1.970.424,00 €**	**2.325.724,56 €**

TOTAL INCREASE	**18,0317%**

Crna Gora
Ministartstvo kapitalnih investicija

Adresa: Rimski trg 46,
81000 Podgorica, Montenegro
tel: +382 20 234 179
fax: +382 20 234 331

Br.: 03/5-302/22-13865/2 Datum: 13.12.2022

To: Alarm Automatika
Miroslav Ćirić
Dražice 123,
51000, Rijeka, Hrvatska

Predmet: Odgovor na zahtjev za povećanje troškova "EMS PROJEKAT - FAZA 2 I FAZA 3 – ZAHTJEV ZA POVEĆANJE TROŠKOVA– REV5" – Instrukcije za izmjenu

Na osnovu podtačka 10.1 Kratke forme Ugovora – Aneks 5 „Ugovora o nabavci opreme i izvođenju radova na uspostavljanju Sistema energetskog monitoringa" broj 005-302/20-3877/1 od 27. avgusta 2020. godine, kao odgovor na Zahtjev za povećanje troškova „EMS PROJEKAT – FAZA 2 I FAZA 3 – ZAHTEV ZA POVEĆANJE TROŠKOVA – REV5" od 12. decembra 2022. godine upućujemo sledeće:

- Član 706 Zakona o obligacionim odnosima, koji je naveden kao pravni osnov u Zahtjevu za povećanje troškova od strane Alarm automatike, nije primijenjen na odgovarajući način. Naime, metod za proračun povećanja troškova koji je primijenjen u Zahtjevu nije u skladu sa Zakonom. Shodno tome, u ovom slučaju predlažemo primjenu tačke 10 Kratke forme ugovora, Izmjene i potraživanja (Aneks 5 Ugovora);
- Priloženi proračun povećanja troškova na osnovu indeksne metode je razuman i prihvatljiv za Naručioca;
- Uzimajući u obzir ugovorne obaveze i dostavljene dokaze o povećanju troškova, a uvažavajući značaj implementacije Sistema za monitoring potrošnje energije (EMS) izražavamo spremnost da prihvatimo povećanje troškova u iznosu od 8,0317% za implementaciju EMS projekta - Faze 2 i Faze 3, napredni dio monitoringa.

Molimo Vas da nas obavijestite da li je predloženo povećanje troškova prihvatljivo za vas. Ako je tako, potrebno je izvršiti ažuriranje jediničnih cijena I prikazati ih u inoviranom predmjeru radova.

Svako dodatno povećanje troškova može biti predmet potraživanja u toku izvođenja radova, a što je potrebno opravdati odgovarajućom dokumentacijom.

S poštovanjem,

_____

Ervin Ibrahimović

MINISTAR

Pripremio:

Božidar Pavlović, konsultant na PEEPB

Odobrio:

Admir Šahmanović, državni sekretar

ZAHTJEV ZA POVEĆANJE TROŠKOVA No. 001	Zavodni br. 20221212_EMS_STAGE_2_AND_STAGE_3_ADVANCED_LEVEL_EEPPBII_CIC_CONSENT	Datum: 13.12.2022.
Opis: **SAGLASNOST NA INSTRUKCIJE ZA IZMJENU No. 03/5-302/22-13865/2** **PROGRAM ENERGETSKE EFIKASNOSTI U JAVNIM ZGRADAMA, FAZA II** **SISTEM ENERGETSKOG MONITORINGA (EMS)**		

Ovim potvrđujemo i prihvatamo uslove postavljene u „ODGOVORU NA ZAHTEV ZA POVEĆANJE TROŠKOVA „EMS PROJEKAT – FAZA 2 I FAZA 3 – ZAHTEV ZA POVEĆANJE TROŠKOVA – REV5" - INSTRUKCIJE ZA IZMJENU" broj: 03/5-302/22-13865/2 od 13.12.2022.

U prilogu:
- NOVE CIJENE / AŽURIRANI PREDJMER RADOVA - EMS PROJEKAT

ZA ALARM AUTOMATIKA

Miroslav Ćirić, dipl.ing.

MENADŽER PROJEKTA

Milan Đukanović, dipl.ing.

ODOBRENO OD KONSULTANTA

ODOBRENO OD KLIJENTA

Ministarstvo Ekonomije (Ministarstvo kapitalnih investicija od Decembra 2020) Direktorat za energetiku i energetsku efikasnost Bozidar Pavlovic Rimski trg 46 81000 Podgorica Montenegro	Fichtner GmbH & Co. KG Sarweystraße 3 70191 Stuttgart Tel. +49 (711) 8995 0 Fax. +49 (711) 8995 459 www.fichtner.de Dokument: Mišljenje na zahtjev Alarm Automatike za povećanje troškova.docx Unser Zeichen /000/DKOE/ Ime: Dirk Köwener E-Mail Dirk.Koewener@fichtner.de Datum 12. Decembar 2022

Mišljenje na zahtjev Alarm Automatike za povećanje troškova

Poštovani gospodine Pavloviću,

Alarm automatika („Izvođač“) je tražila povećanje troškova u vezi sa projektom „Ugovor o nabavci opreme i izvođenju radova na uspostavljanju sistema energetskog monitoringa u javnim objektima". EAC je kao predstavnik naručioca izvršio ocjenu finalne ispravke zahtjeva „EMS PROJEKAT - FAZA 2 I FAZA 3 – ZAHTJEV ZA POVEĆANJE TROŠKOVA – REV5” od 12. decembra 2022. i donosi sljedeći zaključak:

Izvođač je pružio odgovarajuće opravdanje za svoj zahtjev za povećanje troškova.

Izvođač je pružio racionalan pristup u procesu dokazivanja nivoa povećanja zasnovan na zvaničnim statističkim podacima (OECD i nacionalna statistika).

Imajući u vodu navedeno, EAC podneseni zahtjev za povećanje troškova ocjenjuje kao prihvatljiv.

Srdačno,

Fichtner GmbH & Co. KG

Amendment No. 1

made on _____

to the

Contract No. 005-302/20-3877/1 (EEPPB II - Cluster III)

dated 27/08/2020

between

Ministry of Economy (Ministry of Capital Investments since December 2020)
Directorate for Energy and Energy Efficiency
Rimski trg 46
81000 Podgorica
Montenegro
("Employer")

and

Alarm automatika d.o.o.
Dražice 123/c (Zamet)
HR-51000 Rijeka
Hrvatska/Croatia
("Contractor")

for

Agreement on Procurement of Equipment and Execution of Works on the Establishment of Energy Monitoring System in Public Buildings ("Project")

This Amendment to the Contract for Procurement of Equipment and Execution of Works on the Establishment of Energy Monitoring System in Public Buildings under the "Energy Efficiency Program in Public Buildings - phase II" (EEPPB II) is made between the Employer and the Contractor.

Unless specially amended in this Amendment, all other terms and conditions of the original Contract shall remain fully applicable and in force.

1. Appendix to Bid (Annex 3c - Sub-Clause 3.1)

Authorized person: Marija Vujadinovic to be replaced by Bozidar Pavlovic

2. Appendix to Bid (Annex 3c - Sub-Clause 3.2)

The Employer's Representative may from time to time assign duties and delegate authority to assistants and may also revoke such assignment or delegation. These assistants may include a resident engineer, and/or independent inspectors appointed to inspect and/or test items of Plant and/or Materials.

3. Appendix to Bid (Annex 3c - Sub-Clause 4.4)

Replace Amount “10 % of Contract Price” by:
Separate Performance Securities for each Stage. Value of Performance Security is 10 % of relevant original bid price for each Stage.

4. Appendix to bid (Annex 3c - Sub-Clause 11.9)

Replace second paragraph 11.9:
Separate advance payments for each Stage. 15 % of relevant **original bid price for each Stage** in one instalment. Unless and until the Employer receives a relevant guarantee, this Sub-Clause shall not apply.
Replace penultimate paragraph 11.9:
Any advance payment shall be repaid through percentage deductions **(30%)** from the relevant interim payments for a corresponding Stage.

5. Appendix to bid (Annex 3c - Sub-Clause 4.5)

Add at the end of Sub-Clause 4.5:
For the Maintenance Periods, quarterly progress reports shall be prepared by the Contractor and submitted to the Employer’s Representative as digital copy. The first report shall cover the period up to the end of the first quarter following the Taking-Over Notice. Reports shall be submitted quarterly thereafter, each within 10 working days after the last day of the quarter to which it relates.
Separate reporting for each corresponding Stage. Reporting shall continue until the end of the Maintenance Periods for the corresponding Stage.
Each report shall include a summary of the maintenance work performed during the respective quarter. Performed activities shall be listed stating the main tasks performed.

6. Changes to Bill of Quantities (Annex 7)

Updated Bill of Quantities is provided in Appendix 1

7. Claim for Increased costs

Due to the claim for increased costs (see Appendix 2) the order value for “EMS STAGE 2 AND STAGE 3 FOR ADVANCED LEVEL”, which is related to installation of measuring equipment, increases from EUR 1.970.424,00 to EUR 2.325.724,56. This increase is calculated at 18.0317% (rounded figure).

On the basis of the Annex 5 of the Contract – Short form of Contract, clause 10 (Variation and Claims) Employer and Contractor reached mutual agreement for the increase of costs by 8.0317% (rounded figure). Therefore, the Contractor is entitled to claim a total amount of EUR 2.128.682,16 in accordance with updated Bill of Quantities (Appendix 1).

8. Contract Price

Due to the claim for increased costs (see Appendix 2) the Contract Price for “EMS STAGE 2 AND STAGE 3” will be as follows:

Total price (excluding taxes and duties) Stage 1:	**749,601.00 EUR**
Which includes: 1.Installation of measuring equipment	577,601.00 EUR
2.Maintenance and support	172,000.00 EUR
Total price (excluding taxes and duties) Stage 2:	**503,475.45 EUR**
Which includes: 1.Installation of measuring equipment	443,475.45 EUR
2.Maintenance and support	60,000.00 EUR
Total price (excluding taxes and duties) Stage 3:	**1,905,206.71 EUR**
Which includes: 1.Installation of measuring equipment	1,685,206.71 EUR
2.Maintenance and support	220,000.00 EUR

Total Contract Price (including Stage1, Stage 2 and Stage 3) is 3,158,283.16 EUR.

For and on behalf of
Ministry of Capital Investments:

_____	_____
xxxxxxxxxxxxx	xxxxxxxxxxxxx
Minister	State Secretary for Energy

Alarm automatika

_____	_____
xxxxxxxxxxxxx	xxxxxxxxxxxxx
Director	

Appendix 1 - Bill of Quantities

The Bill of Quantities is provided as a separate document.

ALARM AUTOMATIKA D.O.O.
Dat 13.12.2022.
ICB No. and title: **310-618/2019-1, Procurement of Energy Monitoring System**
KfW Procurement No.: **503297**

To: **Ministry of Economy**

GRAND SUMMARY		
1	**Stage 1 - Basic Level 1 (VAT excl.)**	400,000 €
2	**Stage 1 - Basic Level 2 (VAT excl.)**	90,000 €
3	**Stage 1 - Advanced Level (VAT excl.)**	82,101 €
4	**Stage 1 - Dayworks (VAT excl.)**	5,500 €
5	**Stage 1 - Maintenance & Support (VAT excl.)**	172,000 €
6	**Stage 2 - Advanced Level (VAT excl.)**	443,475 €
7	**Stage 2 - Maintenance & Support (VAT excl.)**	60,000 €
8	**Stage 3 - Advanced Level (VAT excl.)**	1,685,207 €
9	**Stage 3 - Maintenance & Support (VAT excl.)**	220,000 €
	Total price (excluding taxes and duties) of Stage 1	749,601 €
	Total price (excluding taxes and duties) of Stage 2	503,475 €
	Total price (excluding taxes and duties) of Stage 3	1,905,207 €
	Total price (excluding taxes and duties) of all Stages = BID PRICE	3,158,283 €
	Anticipated Import Duties (if any) for Stage 1	
	Anticipated Import Duties (if any) for Stage 2 - Advanced Level	
	Anticipated Import Duties (if any) for Stage 3 - Advanced Level	
	VAT (21%) for Stage 1	
	VAT (21%) for Stage 2	
	VAT (21%) for Stage 3	
	Order Value Stage 1	749,601.00 €
	Order Value Stage 2	503,475.45 €
	Order Value Stage 3	1,905,206.71 €

Miroslav Ćirić, dipl.ing.
(Name)

Bord Member
(In the capacity of)

_____
(Signature)*

13.12.2022.
(Dated)

ALARM AUTOMATIKA D.O.O.
Dat 13.12.2022.
ICB No. and title: **310-618/2019-1, Procurement of Energy Monitoring System**
KfW Procurement No.: **503297**

To: **Ministry of Economy**

**[Person signing the Bid shall have the power of attorney given by the Bidder to be attached with the Bid]*

No	Item	Unit	Quantity	Unit price (€)	Amount (€)
1	**Stage 1 - Basic Level 1**				
1.1	Procurement and Delivery of Hardware for EMS Central Core Application (Basic IT-System in accordance with Chapter 2.10 of Section 7a (Technical Requirements))	Lump Sum	1	40000	40000
1.2	Development of EMS Central Core Application	Lump Sum	1	300000	300000
1.3	Implementation of EMS Central Core Application and procurement of any required licenses for EMS operation	Lump Sum	1	60000	60000
1	**Stage 1 - Basic Level 1 (VAT excl.)**				**= 400,000.00 €**
	Anticipated Import Duties (if any) for Stage 1 - Basic Level 1				**=**

No	Item	Unit	Quantity	Unit price (€)	Amount (€)
2	**Stage 1 - Basic Level 2**				
2.1	Implementation of Electricity Interface (for hourly data) + confirmation of successful data gathering of selected public buildings via interface	Lump Sum	1	75000	75000
2.2	Implementation of Generic Water Interface (for monthly data) + confirmation of successful data gathering of selected public buildings via interface	Lump Sum	1	15000	15000
2	**Stage 1 - Basic Level 2 (VAT excl.)**				**= 90,000.00 €**
	Anticipated Import Duties (if any) for Stage 1 - Basic Level 2				**=**

No	Item	Unit	Quantity	Unit price (€)		Amount (€)
3	**Stage 1 - Advanced Level**					
3.1	**Installation of Supplemental Heat Meters**					
3.1.1	nom flow: 6 m³/h; max flow 12 m³/h; connection by means of standard flange DN25, PN16/25	pcs	1	880		880
3.1.2	nom flow: 10 m³/h, max flow: 20 m³/h; connection by means of standard flange **DN40**, PN16/25	pcs	2	925		1850
3.1.3	nom flow: 15 m³/h; max flow: 30 m³/h; connection by means of standard flange **DN50**, PN16/25	pcs	2	1045		2090
3.1.4	nom flow: 25 m³/h; max flow: 50 m³/h; connection by means of standard flange **DN65**, PN16/25	pcs	2	1190		2380
3.1.5	nom flow: 40 m³/h; max flow: 80 m³/h; connection by means of standard flange **DN80**, PN16/25	pcs	2	1345		2690
3.1.6	nom flow: 60 m³/h; max flow: 120 m³/h; connection by means of standard flange **DN100**, PN16/25	pcs	2	305		610
3.1.7	installation or retrofit of already existing heat meters	pcs	1	50		50
					Sub-total	10550
3.2	**Installation of Supplemental Fuel Meters (oil, diesel, etc.)**					
3.2.1	connection dimension 1/2"; flow min/nom/max: 10/400/600 l/h; weight of device set and connection ≤ 2.2 kg	pcs	1	1920		1920
3.2.2	connection dimension 3/4"; flow min/nom/max: 30/1000/1500 l/h; weight of device set and connection ≤ 2.5 kg	pcs	2	210		420
3.2.3	connection dimension 1"; flow min/nom/max: 75/2000/3000 l/h; weight of device set and connection ≤ 4.2 kg	pcs	2	240		480
3.2.4	connection dimension 1-1/2"; flow min/nom/max: 225/6000/9000 l/h; weight of device set and connection ≤ 17.3 kg	pcs	2	260		520
3.2.5	installation or retrofit of already existing fuel meters	pcs	1	10		10
					Sub-total	3350
3.3	**Installation of Supplemental Fuel Meters (natural gas, LPG, etc.)**					
3.3.1	connecting dimensions 1"; flow min/max: 2.0/25 m³/h; weight of set of devices with connections ≤ 1.7 kg	pcs	1	160		160
3.3.2	connecting dimensions 1"; flow min/max: 3.3/65 m³/h; weight of set of devices with connections ≤ 1.7 kg	pcs	1	190		190
3.3.3	connecting dimensions DN50; flow min/max: 6.0/100 m³/h; weight of set of devices with connections ≤ 1.3 kg	pcs	1	230		230
3.3.4	connecting dimensions DN80; flow min/max: 13/250 m³/h; weight of set of devices with connections ≤ 5.3 kg	pcs	1	260		260
3.3.5	installation or retrofit of already existing fuel meters	pcs	1	10		10
					Sub-total	850
3.4	**Installation of Temperature Sensors**					
3.4.1	Indoor temperature sensors	pcs	40	180		7200
3.4.2	Outdoor temperature sensors	pcs	10	297		2970
					Sub-total	10170
3.5	**Installation of Supplemental Water Meters (≤ DN 40, outdoor)**					
3.5.1	Water meter 1/2"	pcs	1	80		80
3.5.2	Water meter 3/4"	pcs	1	137		137
3.5.3	Water meter 1"	pcs	1	452		452
3.5.4	Water meter 5/4"	pcs	1	482		482
3.5.5	Water meter 6/4"	pcs	1	497		497
3.5.6	Manhole	pcs	4	100		400
					Sub-total	2048
3.6	**Installation of Supplemental Water Meters (> DN 40, outdoor)**					
3.6.1	Water meter 2"	pcs	1	288		288
3.6.2	Water meter 2.5"	pcs	1	70		70
3.6.3	Water meter 3"	pcs	1	80		80
3.6.4	Water meter 4"	pcs	1	90		90
3.6.5	Manhole	pcs	2	100		200
					Sub-total	728
3.7	**Installation of Supplemental Water Meters (≤ 6/4", indoor)**					
3.7.1	Water meter 1/2"	pcs	1	80		80
3.7.2	Water meter 3/4"	pcs	1	137		137
3.7.3	Water meter 1"	pcs	1	452		452
3.7.4	Water meter 5/4"	pcs	1	482		482
3.7.5	Water meter 6/4"	pcs	1	497		497
					Sub-total	1648
3.8	**Installation of Supplemental Water Meters (> 6/4", indoor)**					
3.9	Water meter 2"	pcs	1	238		238
3.10	Water meter 2.5"	pcs	1	70		70
3.11	Water meter 3"	pcs	1	80		80
3.12	Water meter 4"	pcs	1	90		90
					Sub-total	478
3.9	**Installation of Electricity Meters (semi-indirect)**					
3.9.1	Electricity meter (existing or new switchboard)	pcs	1	178		178
3.9.2	Current reduction gear	pcs	1	123		123
3.9.3	New switchboard; cabinet	pcs	1	60		60
3.9.4	Integration or retrofit of already existing electricity meter	pcs	1	15		15
					Sub-total	376
3.10	**Installation of Electricity Meters (direct)**					
3.10.1	Electricity meter (existing or new switchboard)	pcs	8	380		3040
3.10.2	New switchboard; cabinet	pcs	4	212		848
3.10.3	Integration or retrofit of already existing electricity meter	pcs	1	15		15
					Sub-total	3903
3.11	**Installation of Indoor Carbon Dioxide Sensor**					
3.11.1	Carbon Dioxide Sensor	pcs	30	340		10200
					Sub-total	10200
3.12	**Installation of Smart Data Concentrator**					
3.12.1	Smart Data Concentrator	pcs	10	3770		37700
3.12.2	Modem for internet connection	pcs	10	10		100
					Sub-total	37800
3	**Stage 1 - Advanced Level (VAT excl.)**				=	**82,101.00 €**
	Anticipated Import Duties (if any) for Stage 1 - Advanced Level				=	

No	Item	Unit	Quantity	Unit price (€)	Amount (€)
4	**Stage 1 - Dayworks**				
4.1	Daywork for Project Manager	hour	20	60	1200
4.2	Daywork for Engineers	hour	20	50	1000
4.3	Daywork for construction/installation foreman/supervisor	hour	20	50	1000
4.4	Daywork for technical skilled labour	hour	20	40	800
4.5	Daywork for general unskilled labour	hour	20	25	500
4.6	Daywork for major equipment	hour	20	25	500
4.7	Daywork for minor equipment	hour	20	25	500
4	**Stage 1 - Dayworks (VAT excl.)**				**= 5,500.00 €**

No	Item	Unit	Quantity	Unit price (€)		Amount (€)
5	**Stage 1 - Maintenance & Support**					
5.1	**Maintenance & Support of EMS Central Core Application (Basic Level 1 + Basic Level 2)**					
5.1.1	Annual maintenance/support	quarter	20	6250		125000
5.1.2	Average annual cost for expected exchange of parts/components	quarter	20	1250		25000
5.1.3	Average annual cost for necessary spare parts	quarter	20	500		10000
5.1.4	Other costs (depending on design of Contractor; details/breakdown included in Technical Proposal)	Lump Sum	1	0		
5.2	**Maintenance & Support of Field Devices (Advanced Level)**					
5.2.1	Annual maintenance/support **for all facilities (10)**	quarter	20	**250**		5000
5.2.2	Average annual cost for expected exchange of parts/components **for all facilities (10)**	quarter	20	**200**		4000
5.2.3	Average annual cost for necessary spare parts **for all facilities (10)**	quarter	20	**150**		3000
5.2.4	Other costs (depending on design of Contractor; details/breakdown included in Technical Proposal)	Lump Sum	1	0		
5	**Stage 1 - Maintenance & Support (VAT excl.)**				**=**	**172000**
	Anticipated Import Duties (if any) for Stage 1 - Maintenance & Support				**=**	

No	Item	Unit	Quantity	Unit price (€)	Amount (€)
6	**Stage 2 - Advanced Level**				
6.1	**Installation of Supplemental Heat Meters**				
6.1.1	nom flow: 6 m³/h; max flow 12 m³/h; connection by means of standard flange DN25, PN16/25	pcs	5	927.75	4,638.77
6.1.2	nom flow: 10 m³/h, max flow: 20 m³/h; connection by means of standard flange **DN40**, PN16/25	pcs	10	975.20	9,751.95
6.1.3	nom flow: 15 m³/h; max flow: 30 m³/h; connection by means of standard flange **DN50**, PN16/25	pcs	10	1,101.71	11,017.07
6.1.4	nom flow: 25 m³/h; max flow: 50 m³/h; connection by means of standard flange **DN65**, PN16/25	pcs	10	1,254.58	12,545.76
6.1.5	nom flow: 40 m³/h; max flow: 80 m³/h; connection by means of standard flange **DN80**, PN16/25	pcs	10	1,417.99	14,179.87
6.1.6	nom flow: 60 m³/h; max flow: 120 m³/h; connection by means of standard flange **DN100**, PN16/25	pcs	10	321.55	3,215.51
6.1.7	installation or retrofit of already existing heat meters	pcs	5	55.11	275.53
				Sub-total	55,624.46
6.2	**Installation of Supplemental Fuel Meters (oil, diesel, etc.)**				
6.2.1	connection dimension 1/2"; flow min/nom/max: 10/400/600 l/h; weight of device set and connection ≤ 2.2 kg	pcs	5	1,923.07	9,615.33
6.2.2	connection dimension 3/4"; flow min/nom/max: 30/1000/1500 l/h; weight of device set and connection ≤ 2.5 kg	pcs	10	210.34	2,103.35
6.2.3	connection dimension 1"; flow min/nom/max: 75/2000/3000 l/h; weight of device set and connection ≤ 4.2 kg	pcs	10	240.38	2,403.83
6.2.4	connection dimension 1-1/2"; flow min/nom/max: 225/6000/9000 l/h; weight of device set and connection ≤ 17.3 kg	pcs	10	260.42	2,604.15
6.2.5	installation or retrofit of already existing fuel meters	pcs	5	10.97	54.84
				Sub-total	16,781.52
6.3	**Installation of Supplemental Fuel Meters (natural gas, LPG, etc.)**				
6.3.1	connecting dimensions 1"; flow min/max: 2.0/25 m³/h; weight of set of devices with connections ≤ 1.7 kg	pcs	5	160.26	801.28
6.3.2	connecting dimensions 1"; flow min/max: 3.3/65 m³/h; weight of set of devices with connections ≤ 1.7 kg	pcs	5	190.30	951.52
6.3.3	connecting dimensions DN50; flow min/max: 6.0/100 m³/h; weight of set of devices with connections ≤ 1.3 kg	pcs	5	230.37	1,151.84
6.3.4	connecting dimensions DN80; flow min/max: 13/250 m³/h; weight of set of devices with connections ≤ 5.3 kg	pcs	5	260.42	1,302.08
6.3.5	installation or retrofit of already existing fuel meters	pcs	5	10.97	54.84
				Sub-total	4,261.55
6.4	**Installation of Temperature Sensors**				
6.4.1	Indoor temperature sensors	pcs	200	187.15	37,429.96
6.4.2	Outdoor temperature sensors	pcs	50	316.45	15,822.71
				Sub-total	53,252.67
6.5	**Installation of Supplemental Water Meters (≤ DN 40, outdoor)**				
6.5.1	Water meter 1/2"	pcs	5	84.34	421.71
6.5.2	Water meter 3/4"	pcs	5	144.43	722.17
6.5.3	Water meter 1"	pcs	5	474.12	2,370.62
6.5.4	Water meter 5/4"	pcs	5	503.03	2,515.14
6.5.5	Water meter 6/4"	pcs	5	516.04	2,580.20
6.5.6	Manhole	pcs	20	109.68	2,193.62
				Sub-total	10,803.47
6.6	**Installation of Supplemental Water Meters (> DN 40, outdoor)**				
6.6.1	Water meter 2"	pcs	5	303.63	1,518.14
6.6.2	Water meter 2.5"	pcs	5	73.43	367.13
6.6.3	Water meter 3"	pcs	5	83.49	417.45
6.6.4	Water meter 4"	pcs	5	93.45	467.24
6.6.5	Manhole	pcs	10	109.68	1,096.81
				Sub-total	3,866.78
6.7	**Installation of Supplemental Water Meters (≤ 6/4", indoor)**				
6.7.1	Water meter 1/2"	pcs	5	84.34	421.71
6.7.2	Water meter 3/4"	pcs	5	144.43	722.17
6.7.3	Water meter 1"	pcs	5	474.12	2,370.62
6.7.4	Water meter 5/4"	pcs	5	503.03	2,515.14
6.7.5	Water meter 6/4"	pcs	5	516.04	2,580.20
				Sub-total	8,609.84
6.8	**Installation of Supplemental Water Meters (> 6/4", indoor)**				
6.8.1	Water meter 2"	pcs	5	250.92	1,254.58
6.8.2	Water meter 2.5"	pcs	5	73.43	367.13
6.8.3	Water meter 3"	pcs	5	83.49	417.45
6.8.4	Water meter 4"	pcs	5	93.45	467.24
				Sub-total	2,506.40
6.9	**Installation of Electricity Meters (semi-indirect)**				
6.9.1	Electricity meter (existing or new switchboard)	pcs	5	189.38	946.92
6.9.2	Current reduction gear	pcs	5	129.77	648.87
6.9.3	New switchboard; cabinet	pcs	5	64.37	321.85
6.9.4	Integration or retrofit of already existing electricity meter	pcs	5	16.56	82.79
				Sub-total	2,000.43
6.10	**Installation of Electricity Meters (direct)**				
6.10.1	Electricity meter (existing or new switchboard)	pcs	40	404.30	16,172.06
6.10.2	New switchboard; cabinet	pcs	20	227.44	4,548.79
6.10.3	Integration or retrofit of already existing electricity meter	pcs	5	16.56	82.79
				Sub-total	20,803.64
6.11	**Installation of Indoor Carbon Dioxide Sensor**				
6.11.1	Carbon Dioxide Sensor	pcs	150	357.05	53,556.90
				Sub-total	53,556.90
6.12	**Installation of Smart Data Concentrator**				
6.12.1	Smart Data Concentrator	pcs	50	4,216.11	210,805.59
6.12.2	Modem for internet connection	pcs	50	12.04	602.21
				Sub-total	211,407.80
6	**Stage 2 - Advanced Level (VAT excl.)**			=	**443,475.45 €**
	Anticipated Import Duties (if any) for Stage 2 - Advanced Level			=	

No	Item	Unit	Quantity	Unit price (€)		Amount (€)
7	**Stage 2 - Maintenance & Support**					
7.1	**Maintenance & Support of Field Devices (Advanced Level)**					
7.1.1	Annual maintenance/support **for all facilities (49)**	quarter	20	**1250**		25000
7.1.2	Average annual cost for expected exchange of parts/components **for all facilities (49)**	quarter	20	**1000**		20000
7.1.3	Average annual cost for necessary spare parts **for all facilities (49)**	quarter	20	**750**		15000
7.1.4	Other costs (depending on design of Contractor; details/breakdown included in Technical Proposal)	Lump Sum	1	0		
7	**Stage 2 - Maintenance & Support (VAT excl.)**				**=**	**60000**
	Anticipated Import Duties (if any) for Stage 2 - Maintenance & Support				**=**	

No	Item	Unit	Quantity	Unit price (€)	Amount (€)
8	**Stage 3 - Advanced Level**				
8.1	**Installation of Supplemental Heat Meters**				
8.1.1	nom flow: 6 m³/h; max flow 12 m³/h; connection by means of standard flange DN25, PN16/25	pcs	19	927.75	17,627.32
8.1.2	nom flow: 10 m³/h, max flow: 20 m³/h; connection by means of standard flange **DN40**, PN16/25	pcs	38	975.20	37,057.43
8.1.3	nom flow: 15 m³/h; max flow: 30 m³/h; connection by means of standard flange **DN50**, PN16/25	pcs	38	1,101.71	41,864.88
8.1.4	nom flow: 25 m³/h; max flow: 50 m³/h; connection by means of standard flange **DN65**, PN16/25	pcs	38	1,254.58	47,673.88
8.1.5	nom flow: 40 m³/h; max flow: 80 m³/h; connection by means of standard flange **DN80**, PN16/25	pcs	38	1,417.99	53,883.50
8.1.6	nom flow: 60 m³/h; max flow: 120 m³/h; connection by means of standard flange **DN100**, PN16/25	pcs	38	321.55	12,218.94
8.1.7	installation or retrofit of already existing heat meters	pcs	19	55.11	1,047.02
				Sub-total	211,372.96
8.2	**Installation of Supplemental Fuel Meters (oil, diesel, etc.)**				
8.2.1	connection dimension 1/2"; flow min/nom/max: 10/400/600 l/h; weight of device set and connection ≤ 2.2 kg	pcs	19	1,923.07	36,538.27
8.2.2	connection dimension 3/4"; flow min/nom/max: 30/1000/1500 l/h; weight of device set and connection ≤ 2.5 kg	pcs	38	210.34	7,992.75
8.2.3	connection dimension 1"; flow min/nom/max: 75/2000/3000 l/h; weight of device set and connection ≤ 4.2 kg	pcs	38	240.38	9,134.57
8.2.4	connection dimension 1-1/2"; flow min/nom/max: 225/6000/9000 l/h; weight of device set and connection ≤ 17.3 kg	pcs	38	260.42	9,895.78
8.2.5	installation or retrofit of already existing fuel meters	pcs	19	10.97	208.41
				Sub-total	63,769.78
8.3	**Installation of Supplemental Fuel Meters (natural gas, LPG, etc.)**				
8.3.1	connecting dimensions 1"; flow min/max: 2.0/25 m³/h; weight of set of devices with connections ≤ 1.7 kg	pcs	19	160.26	3,044.86
8.3.2	connecting dimensions 1"; flow min/max: 3.3/65 m³/h; weight of set of devices with connections ≤ 1.7 kg	pcs	19	190.30	3,615.77
8.3.3	connecting dimensions DN50; flow min/max: 6.0/100 m³/h; weight of set of devices with connections ≤ 1.3 kg	pcs	19	230.37	4,376.98
8.3.4	connecting dimensions DN80; flow min/max: 13/250 m³/h; weight of set of devices with connections ≤ 5.3 kg	pcs	19	260.42	4,947.89
8.3.5	installation or retrofit of already existing fuel meters	pcs	19	10.97	208.41
				Sub-total	16,193.90
8.4	**Installation of Temperature Sensors**				
8.4.1	Indoor temperature sensors	pcs	760	187.15	142,233.85
8.4.2	Outdoor temperature sensors	pcs	190	316.45	60,126.29
				Sub-total	202,360.14
8.5	**Installation of Supplemental Water Meters (≤ DN 40, outdoor)**				
8.5.1	Water meter 1/2"	pcs	19	84.34	1,602.48
8.5.2	Water meter 3/4"	pcs	19	144.43	2,744.25
8.5.3	Water meter 1"	pcs	19	474.12	9,008.36
8.5.4	Water meter 5/4"	pcs	19	503.03	9,557.55
8.5.5	Water meter 6/4"	pcs	19	516.04	9,804.76
8.5.6	Manhole	pcs	76	109.68	8,335.77
				Sub-total	41,053.18
8.6	**Installation of Supplemental Water Meters (> DN 40, outdoor)**				
8.6.1	Water meter 2"	pcs	19	303.63	5,768.94
8.6.2	Water meter 2.5"	pcs	19	73.43	1,395.10
8.6.3	Water meter 3"	pcs	19	83.49	1,586.32
8.6.4	Water meter 4"	pcs	19	93.45	1,775.51
8.6.5	Manhole	pcs	38	109.68	4,167.89
				Sub-total	14,693.75
8.7	**Installation of Supplemental Water Meters (≤ 6/4", indoor)**				
8.7.1	Water meter 1/2"	pcs	19	84.34	1,602.48
8.7.2	Water meter 3/4"	pcs	19	144.43	2,744.25
8.7.3	Water meter 1"	pcs	19	474.12	9,008.36
8.7.4	Water meter 5/4"	pcs	19	503.03	9,557.55
8.7.5	Water meter 6/4"	pcs	19	516.04	9,804.76
				Sub-total	32,717.41
8.8	**Installation of Supplemental Water Meters (> 6/4", indoor)**				
8.8.1	Water meter 2"	pcs	19	250.92	4,767.39
8.8.2	Water meter 2.5"	pcs	19	73.43	1,395.10
8.8.3	Water meter 3"	pcs	19	83.49	1,586.32
8.8.4	Water meter 4"	pcs	19	93.45	1,775.51
				Sub-total	9,524.31
8.9	**Installation of Electricity Meters (semi-indirect)**				
8.9.1	Electricity meter (existing or new switchboard)	pcs	19	189.38	3,598.28
8.9.2	Current reduction gear	pcs	19	129.77	2,465.71
8.9.3	New switchboard; cabinet	pcs	19	64.37	1,223.02
8.9.4	Integration or retrofit of already existing electricity meter	pcs	19	16.56	314.61
				Sub-total	7,601.63
8.10	**Installation of Electricity Meters (direct)**				
8.10.1	Electricity meter (existing or new switchboard)	pcs	152	404.30	61,453.83
8.10.2	New switchboard; cabinet	pcs	76	227.44	17,285.39
8.10.3	Integration or retrofit of already existing electricity meter	pcs	19	16.56	314.61
				Sub-total	79,053.83
8.11	**Installation of Indoor Carbon Dioxide Sensor**				
8.11.1	Carbon Dioxide Sensor	pcs	570	357.05	203,516.21
				Sub-total	203,516.21
8.12	**Installation of Smart Data Concentrator**				
8.12.1	Smart Data Concentrator	pcs	190	4,216.11	801,061.23
8.12.2	Modem for internet connection	pcs	190	12.04	2,288.40
				Sub-total	803,349.62
8	**Stage 3 - Advanced Level (VAT excl.)**			**=**	**1,685,206.71 €**
	Anticipated Import Duties (if any) for Stage 3 - Advanced Level			**=**	

No	Item	Unit	Quantity	Unit price (€)		Amount (€)
9	**Stage 3 - Maintenance & Support**					
9.1	**Maintenance & Support of Field Devices (Advanced Level)**					
9.1.1	Annual maintenance/support **for all facilities (191)**	quarter	20	**5000**		100000
9.1.2	Average annual cost for expected exchange of parts/components **for all facilities (191)**	quarter	20	**4000**		80000
9.1.3	Average annual cost for necessary spare parts **for all facilities (191)**	quarter	20	**2000**		40000
9.1.4	Other costs (depending on design of Contractor; details/breakdown included in Technical Proposal)	Lump Sum	1	0		
9	**Stage 3 - Maintenance & Support (VAT excl.)**				**=**	**220000**
	Anticipated Import Duties (if any) for Stage 3 - Maintenance & Support				**=**	

Appendix 2 - Claim for increased costs

The claim for increased costs and statement form supervision consultant are provided as a separate documents.

REV5 - CLAIM FOR INCREASED COSTS No. 001	**Record No.** 20221212_EMS_STAGE_2_AND_STAGE_3_ADVANCED_LEVEL_ EEPPBII_CIC_REV5	**Date:** 12.12.2022.
Scope: **EMS PROJECT - STAGE 2 AND STAGE 3 - CLAIM FOR INCREASED COSTS – REV5** **ENERGY EFFICIENCY PROGRAM IN PUBLIC BUILDINGS, PHASE II** **ENERGY MONITORING SYSTEM (EMS)**		

This Revision 5 of Claim for Increased Costs refers to implementation of EMS Project - STAGE 2 and STAGE 3 - Advanced Level.

We hereby amend CLAIM FOR INCREASED COSTS No. 001 of 30.03.2022., REVISION 1 OF CLAIM FOR INCREASED COSTS No. 001 of 26.04.2022., REVISION 2 OF CLAIM FOR INCREASED COSTS No. 001 of 15.07.2022., REVISION 3 OF CLAIM FOR INCREASED COSTS No. 001 of 21.11.2022 and REVISION 4 OF CLAIM FOR INCREASED COSTS No. 001 of 25.11.2022., in accordance to the conclusions of the on-line EMS Coordination meeting held today (12.12.2022.) with reference to email of Consultant/Supervisor dated 2nd December 2022 - Response to 20221125_EMS_STAGE_2_AND_STAGE_3_ADVANCED_LEVEL_EEPPBII_CIC_REV4.

Legal ground for raising the CLAIM is based in provisions of the LAW OF CONTRACT AND TORTS (Official Gazette of Montenegro No. 47/2008, 4/2011, 22/2017).
According to Article 706. of LAW OF CONTRACT AND TORTS, Contractor may demand a change of price of the works if prices of the elements are raised to such a degree that it would be necessary for the price of works to be higher by more than ten percent. In that case, Contractor may demand only a difference in price exceeding ten percent.

Price increase proving methodology is based on applicable EU-based and local statistical data, as agreed by all parties.

Offered price consists of following items:
- Cost of Goods and Materials
- Labor costs
- Transportation costs

All parties agreed that following formula for price adjustment of Cost of Goods and Materials, with variables/indexes based on EU - OECD Statistics (see attached table OECD - PRODUCER PRICES - DOMESTIC PRODUCER PRICES - DURABLE CONSUMER GOODS[1]") shall be used:

$P_n = P_o \times (0{,}05 + 0{,}95 \times L_n/L_o)$
where:
P_n - Revised price
P_o - Base price
L_n - Revised index - for Q3 2022 (indexes are set in attached OECD - PRODUCER PRICES - DOMESTIC PRODUCER PRICES - DURABLE CONSUMER GOODS depending on the country of the goods and materials manufacturer)

[1] Source: https://stats.oecd.org/Index.aspx?DataSetCode=MEI_PRICES_PPI#

L_o - Base index - for Q3 2020 (indexes are set in attached OECD - PRODUCER PRICES - DOMESTIC PRODUCER PRICES - DURABLE CONSUMER GOODS depending on the country of the goods and materials manufacturer)

In this formula, 0,05 is a fixed part (profit and overhead) and represents 5% to which the price increase does not apply.

0,95 x L_n/L_o is a variable part and depends on the ratio L_n/L_o (see attached table AVERAGE PRICE CHANGE Q3 2020 - Q3 2022).

All parties agreed that above formula may apply for price adjustment of Labor costs and Transportation costs, where factor L_n/L_o is substituted with factor (1+dP), where dP (%) is the price increase for the relevant period according to national statistics - "MONSTAT - MONTHLY STATISTICAL REVIEW No. 10 for October 2022[2]" (see attached table AVERAGE PRICE CHANGE Q3 2020 - Q3 2022).

All parties agreed that unit price increase of item "Smart Data Concentrator" must be divided into two parts, having in mind share of Goods and Materials from Lithuania and the EU:
- 50% share of unit price is increased with applicable factor for Lithuania (32,22%)
- 50% share of unit price is increased with applicable factor for EU (13,44%)

Agreed price increase proving methodology results in 18,0317% increase of value for EMS Project - STAGE 2 and STAGE 3 for Advanced Levels (see attached table PRICE BREAKDOWN EMS STAGE 2 AND STAGE 3 FOR ADVANCED LEVEL EEPPBII - 12.12.2022.)

Having in mind Article 706. of LAW OF CONTRACT AND TORTS, Contractor may demand only a difference in price exceeding ten percent and, therefore, **we hereby claim 8,03% increase of value for EMS Project - STAGE 2 and STAGE 3 for Advanced Levels**.

In the attachment:
- OECD - PRODUCER PRICES - DOMESTIC PRODUCER PRICES - DURABLE CONSUMER GOODS
- AVERAGE PRICE CHANGE Q3 2020 - Q3 2022
- PRICE BREAKDOWN EMS STAGE 2 AND STAGE 3 FOR ADVANCED LEVEL EEPPBII - 12.12.2022.

for ALARM AUTOMATIKA **PROJECT MANAGER**

Miroslav Ćirić, dipl.ing.

Miroslav Ćirić
Digitally signed by Miroslav Ćirić
DN: cn=Miroslav Ćirić, o=ALARM AUTOMATIKA, ou, email=miro@alarmautomatika.com, c=HR
Date: 2022.12.12 13:41:16 +01'00'

Milan Đukanović, dipl.ing.

Milan Đukanović
Digitally signed by Milan Đukanović
DN: c=ME, o=PostaCG, ou=Fizičko lice, serialNumber=54047, givenName=Milan, sn=Đukanović, cn=Milan Đukanović
Date: 2022.12.12 13:40:49 +01'00'

Approved by CONSULTANT **Approved by CLIENT**

[2] Source: https://monstat.org/uploads/files/Bilten/2022/10/BILTEN%20BR.%2010.pdf

Dataset: Producer Prices

Subject	Type of goods - Domestic Producer prices - Durable consumer goods																							
Measure	Index																							
Unit	Index, 2015=100																							
Frequency	Quarterly																				Monthly			
Time	Q1-2020		Q2-2020		Q3-2020 (Le)		Q4-2020		Q1-2021		Q2-2021		Q3-2021		Q4-2021		Q1-2022		Q2-2022		Q3-2022 (Ln)		Sep-2022		Oct-2022	
Country																								
Austria		103,2		103,6		104,4		104,3		104,5		105,2		105,5		106,1		108,8		110,8		112,0		112,3		..
Belgium		106,1		107,7		107,8		104,9		104,2		105,7		109,5		113,7		118,6		123,8		127,3		128,1		..
Czech Republic		103,1		104,6		105,2		106,0		106,7		109,2		113,0		114,9		120,7		124,4		127,0		127,9		129,3
Denmark		108,1		108,2		107,9		108,2		109,6		110,9		113,3		116,0		118,7		123,3		125,8		126,7		126,7
Estonia		107,3		107,3		106,8		109,1		110,8		119,6		123,3		120,4		123,3		136,5		140,3		142,4		142,4
Finland		107,4		108,2		108,7		109,3		110,6		111,7		113,7		115,1		118,0		124,3		127,4		128,0		..
France		101,9		102,2		102,3		102,3		102,7		104,3		106,2		107,6		112,4		114,3		116,5		116,8		..
Germany		106,5		106,9		107,1		107,3		108,1		108,7		110,0		111,2		115,4		118,9		121,9		122,4		..
Greece		101,4		101,4		101,5		101,6		101,6		101,9		102,3		102,3		102,6		103,6		103,4		102,9		..
Hungary		105,0		106,5		107,7		109,1		111,5		113,5		116,5		119,7		129,9		129,5		131,0		133,0		..
Italy		103,4		103,4		104,2		104,4		105,2		106,5		107,9		109,9		112,4		115,1		116,7		117,2		..
Japan		95,7		96,6		96,5		95,7		95,2		95,8		96,1		95,9		96,0		..		..		..		..
Latvia		108,2		107,9		109,0		111,2		112,4		112,7		116,2		121,2		123,5		129,3		131,3		132,1		..
Lithuania		114,8		114,1		113,2		111,3		110,4		113,2		118,3		123,5		132,0		147,5		151,6		150,6		153,2
Netherlands		113,1		113,4		114,2		113,9		116,2		117,3		120,3		122,2		127,5		129,9		136,2		136,3		..
Norway		111,2		115,2		117,0		117,6		118,9		119,7		120,9		124,0		125,9		129,0		132,7		134,1		137,1
Poland		103,1		103,6		103,8		103,9		104,9		106,9		109,3		111,0		112,5		117,4		120,9		121,0		..
Portugal		102,5		102,7		103,0		103,0		103,1		104,1		104,5		105,6		108,0		109,9		111,3		111,5		112,7
Slovak Republic		102,4		102,4		103,4		102,5		105,2		106,6		108,7		111,2		111,0		112,3		116,2		117,5		..
Slovenia		101,9		100,6		101,6		101,9		101,8		102,7		103,5		105,5		109,4		112,4		114,4		116,2		117,4
Spain		104,6		104,9		105,1		105,4		106,0		107,2		108,2		109,5		113,0		115,3		116,6		117,0		..
Sweden		110,0		112,8		109,1		109,5		109,9		112,1		113,8		115,8		120,1		123,1		126,0		128,1		..
Switzerland		99,9		99,8		99,8		100,3		100,4		100,6		101,3		103,3		103,5		105,3		106,3		106,5		..
Türkiye		187,0		196,9		208,1		225,7		242,4		257,0		270,4		306,8		407,0		471,8		534,4		553,5		566,1
United Kingdom		106,8		107,2		107,5		107,8		108,3		109,2		110,6		112,4		115,2		118,3		121,7		122,9		123,7
Euro area (19 countries)		105,1		105,4		105,8		105,8		106,5		107,6		109,1		110,6		114,4		117,4		119,8		120,3		..
European Union – 27 countries (from 01/02/2020)		105,5		105,9		106,3		106,4		107,1		108,3		110,0		111,7		115,5		118,7		121,3		121,8		..

Price structure breakdown	Description	OECD Producer Prices - Domestic Producer prices - Durable consumer goods Q3 2020 (Lo)	OECD Producer Prices - Domestic Producer prices - Durable consumer goods Q3 2022 (Ln)	Ln/Lo	Increasment factor % k=(0.05+0.95*Ln/Lo)-1	Source	Web location for source
Cost of goods and material	Heat meters / Maddalena, Italy	104,2	116,7	1,1200	11,40%	OECD Producer Prices - Domestic Producer prices - Durable consumer goods	https://stats.oecd.org/Index.aspx?DataSetCode=MEI_PRICES_PPI#
	Fuel Meters / Aquametro, Switzerland	99,8	106,3	1,0648	6,15%		
	Water Meters / Maddalena, Italy	104,2	116,7	1,1200	11,40%		
	Temperature Sensors / Holosys, Croatia	106,3	121,3	1,1415	13,44%		
	CO2 Sensors / Lansen, Sweden	109,1	126,0	1,1544	14,66%		
	Data Concentrators and Modems / Viltrus, Lithuania	113,2	151,6	1,3391	32,22%		
	Meters for electric energy / Siemens, Germany	107,1	121,9	1,1385	13,16%		

Price structure breakdown	Description	MONSTAT, average GROSS wages by activity for sector Construction, for 2020	MONSTAT, average GROSS wages by activity for sector Construction, for 2022 (from January to October)	dP	Increasment factor % k=(0.05+0.95*Ln/Lo)-1	Source	Web location for source
Labour cost	Bruto Labour cost increase from 2020 to 2022	664,0 €	818,0 €	1,2319	22,03%	MONSTAT-MONTHLY STATISTICAL REVIEW No. 10 for October, data: AVERAGE GROSS WAGES BY ACTIVITY SECTORS, IN EUR, for sector Construction, page 20	https://monstat.org/uploads/files/Bilten/2022/10/BILTEN%20BR.%2010.pdf

Price structure breakdown	Description	MONSTAT, Consumer price indices by groups of products, for transportation services, 2021/2020	MONSTAT, Consumer price indices by groups of products, for transportation services, (I-IX 2022/I-IX 2021)	dP	Increasment factor % k=(0.05+0.95*Ln/Lo)-1	Source	Web location for source
Trasnportation costs	Transportation cost / amortisation per km	101,8	109,2	1,0727	6,91%	MONSTAT-MONTHLY STATISTICAL REVIEW No. 10 for October, data: CONSUMER PRICE INDICES BY GROUPS OF PRODUCTS, for Transportation services, page 33	https://monstat.org/uploads/files/Bilten/2022/10/BILTEN%20BR.%2010.pdf

AVERAGE PRICE CHANGE Q3 2020 - Q3 2022

PRICE BREAKDOWN EMS STAGE 2 AND STAGE 3 FOR ADVANCED LEVEL EEPPBII - 12.12.2022.

No.	Stage 2 and Stage 3 - Advanced Level	Unit	Contracted Quantities for Stage 2 -	Contracted Quantities for Stage 3 -	Total Contracted Quantities for	Current Unit price	Breakdown of unit price			Contracted Unit price			New unit price				Unit price increase	Total Contracted amount for Stage 2 and Stage 3,	Total amount for Stage 2 and Stage 3, Advanced level,
							Cost of goods and materials	Labor costs	Transport. costs	Cost of goods and materials	Labor costs	Transport. costs	Cost of goods and materials	Labor costs	Transport. costs	New Unit price			
1	**Installation of Supplemental Heat Meters**																		
1.1	nom flow: 6 m³/h; max flow 12 m³/h; connection by means of standard flange DN25, PN16/25	pcs	5	19	**24**	**880,00 €**	55%	40%	5%	484,00 €	352,00 €	44,00 €	539,16 €	429,56 €	47,04 €	**1.015,75 €**	**15,43%**	21.120,00 €	24.378,08 €
1.2	nom flow: 10 m³/h, max flow: 20 m³/h; connection by means of standard flange DN40, PN16/25	pcs	10	38	**48**	**925,00 €**	55%	40%	5%	508,75 €	370,00 €	46,25 €	566,73 €	451,52 €	49,44 €	**1.067,70 €**	**15,43%**	44.400,00 €	51.249,38 €
1.3	nom flow: 15 m³/h; max flow: 30 m³/h; connection by means of standard flange **DN50**, PN16/25	pcs	10	38	**48**	**1.045,00 €**	55%	40%	5%	574,75 €	418,00 €	52,25 €	640,25 €	510,10 €	55,86 €	**1.206,21 €**	**15,43%**	50.160,00 €	57.897,95 €
1.4	nom flow: 25 m³/h; max flow: 50 m³/h; connection by means of standard flange **DN65**, PN16/25	pcs	10	38	**48**	**1.190,00 €**	55%	40%	5%	654,50 €	476,00 €	59,50 €	729,09 €	580,88 €	63,61 €	**1.373,58 €**	**15,43%**	57.120,00 €	65.931,64 €
1.5	nom flow: 40 m³/h; max flow: 80 m³/h; connection by means of standard flange **DN80**, PN16/25	pcs	10	38	**48**	**1.345,00 €**	55%	40%	5%	739,75 €	538,00 €	67,25 €	824,05 €	656,54 €	71,89 €	**1.552,49 €**	**15,43%**	64.560,00 €	74.519,37 €
1.6	nom flow: 60 m³/h; max flow: 120 m³/h; connection by means of standard flange **DN100,** PN16/25	pcs	10	38	**48**	**305,00 €**	55%	40%	5%	167,75 €	122,00 €	15,25 €	186,87 €	148,88 €	16,30 €	**352,05 €**	**15,43%**	14.640,00 €	16.898,44 €
1.7	installation or retrofit of already existing heat meters	pcs	5	19	**24**	**50,00 €**	10%	85%	5%	5,00 €	42,50 €	2,50 €	5,57 €	51,86 €	2,67 €	**60,11 €**	**20,21%**	1.200,00 €	1.442,56 €
2	**Installation of Supplemental Fuel Meters (oil, diesel, etc.)**																		
2.1	connection dimension 1/2"; flow min/nom/max: 10/400/600 l/h; weight of device set and connection ≤ 2.2 kg	pcs	5	19	**24**	**1.920,00 €**	70%	25%	5%	1.344,00 €	480,00 €	96,00 €	1.426,68 €	585,76 €	102,63 €	**2.115,07 €**	**10,16%**	46.080,00 €	50.761,61 €
2.2	connection dimension 3/4"; flow min/nom/max: 30/1000/1500 l/h; weight of device set and connection ≤ 2.5 kg	pcs	10	38	**48**	**210,00 €**	70%	25%	5%	147,00 €	52,50 €	10,50 €	156,04 €	64,07 €	11,23 €	**231,34 €**	**10,16%**	10.080,00 €	11.104,10 €
2.3	connection dimension 1"; flow min/nom/max: 75/2000/3000 l/h; weight of device set and connection ≤ 4.2 kg	pcs	10	38	**48**	**240,00 €**	70%	25%	5%	168,00 €	60,00 €	12,00 €	178,33 €	73,22 €	12,83 €	**264,38 €**	**10,16%**	11.520,00 €	12.690,40 €
2.4	connection dimension 1-1/2"; flow min/nom/max: 225/6000/9000 l/h; weight of device set and connection ≤ 17.3 kg	pcs	10	38	**48**	**260,00 €**	70%	25%	5%	182,00 €	65,00 €	13,00 €	193,20 €	79,32 €	13,90 €	**286,42 €**	**10,16%**	12.480,00 €	13.747,93 €
2.5	installation or retrofit of already existing fuel meters	pcs	5	19	**24**	**10,00 €**	10%	85%	5%	1,00 €	8,50 €	0,50 €	1,06 €	10,37 €	0,53 €	**11,97 €**	**19,69%**	240,00 €	287,25 €
3	**Installation of Supplemental Fuel Meters (natural gas, LPG, etc.)**																		
3.1	connecting dimensions 1"; flow min/max: 2.0/25 m³/h; weight of set of devices with connections ≤ 1.7 kg	pcs	5	19	**24**	**160,00 €**	70%	25%	5%	112,00 €	40,00 €	8,00 €	118,89 €	48,81 €	8,55 €	**176,26 €**	**10,16%**	3.840,00 €	4.230,13 €
3.2	connecting dimensions 1"; flow min/max: 3.3/65 m³/h; weight of set of devices with connections ≤ 1.7 kg	pcs	5	19	**24**	**190,00 €**	70%	25%	5%	133,00 €	47,50 €	9,50 €	141,18 €	57,97 €	10,16 €	**209,30 €**	**10,16%**	4.560,00 €	5.023,28 €
3.3	connecting dimensions DN50; flow min/max: 6.0/100 m³/h; weight of set of devices with connections ≤ 1.3 kg	pcs	5	19	**24**	**230,00 €**	70%	25%	5%	161,00 €	57,50 €	11,50 €	170,90 €	70,17 €	12,29 €	**253,37 €**	**10,16%**	5.520,00 €	6.080,82 €
3.4	connecting dimensions DN80; flow min/max: 13/250 m³/h; weight of set of devices with connections ≤ 5.3 kg	pcs	5	19	**24**	**260,00 €**	70%	25%	5%	182,00 €	65,00 €	13,00 €	193,20 €	79,32 €	13,90 €	**286,42 €**	**10,16%**	6.240,00 €	6.873,97 €
3.5	installation or retrofit of already existing fuel meters	pcs	5	19	**24**	**10,00 €**	10%	85%	5%	1,00 €	8,50 €	0,50 €	1,06 €	10,37 €	0,53 €	**11,97 €**	**19,69%**	240,00 €	287,25 €
4	**Installation of Temperature Sensors**																		
4.1	Indoor temperature sensors	pcs	200	760	**960**	**180,00 €**	85%	10%	5%	153,00 €	18,00 €	9,00 €	173,56 €	21,97 €	9,62 €	**205,15 €**	**13,97%**	172.800,00 €	196.943,81 €
4.2	Outdoor temperature sensors	pcs	50	190	**240**	**297,00 €**	55%	40%	5%	163,35 €	118,80 €	14,85 €	185,30 €	144,98 €	15,88 €	**346,15 €**	**16,55%**	71.280,00 €	83.077,00 €
5	**Installation of Supplemental Water Meters (≤ DN 40, outdoor)**																		
5.1	Water meter 1/2"	pcs	5	19	**24**	**80,00 €**	55%	40%	5%	44,00 €	32,00 €	4,00 €	49,01 €	39,05 €	4,28 €	**92,34 €**	**15,43%**	1.920,00 €	2.216,19 €
5.2	Water meter 3/4"	pcs	5	19	**24**	**137,00 €**	55%	40%	5%	75,35 €	54,80 €	6,85 €	83,94 €	66,87 €	7,32 €	**158,13 €**	**15,43%**	3.288,00 €	3.795,22 €
5.3	Water meter 1"	pcs	5	19	**24**	**452,00 €**	60%	35%	5%	271,20 €	158,20 €	22,60 €	302,11 €	193,06 €	24,16 €	**519,32 €**	**14,89%**	10.848,00 €	12.463,78 €
5.4	Water meter 5/4"	pcs	5	19	**24**	**482,00 €**	65%	30%	5%	313,30 €	144,60 €	24,10 €	349,00 €	176,46 €	25,76 €	**551,23 €**	**14,36%**	11.568,00 €	13.229,49 €
5.5	Water meter 6/4"	pcs	5	19	**24**	**497,00 €**	70%	25%	5%	347,90 €	124,25 €	24,85 €	387,55 €	151,63 €	26,57 €	**565,74 €**	**13,83%**	11.928,00 €	13.577,76 €
5.6	Manhole	pcs	20	76	**96**	**100,00 €**	15%	80%	5%	15,00 €	80,00 €	5,00 €	16,71 €	97,63 €	5,35 €	**119,68 €**	**19,68%**	9.600,00 €	11.489,40 €
6	**Installation of Supplemental Water Meters (> DN 40, outdoor)**																		
6.1	Water meter 2"	pcs	5	19	**24**	**288,00 €**	55%	40%	5%	158,40 €	115,20 €	14,40 €	176,45 €	140,58 €	15,39 €	**332,43 €**	**15,43%**	6.912,00 €	7.978,28 €
6.2	Water meter 2.5"	pcs	5	19	**24**	**70,00 €**	60%	35%	5%	42,00 €	24,50 €	3,50 €	46,79 €	29,90 €	3,74 €	**80,43 €**	**14,89%**	1.680,00 €	1.930,23 €
6.3	Water meter 3"	pcs	5	19	**24**	**80,00 €**	65%	30%	5%	52,00 €	24,00 €	4,00 €	57,93 €	29,29 €	4,28 €	**91,49 €**	**14,36%**	1.920,00 €	2.195,77 €
6.4	Water meter 4"	pcs	5	19	**24**	**90,00 €**	70%	25%	5%	63,00 €	22,50 €	4,50 €	70,18 €	27,46 €	4,81 €	**102,45 €**	**13,83%**	2.160,00 €	2.458,75 €
6.5	Manhole	pcs	10	38	**48**	**100,00 €**	15%	80%	5%	15,00 €	80,00 €	5,00 €	16,71 €	97,63 €	5,35 €	**119,68 €**	**19,68%**	4.800,00 €	5.744,70 €
7	**Installation of Supplemental Water Meters (≤ 6/4", indoor)**																		
7.1	Water meter 1/2"	pcs	5	19	**24**	**80,00 €**	55%	40%	5%	44,00 €	32,00 €	4,00 €	49,01 €	39,05 €	4,28 €	**92,34 €**	**15,43%**	1.920,00 €	2.216,19 €
7.2	Water meter 3/4"	pcs	5	19	**24**	**137,00 €**	55%	40%	5%	75,35 €	54,80 €	6,85 €	83,94 €	66,87 €	7,32 €	**158,13 €**	**15,43%**	3.288,00 €	3.795,22 €

No.	Stage 2 and Stage 3 - Advanced Level	Unit	Contracted Quantities for Stage 2 -	Contracted Quantities for Stage 3 -	Total Contracted Quantities for	Current Unit price	Breakdown of unit price			Contracted Unit price			New unit price				Unit price increase	Total Contracted amount for Stage 2 and Stage 3,	Total amount for Stage 2 and Stage 3, Advanced level,
							Cost of goods and materials	Labor costs	Transport. costs	Cost of goods and materials	Labor costs	Transport. costs	Cost of goods and materials	Labor costs	Transport. costs	New Unit price			
7.3	Water meter 1"	pcs	5	19	**24**	**452,00 €**	60%	35%	5%	271,20 €	158,20 €	22,60 €	302,11 €	193,06 €	24,16 €	**519,32 €**	**14,89%**	10.848,00 €	12.463,78 €
7.4	Water meter 5/4"	pcs	5	19	**24**	**482,00 €**	65%	30%	5%	313,30 €	144,60 €	24,10 €	349,00 €	176,46 €	25,76 €	**551,23 €**	**14,36%**	11.568,00 €	13.229,49 €
7.5	Water meter 6/4"	pcs	5	19	**24**	**497,00 €**	70%	25%	5%	347,90 €	124,25 €	24,85 €	387,55 €	151,63 €	26,57 €	**565,74 €**	**13,83%**	11.928,00 €	13.577,76 €
8	**Installation of Supplemental Water Meters (> 6/4", indoor)**																		
8.1	Water meter 2"	pcs	5	19	**24**	**238,00 €**	55%	40%	5%	130,90 €	95,20 €	11,90 €	145,82 €	116,18 €	12,72 €	**274,72 €**	**15,43%**	5.712,00 €	6.593,16 €
8.2	Water meter 2.5"	pcs	5	19	**24**	**70,00 €**	60%	35%	5%	42,00 €	24,50 €	3,50 €	46,79 €	29,90 €	3,74 €	**80,43 €**	**14,89%**	1.680,00 €	1.930,23 €
8.3	Water meter 3"	pcs	5	19	**24**	**80,00 €**	65%	30%	5%	52,00 €	24,00 €	4,00 €	57,93 €	29,29 €	4,28 €	**91,49 €**	**14,36%**	1.920,00 €	2.195,77 €
8.4	Water meter 4"	pcs	5	19	**24**	**90,00 €**	70%	25%	5%	63,00 €	22,50 €	4,50 €	70,18 €	27,46 €	4,81 €	**102,45 €**	**13,83%**	2.160,00 €	2.458,75 €
9	**Installation of Electricity Meters (semi-indirect)**																		
9.1	Electricity meter (existing or new switchboard)	pcs	5	19	**24**	**178,00 €**	55%	40%	5%	97,90 €	71,20 €	8,90 €	110,78 €	86,89 €	9,51 €	**207,18 €**	**16,40%**	4.272,00 €	4.972,40 €
9.2	Current reduction gear	pcs	5	19	**24**	**123,00 €**	65%	30%	5%	79,95 €	36,90 €	6,15 €	90,47 €	45,03 €	6,57 €	**142,07 €**	**15,51%**	2.952,00 €	3.409,78 €
9.3	New switchboard; cabinet	pcs	5	19	**24**	**60,00 €**	45%	50%	5%	27,00 €	30,00 €	3,00 €	30,55 €	36,61 €	3,21 €	**70,37 €**	**17,28%**	1.440,00 €	1.688,87 €
9.4	Integration or retrofit of already existing electricity meter	pcs	5	19	**24**	**15,00 €**	10%	85%	5%	1,50 €	12,75 €	0,75 €	1,70 €	15,56 €	0,80 €	**18,06 €**	**20,39%**	360,00 €	433,40 €
10	**Installation of Electricity Meters (direct)**																		
10.1	Electricity meter (existing or new switchboard)	pcs	40	152	**192**	**380,00 €**	55%	40%	5%	209,00 €	152,00 €	19,00 €	236,50 €	185,49 €	20,31 €	**442,30 €**	**16,40%**	72.960,00 €	84.921,89 €
10.2	New switchboard; cabinet	pcs	20	76	**96**	**212,00 €**	45%	50%	5%	95,40 €	106,00 €	10,60 €	107,95 €	129,36 €	11,33 €	**248,64 €**	**17,28%**	20.352,00 €	23.869,38 €
10.3	Integration or retrofit of already existing electricity meter	pcs	5	19	**24**	**15,00 €**	10%	85%	5%	1,50 €	12,75 €	0,75 €	1,70 €	15,56 €	0,80 €	**18,06 €**	**20,39%**	360,00 €	433,40 €
11	**Installation of Indoor Carbon Dioxide Sensor**																		
11.1	Carbon Dioxide Sensor	pcs	150	570	**720**	**340,00 €**	85%	10%	5%	289,00 €	34,00 €	17,00 €	331,38 €	41,49 €	18,17 €	**391,05 €**	**15,01%**	244.800,00 €	281.553,10 €
12	**Installation of Smart Data Concentrator**																		
12.1	Smart Data Concentrator	pcs	50	190	**240**	**3.770,00 €**													
					50% share Lithuania	**1.885,00 €**	70%	25%	5%	1.319,50 €	471,25 €	94,25 €	1.744,60 €	575,08 €	100,76 €	**2.420,44 €**	**28,41%**	452.400,00 €	580.905,30 €
					50% share EU	**1.885,00 €**	70%	25%	5%	1.319,50 €	471,25 €	94,25 €	1.496,83 €	575,08 €	100,76 €	**2.172,67 €**	**15,26%**	452.400,00 €	521.441,52 €
12.2	Modem for internet connection	pcs	50	190	**240**	**10,00 €**	90%	5%	5%	9,00 €	0,50 €	0,50 €	11,90 €	0,61 €	0,53 €	**13,04 €**	**30,44%**	2.400,00 €	3.130,61 €
	Total amount Stage 2 and Satge 3, Advanced Level (VAT excl.)																	**1.970.424,00 €**	**2.325.724,56 €**

TOTAL INCREASE	**18,0317%**

CLAIM FOR INCREASED COSTS No. 001	**Record No.** 20221213_EMS_STAGE_2_AND_STAGE_3_ADVANCED_LEVEL_ EEPPBII_CIC_CONSENT	**Date:** 13.12.2022.
Scope: **CONSENT TO INSTRUCTION FOR VARIATION NO.: 03/5-302/22-13865/2** **ENERGY EFFICIENCY PROGRAM IN PUBLIC BUILDINGS, PHASE II** **ENERGY MONITORING SYSTEM (EMS)**		

We hereby confirm and accept the terms and conditions set in „RESPONSE TO THE CLAIM FOR INCREASED COSTS "EMS PROJECT - STAGE 2 AND STAGE 3 - CLAIM FOR INCREASED COSTS – REV5" - INSTRUCTION FOR VARIATION" No.: 03/5-302/22-13865/2 of 13.12.2022.

In the attachment:
- NEW RATES / UPDATED BILL OF QUANTITIES - EMS PROJECT

for ALARM AUTOMATIKA

Miroslav Ćirić

Digitally signed by Miroslav Ćirić
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Miroslav Ćirić, dipl.ing.

PROJECT MANAGER

Milan Đukanović

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Milan Đukanović, dipl.ing.

ALARM AUTOMATIKA D.O.O.
Dat 13.12.2022.
ICB No. and title: **310-618/2019-1, Procurement of Energy Monitoring System**
KfW Procurement No.: **503297**

To: MoCI

GRAND SUMMARY		
1	**Stage 1 - Basic Level 1 (VAT excl.)**	400.000 €
2	**Stage 1 - Basic Level 2 (VAT excl.)**	90.000 €
3	**Stage 1 - Advanced Level (VAT excl.)**	82.101 €
4	**Stage 1 - Dayworks (VAT excl.)**	5.500 €
5	**Stage 1 - Maintenance & Support (VAT excl.)**	172.000 €
6	**Stage 2 - Advanced Level (VAT excl.)**	443.475 €
7	**Stage 2 - Maintenance & Support (VAT excl.)**	60.000 €
8	**Stage 3 - Advanced Level (VAT excl.)**	1.685.207 €
9	**Stage 3 - Maintenance & Support (VAT excl.)**	220.000 €
	Total price (excluding taxes and duties) of Stage 1	749.601 €
	Total price (excluding taxes and duties) of Stage 2	503.475 €
	Total price (excluding taxes and duties) of Stage 3	1.905.207 €
	Total price (excluding taxes and duties) of all Stages = BID PRICE	3.158.283 €
	Anticipated Import Duties (if any) for Stage 1	
	Anticipated Import Duties (if any) for Stage 2 - Advanced Level	
	Anticipated Import Duties (if any) for Stage 3 - Advanced Level	
	VAT (21%) for Stage 1	
	VAT (21%) for Stage 2	
	VAT (21%) for Stage 3	
	Order Value Stage 1	749.601,00 €
	Order Value Stage 2	503.475,45 €
	Order Value Stage 3	1.905.206,71 €

Miroslav Ćirić, dipl.ing.
(Name)

Bord Member
(In the capacity of)

_____
(Signature)*

13.12.2022.
(Dated)

ALARM AUTOMATIKA D.O.O.
Dat 13.12.2022.
ICB No. and title: **310-618/2019-1, Procurement of Energy Monitoring System**
KfW Procurement No.: **503297**

To: MoCI

No	Item	Unit	Quantity	Unit price (€)	Amount (€)
1	**Stage 1 - Basic Level 1**				
1.1	Procurement and Delivery of Hardware for EMS Central Core Application (Basic IT-System in accordance with Chapter 2.10 of Section 7a (Technical Requirements))	Lump Sum	1	40000	40000
1.2	Development of EMS Central Core Application	Lump Sum	1	300000	300000
1.3	Implementation of EMS Central Core Application and procurement of any required licenses for EMS operation	Lump Sum	1	60000	60000
1	**Stage 1 - Basic Level 1 (VAT excl.)**				**= 400.000,00 €**
	Anticipated Import Duties (if any) for Stage 1 - Basic Level 1				**=**

No	Item	Unit	Quantity	Unit price (€)	Amount (€)
2	**Stage 1 - Basic Level 2**				
2.1	Implementation of Electricity Interface (for hourly data) + confirmation of successful data gathering of selected public buildings via interface	Lump Sum	1	75000	75000
2.2	Implementation of Generic Water Interface (for monthly data) + confirmation of successful data gathering of selected public buildings via interface	Lump Sum	1	15000	15000
2	**Stage 1 - Basic Level 2 (VAT excl.)**				**= 90.000,00 €**
	Anticipated Import Duties (if any) for Stage 1 - Basic Level 2				**=**

No	Item	Unit	Quantity	Unit price (€)		Amount (€)
3	**Stage 1 - Advanced Level**					
3.1	**Installation of Supplemental Heat Meters**					
3.1.1	nom flow: 6 m³/h; max flow 12 m³/h; connection by means of standard flange DN25, PN16/25	pcs	1	880		880
3.1.2	nom flow: 10 m³/h, max flow: 20 m³/h; connection by means of standard flange **DN40**, PN16/25	pcs	2	925		1850
3.1.3	nom flow: 15 m³/h; max flow: 30 m³/h; connection by means of standard flange **DN50**, PN16/25	pcs	2	1045		2090
3.1.4	nom flow: 25 m³/h; max flow: 50 m³/h; connection by means of standard flange **DN65**, PN16/25	pcs	2	1190		2380
3.1.5	nom flow: 40 m³/h; max flow: 80 m³/h; connection by means of standard flange **DN80**, PN16/25	pcs	2	1345		2690
3.1.6	nom flow: 60 m³/h; max flow: 120 m³/h; connection by means of standard flange **DN100**, PN16/25	pcs	2	305		610
3.1.7	installation or retrofit of already existing heat meters	pcs	1	50		50
					Sub-total	10550
3.2	**Installation of Supplemental Fuel Meters (oil, diesel, etc.)**					
3.2.1	connection dimension 1/2"; flow min/nom/max: 10/400/600 l/h; weight of device set and connection ≤ 2.2 kg	pcs	1	1920		1920
3.2.2	connection dimension 3/4"; flow min/nom/max: 30/1000/1500 l/h; weight of device set and connection ≤ 2.5 kg	pcs	2	210		420
3.2.3	connection dimension 1"; flow min/nom/max: 75/2000/3000 l/h; weight of device set and connection ≤ 4.2 kg	pcs	2	240		480
3.2.4	connection dimension 1-1/2"; flow min/nom/max: 225/6000/9000 l/h; weight of device set and connection ≤ 17.3 kg	pcs	2	260		520
3.2.5	installation or retrofit of already existing fuel meters	pcs	1	10		10
					Sub-total	3350
3.3	**Installation of Supplemental Fuel Meters (natural gas, LPG, etc.)**					
3.3.1	connecting dimensions 1"; flow min/max: 2.0/25 m³/h; weight of set of devices with connections ≤ 1.7 kg	pcs	1	160		160
3.3.2	connecting dimensions 1"; flow min/max: 3.3/65 m³/h; weight of set of devices with connections ≤ 1.7 kg	pcs	1	190		190
3.3.3	connecting dimensions DN50; flow min/max: 6.0/100 m³/h; weight of set of devices with connections ≤ 1.3 kg	pcs	1	230		230
3.3.4	connecting dimensions DN80; flow min/max: 13/250 m³/h; weight of set of devices with connections ≤ 5.3 kg	pcs	1	260		260
3.3.5	installation or retrofit of already existing fuel meters	pcs	1	10		10
					Sub-total	850
3.4	**Installation of Temperature Sensors**					
3.4.1	Indoor temperature sensors	pcs	40	180		7200
3.4.2	Outdoor temperature sensors	pcs	10	297		2970
					Sub-total	10170
3.5	**Installation of Supplemental Water Meters (≤ DN 40, outdoor)**					
3.5.1	Water meter 1/2"	pcs	1	80		80
3.5.2	Water meter 3/4"	pcs	1	137		137
3.5.3	Water meter 1"	pcs	1	452		452
3.5.4	Water meter 5/4"	pcs	1	482		482
3.5.5	Water meter 6/4"	pcs	1	497		497
3.5.6	Manhole	pcs	4	100		400
					Sub-total	2048
3.6	**Installation of Supplemental Water Meters (> DN 40, outdoor)**					
3.6.1	Water meter 2"	pcs	1	288		288
3.6.2	Water meter 2.5"	pcs	1	70		70
3.6.3	Water meter 3"	pcs	1	80		80
3.6.4	Water meter 4"	pcs	1	90		90
3.6.5	Manhole	pcs	2	100		200
					Sub-total	728
3.7	**Installation of Supplemental Water Meters (≤ 6/4", indoor)**					
3.7.1	Water meter 1/2"	pcs	1	80		80
3.7.2	Water meter 3/4"	pcs	1	137		137
3.7.3	Water meter 1"	pcs	1	452		452
3.7.4	Water meter 5/4"	pcs	1	482		482
3.7.5	Water meter 6/4"	pcs	1	497		497
					Sub-total	1648
3.8	**Installation of Supplemental Water Meters (> 6/4", indoor)**					
3.9	Water meter 2"	pcs	1	238		238
3.10	Water meter 2.5"	pcs	1	70		70
3.11	Water meter 3"	pcs	1	80		80
3.12	Water meter 4"	pcs	1	90		90
					Sub-total	478
3.9	**Installation of Electricity Meters (semi-indirect)**					
3.9.1	Electricity meter (existing or new switchboard)	pcs	1	178		178
3.9.2	Current reduction gear	pcs	1	123		123
3.9.3	New switchboard; cabinet	pcs	1	60		60
3.9.4	Integration or retrofit of already existing electricity meter	pcs	1	15		15
					Sub-total	376
3.10	**Installation of Electricity Meters (direct)**					
3.10.1	Electricity meter (existing or new switchboard)	pcs	8	380		3040
3.10.2	New switchboard; cabinet	pcs	4	212		848
3.10.3	Integration or retrofit of already existing electricity meter	pcs	1	15		15
					Sub-total	3903
3.11	**Installation of Indoor Carbon Dioxide Sensor**					
3.11.1	Carbon Dioxide Sensor	pcs	30	340		10200
					Sub-total	10200
3.12	**Installation of Smart Data Concentrator**					
3.12.1	Smart Data Concentrator	pcs	10	3770		37700
3.12.2	Modem for internet connection	pcs	10	10		100
					Sub-total	37800
3	**Stage 1 - Advanced Level (VAT excl.)**				**=**	**82.101,00 €**
	Anticipated Import Duties (if any) for Stage 1 - Advanced Level				**=**	

No	Item	Unit	Quantity	Unit price (€)	Amount (€)
4	**Stage 1 - Dayworks**				
4.1	Daywork for Project Manager	hour	20	60	1200
4.2	Daywork for Engineers	hour	20	50	1000
4.3	Daywork for construction/installation foreman/supervisor	hour	20	50	1000
4.4	Daywork for technical skilled labour	hour	20	40	800
4.5	Daywork for general unskilled labour	hour	20	25	500
4.6	Daywork for major equipment	hour	20	25	500
4.7	Daywork for minor equipment	hour	20	25	500
4	**Stage 1 - Dayworks (VAT excl.)**				**= 5.500,00 €**

No	Item	Unit	Quantity	Unit price (€)		Amount (€)
5	**Stage 1 - Maintenance & Support**					
5.1	**Maintenance & Support of EMS Central Core Application (Basic Level 1 + Basic Level 2)**					
5.1.1	Annual maintenance/support	quarter	20	6250		125000
5.1.2	Average annual cost for expected exchange of parts/components	quarter	20	1250		25000
5.1.3	Average annual cost for necessary spare parts	quarter	20	500		10000
5.1.4	Other costs (depending on design of Contractor; details/breakdown included in Technical Proposal)	Lump Sum	1	0		
5.2	**Maintenance & Support of Field Devices (Advanced Level)**					
5.2.1	Annual maintenance/support **for all facilities (10)**	quarter	20	**250**		5000
5.2.2	Average annual cost for expected exchange of parts/components **for all facilities (10)**	quarter	20	**200**		4000
5.2.3	Average annual cost for necessary spare parts **for all facilities (10)**	quarter	20	**150**		3000
5.2.4	Other costs (depending on design of Contractor; details/breakdown included in Technical Proposal)	Lump Sum	1	0		
5	**Stage 1 - Maintenance & Support (VAT excl.)**				**=**	**172000**
	Anticipated Import Duties (if any) for Stage 1 - Maintenance & Support				**=**	

No	Item	Unit	Quantity	Unit price (€)	Amount (€)
6	**Stage 2 - Advanced Level**				
6.1	**Installation of Supplemental Heat Meters**				
6.1.1	nom flow: 6 m³/h; max flow 12 m³/h; connection by means of standard flange DN25, PN16/25	pcs	5	927,75	4.638,77
6.1.2	nom flow: 10 m³/h, max flow: 20 m³/h; connection by means of standard flange **DN40**, PN16/25	pcs	10	975,20	9.751,95
6.1.3	nom flow: 15 m³/h; max flow: 30 m³/h; connection by means of standard flange **DN50**, PN16/25	pcs	10	1.101,71	11.017,07
6.1.4	nom flow: 25 m³/h; max flow: 50 m³/h; connection by means of standard flange **DN65**, PN16/25	pcs	10	1.254,58	12.545,76
6.1.5	nom flow: 40 m³/h; max flow: 80 m³/h; connection by means of standard flange **DN80**, PN16/25	pcs	10	1.417,99	14.179,87
6.1.6	nom flow: 60 m³/h; max flow: 120 m³/h; connection by means of standard flange **DN100**, PN16/25	pcs	10	321,55	3.215,51
6.1.7	installation or retrofit of already existing heat meters	pcs	5	55,11	275,53
				Sub-total	55.624,46
6.2	**Installation of Supplemental Fuel Meters (oil, diesel, etc.)**				
6.2.1	connection dimension 1/2"; flow min/nom/max: 10/400/600 l/h; weight of device set and connection ≤ 2.2 kg	pcs	5	1.923,07	9.615,33
6.2.2	connection dimension 3/4"; flow min/nom/max: 30/1000/1500 l/h; weight of device set and connection ≤ 2.5 kg	pcs	10	210,34	2.103,35
6.2.3	connection dimension 1"; flow min/nom/max: 75/2000/3000 l/h; weight of device set and connection ≤ 4.2 kg	pcs	10	240,38	2.403,83
6.2.4	connection dimension 1-1/2"; flow min/nom/max: 225/6000/9000 l/h; weight of device set and connection ≤ 17.3 kg	pcs	10	260,42	2.604,15
6.2.5	installation or retrofit of already existing fuel meters	pcs	5	10,97	54,84
				Sub-total	16.781,52
6.3	**Installation of Supplemental Fuel Meters (natural gas, LPG, etc.)**				
6.3.1	connecting dimensions 1"; flow min/max: 2.0/25 m³/h; weight of set of devices with connections ≤ 1.7 kg	pcs	5	160,26	801,28
6.3.2	connecting dimensions 1"; flow min/max: 3.3/65 m³/h; weight of set of devices with connections ≤ 1.7 kg	pcs	5	190,30	951,52
6.3.3	connecting dimensions DN50; flow min/max: 6.0/100 m³/h; weight of set of devices with connections ≤ 1.3 kg	pcs	5	230,37	1.151,84
6.3.4	connecting dimensions DN80; flow min/max: 13/250 m³/h; weight of set of devices with connections ≤ 5.3 kg	pcs	5	260,42	1.302,08
6.3.5	installation or retrofit of already existing fuel meters	pcs	5	10,97	54,84
				Sub-total	4.261,55
6.4	**Installation of Temperature Sensors**				
6.4.1	Indoor temperature sensors	pcs	200	187,15	37.429,96
6.4.2	Outdoor temperature sensors	pcs	50	316,45	15.822,71
				Sub-total	53.252,67
6.5	**Installation of Supplemental Water Meters (≤ DN 40, outdoor)**				
6.5.1	Water meter 1/2"	pcs	5	84,34	421,71
6.5.2	Water meter 3/4"	pcs	5	144,43	722,17
6.5.3	Water meter 1"	pcs	5	474,12	2.370,62
6.5.4	Water meter 5/4"	pcs	5	503,03	2.515,14
6.5.5	Water meter 6/4"	pcs	5	516,04	2.580,20
6.5.6	Manhole	pcs	20	109,68	2.193,62
				Sub-total	10.803,47
6.6	**Installation of Supplemental Water Meters (> DN 40, outdoor)**				
6.6.1	Water meter 2"	pcs	5	303,63	1.518,14
6.6.2	Water meter 2.5"	pcs	5	73,43	367,13
6.6.3	Water meter 3"	pcs	5	83,49	417,45
6.6.4	Water meter 4"	pcs	5	93,45	467,24
6.6.5	Manhole	pcs	10	109,68	1.096,81
				Sub-total	3.866,78
6.7	**Installation of Supplemental Water Meters (≤ 6/4", indoor)**				
6.7.1	Water meter 1/2"	pcs	5	84,34	421,71
6.7.2	Water meter 3/4"	pcs	5	144,43	722,17
6.7.3	Water meter 1"	pcs	5	474,12	2.370,62
6.7.4	Water meter 5/4"	pcs	5	503,03	2.515,14
6.7.5	Water meter 6/4"	pcs	5	516,04	2.580,20
				Sub-total	8.609,84
6.8	**Installation of Supplemental Water Meters (> 6/4", indoor)**				
6.8.1	Water meter 2"	pcs	5	250,92	1.254,58
6.8.2	Water meter 2.5"	pcs	5	73,43	367,13
6.8.3	Water meter 3"	pcs	5	83,49	417,45
6.8.4	Water meter 4"	pcs	5	93,45	467,24
				Sub-total	2.506,40
6.9	**Installation of Electricity Meters (semi-indirect)**				
6.9.1	Electricity meter (existing or new switchboard)	pcs	5	189,38	946,92
6.9.2	Current reduction gear	pcs	5	129,77	648,87
6.9.3	New switchboard; cabinet	pcs	5	64,37	321,85
6.9.4	Integration or retrofit of already existing electricity meter	pcs	5	16,56	82,79
				Sub-total	2.000,43
6.10	**Installation of Electricity Meters (direct)**				
6.10.1	Electricity meter (existing or new switchboard)	pcs	40	404,30	16.172,06
6.10.2	New switchboard; cabinet	pcs	20	227,44	4.548,79
6.10.3	Integration or retrofit of already existing electricity meter	pcs	5	16,56	82,79
				Sub-total	20.803,64
6.11	**Installation of Indoor Carbon Dioxide Sensor**				
6.11.1	Carbon Dioxide Sensor	pcs	150	357,05	53.556,90
				Sub-total	53.556,90
6.12	**Installation of Smart Data Concentrator**				
6.12.1	Smart Data Concentrator	pcs	50	4.216,11	210.805,59
6.12.2	Modem for internet connection	pcs	50	12,04	602,21
				Sub-total	211.407,80
6	**Stage 2 - Advanced Level (VAT excl.)**			**=**	**443.475,45 €**
	Anticipated Import Duties (if any) for Stage 2 - Advanced Level			**=**	

No	Item	Unit	Quantity	Unit price (€)		Amount (€)
7	**Stage 2 - Maintenance & Support**					
7.1	**Maintenance & Support of Field Devices (Advanced Level)**					
7.1.1	Annual maintenance/support **for all facilities (49)**	quarter	20	**1250**		25000
7.1.2	Average annual cost for expected exchange of parts/components **for all facilities (49)**	quarter	20	**1000**		20000
7.1.3	Average annual cost for necessary spare parts **for all facilities (49)**	quarter	20	**750**		15000
7.1.4	Other costs (depending on design of Contractor; details/breakdown included in Technical Proposal)	Lump Sum	1	0		
7	**Stage 2 - Maintenance & Support (VAT excl.)**				**=**	**60000**
	Anticipated Import Duties (if any) for Stage 2 - Maintenance & Support				**=**	

No	Item	Unit	Quantity	Unit price (€)	Amount (€)
8	**Stage 3 - Advanced Level**				
8.1	**Installation of Supplemental Heat Meters**				
8.1.1	nom flow: 6 m³/h; max flow 12 m³/h; connection by means of standard flange DN25, PN16/25	pcs	19	927,75	17.627,32
8.1.2	nom flow: 10 m³/h, max flow: 20 m³/h; connection by means of standard flange **DN40**, PN16/25	pcs	38	975,20	37.057,43
8.1.3	nom flow: 15 m³/h; max flow: 30 m³/h; connection by means of standard flange **DN50**, PN16/25	pcs	38	1.101,71	41.864,88
8.1.4	nom flow: 25 m³/h; max flow: 50 m³/h; connection by means of standard flange **DN65**, PN16/25	pcs	38	1.254,58	47.673,88
8.1.5	nom flow: 40 m³/h; max flow: 80 m³/h; connection by means of standard flange **DN80**, PN16/25	pcs	38	1.417,99	53.883,50
8.1.6	nom flow: 60 m³/h; max flow: 120 m³/h; connection by means of standard flange **DN100**, PN16/25	pcs	38	321,55	12.218,94
8.1.7	installation or retrofit of already existing heat meters	pcs	19	55,11	1.047,02
				Sub-total	211.372,96
8.2	**Installation of Supplemental Fuel Meters (oil, diesel, etc.)**				
8.2.1	connection dimension 1/2"; flow min/nom/max: 10/400/600 l/h; weight of device set and connection ≤ 2.2 kg	pcs	19	1.923,07	36.538,27
8.2.2	connection dimension 3/4"; flow min/nom/max: 30/1000/1500 l/h; weight of device set and connection ≤ 2.5 kg	pcs	38	210,34	7.992,75
8.2.3	connection dimension 1"; flow min/nom/max: 75/2000/3000 l/h; weight of device set and connection ≤ 4.2 kg	pcs	38	240,38	9.134,57
8.2.4	connection dimension 1-1/2"; flow min/nom/max: 225/6000/9000 l/h; weight of device set and connection ≤ 17.3 kg	pcs	38	260,42	9.895,78
8.2.5	installation or retrofit of already existing fuel meters	pcs	19	10,97	208,41
				Sub-total	63.769,78
8.3	**Installation of Supplemental Fuel Meters (natural gas, LPG, etc.)**				
8.3.1	connecting dimensions 1"; flow min/max: 2.0/25 m³/h; weight of set of devices with connections ≤ 1.7 kg	pcs	19	160,26	3.044,86
8.3.2	connecting dimensions 1"; flow min/max: 3.3/65 m³/h; weight of set of devices with connections ≤ 1.7 kg	pcs	19	190,30	3.615,77
8.3.3	connecting dimensions DN50; flow min/max: 6.0/100 m³/h; weight of set of devices with connections ≤ 1.3 kg	pcs	19	230,37	4.376,98
8.3.4	connecting dimensions DN80; flow min/max: 13/250 m³/h; weight of set of devices with connections ≤ 5.3 kg	pcs	19	260,42	4.947,89
8.3.5	installation or retrofit of already existing fuel meters	pcs	19	10,97	208,41
				Sub-total	16.193,90
8.4	**Installation of Temperature Sensors**				
8.4.1	Indoor temperature sensors	pcs	760	187,15	142.233,85
8.4.2	Outdoor temperature sensors	pcs	190	316,45	60.126,29
				Sub-total	202.360,14
8.5	**Installation of Supplemental Water Meters (≤ DN 40, outdoor)**				
8.5.1	Water meter 1/2"	pcs	19	84,34	1.602,48
8.5.2	Water meter 3/4"	pcs	19	144,43	2.744,25
8.5.3	Water meter 1"	pcs	19	474,12	9.008,36
8.5.4	Water meter 5/4"	pcs	19	503,03	9.557,55
8.5.5	Water meter 6/4"	pcs	19	516,04	9.804,76
8.5.6	Manhole	pcs	76	109,68	8.335,77
				Sub-total	41.053,18
8.6	**Installation of Supplemental Water Meters (> DN 40, outdoor)**				
8.6.1	Water meter 2"	pcs	19	303,63	5.768,94
8.6.2	Water meter 2.5"	pcs	19	73,43	1.395,10
8.6.3	Water meter 3"	pcs	19	83,49	1.586,32
8.6.4	Water meter 4"	pcs	19	93,45	1.775,51
8.6.5	Manhole	pcs	38	109,68	4.167,89
				Sub-total	14.693,75
8.7	**Installation of Supplemental Water Meters (≤ 6/4", indoor)**				
8.7.1	Water meter 1/2"	pcs	19	84,34	1.602,48
8.7.2	Water meter 3/4"	pcs	19	144,43	2.744,25
8.7.3	Water meter 1"	pcs	19	474,12	9.008,36
8.7.4	Water meter 5/4"	pcs	19	503,03	9.557,55
8.7.5	Water meter 6/4"	pcs	19	516,04	9.804,76
				Sub-total	32.717,41
8.8	**Installation of Supplemental Water Meters (> 6/4", indoor)**				
8.8.1	Water meter 2"	pcs	19	250,92	4.767,39
8.8.2	Water meter 2.5"	pcs	19	73,43	1.395,10
8.8.3	Water meter 3"	pcs	19	83,49	1.586,32
8.8.4	Water meter 4"	pcs	19	93,45	1.775,51
				Sub-total	9.524,31
8.9	**Installation of Electricity Meters (semi-indirect)**				
8.9.1	Electricity meter (existing or new switchboard)	pcs	19	189,38	3.598,28
8.9.2	Current reduction gear	pcs	19	129,77	2.465,71
8.9.3	New switchboard; cabinet	pcs	19	64,37	1.223,02
8.9.4	Integration or retrofit of already existing electricity meter	pcs	19	16,56	314,61
				Sub-total	7.601,63
8.10	**Installation of Electricity Meters (direct)**				
8.10.1	Electricity meter (existing or new switchboard)	pcs	152	404,30	61.453,83
8.10.2	New switchboard; cabinet	pcs	76	227,44	17.285,39
8.10.3	Integration or retrofit of already existing electricity meter	pcs	19	16,56	314,61
				Sub-total	79.053,83
8.11	**Installation of Indoor Carbon Dioxide Sensor**				
8.11.1	Carbon Dioxide Sensor	pcs	570	357,05	203.516,21
				Sub-total	203.516,21
8.12	**Installation of Smart Data Concentrator**				
8.12.1	Smart Data Concentrator	pcs	190	4.216,11	801.061,23
8.12.2	Modem for internet connection	pcs	190	12,04	2.288,40
				Sub-total	803.349,62
8	**Stage 3 - Advanced Level (VAT excl.)**			**=**	**1.685.206,71 €**
	Anticipated Import Duties (if any) for Stage 3 - Advanced Level			**=**	

No	Item	Unit	Quantity	Unit price (€)		Amount (€)
9	**Stage 3 - Maintenance & Support**					
9.1	**Maintenance & Support of Field Devices (Advanced Level)**					
9.1.1	Annual maintenance/support **for all facilities (191)**	quarter	20	**5000**		100000
9.1.2	Average annual cost for expected exchange of parts/components **for all facilities (191)**	quarter	20	**4000**		80000
9.1.3	Average annual cost for necessary spare parts **for all facilities (191)**	quarter	20	**2000**		40000
9.1.4	Other costs (depending on design of Contractor; details/breakdown included in Technical Proposal)	Lump Sum	1	0		
9	**Stage 3 - Maintenance & Support (VAT excl.)**				**=**	**220000**
	Anticipated Import Duties (if any) for Stage 3 - Maintenance & Support				**=**	

FOR BETTER INFRASTRUCTURE.

Fichtner GmbH & Co. KG · Postfach 10 14 54 · 70013 Stuttgart

Ministry of Economy (Ministry of Capital Investments since December 2020)
Directorate for Energy and Energy Efficiency
Bozidar Pavlovic
Rimski trg 46
81000 Podgorica
Montenegro

Fichtner GmbH & Co. KG
Sarweystraße 3
70191 Stuttgart

Telefon	+49 (711) 8995 0
Telefax	+49 (711) 8995 459
Internet	www.fichtner.de
Dokument	Statement to AAs claim for increased costs.docx
Unser Zeichen	/000/DKOE/
Name	Dirk Köwener
E-Mail	Dirk.Koewener@fichtner.de
Datum	12. Dezember 2022

Statement to Alarm Automatika's Claim for Increased Costs

Dear Mr Pavlovic,

Alarm Automatika ("Contractor") claimed for increased costs regarding the project "Agreement on Procurement of Equipment and Execution of Works on the Establishment of Energy Monitoring System in Public Buildings". The EAC as Employer's Representative evaluated the final claim for "EMS PROJECT - STAGE 2 AND STAGE 3 - CLAIM FOR INCREASED COSTS – REV5" from Dec 12th 2022 and provides the following conclusion:

The Contractor provided sufficient justification for his claim for increased costs.

The Contractor provided a reasonable calculation scheme based on accepted statistical data (OECD and national statistics).

Therefore, the EAC determines the claim for increased costs as satisfactory.

Best regards,

Fichtner GmbH & Co. KG

FICHTNER ppa. Digitally signed by Stuible, Dr. Achim
Date: 2022.12.13 16:41:30 +01'00'

Achim Stuible
Employer's Representative

PRILOG 2: Zapisnik sa sjednice Koordinacionog odbora projekta i saglasnost KfW banke

XIII sjednica Koordinacionog odbora
za realizaciju projekta "Unapređenje energetske efikasnosti u javnim zgradama"

Zapisnik

Projekat:	Unapređenje energetske efikasnosti u javnim zgradama u Crnoj Gori
Predmet:	XIII sjednica Koordinacionog odbora
Datum:	26.12.2022.godine
Mjesto:	Ministarstvo kapitalnih investicija, Podgorica
Prisutni:	**Ministarstvo kapitalnih investicija:** Admir Šahmanović Sanja Pavićević Nikola Vujošević Mirsada Bošnjak **Ministarstvo prosvjete:** Maša Stevović **Uprava za katastar i državnu imovinu:** Zorica Golubović **Ministarstvo rada i socijalnog staranja** Dragan Đukanović Miloš Pejković **Ministarstvo finansija** Bojana Boljević **Jedinica za implementaciju:** Sandra Šipčić Božidar Pavlović Dražen Karadaglić
Nisu prisustvovali:	**Ministarstvo prosvjete:** Vesna Krivokapić **Uprava za katastar i državnu imovinu:** Ljubiša Kojović **Ministarstvo finansija** Katarina Živković

XIII sjednica Koordinacionog odbora za realizaciju "Unapređenje energetske efikasnosti u javnim zgradama u Crnoj Gori" održana je sa sledećim dnevnim redom:

1. Razmatranje i usvajanje predloga aneksa ugovora sa izvođačem (Alarm Automatika) za nastavak implementacije Sistema za monitoring potrošnje energije i vode u javnim objektima (Faze 2 i 3) - odobrenje povećanja troškova;
2. Razmatranje i usvajanje predloga aneksa ugovora sa konsultantom za nadzor (Fichtner/Kopring) nad implementacijom Sistema za monitoring potrošnje energije i vode u javnim objektima (Faza 3);
3. Obezbjeđenje inputa za projektni zadatak za novu zgradu – Studentski dom na Cetinju;
4. Održavanje objekata u kontekstu energetske efikasnosti - planiranje daljih aktivnosti;
5. Razno

1. **Razmatranje i usvajanje predloga aneksa ugovora sa izvođačem (Alarm Automatika) za nastavak implementacije Sistema za monitoring potrošnje energije i vode u javnim objektima (Faze 2 i 3) - odobrenje povećanja troškova**

Projektom „Unapređenje energetske efikasnosti u javnim zgradama“ pored radova na unapređenju energetske efikasnosti u javim administrativnim objektima i obrazovnim i socijalnim ustanovama je obuhvaćena i podrška na ispunjenju obaveza po osnovu Zakona o efikasnom korišćenju energije preuzetim, shodno preuzetim međunarodnim obavezama, a posebno u dijelu implementacije Informacionog sistema za monitoring potrošnje energije i vode u javnom sektoru i podrška javnom sektoru u uspostavljanju sistema za energetski menadžment;

U okviru projekta „Program energetske efikasnosti u javnim zgradama – faza II“ potpisan je konsultantski ugovor sa **kompanijom Alarm Automatika (Hrvatska)** (ugovor br. 310-2019/2049-1 od 27. avgusta 2020. godine) na implementaciji Informacionog sistema za monitoring potrošnje energije i vode u javnom sektoru. Ugovor o izvođenju radova je pripremljen u skladu sa FIDIC Green book (Short Form of Contract, 1st edition, 1999).

Ukupna vrijednost ponuđene opreme i radova iznosi 3.000.025,00 EUR, dok je rok za izvođenje radova 2 godine. Ovom cijenom su obuhvaćene sve tri faze implementacije projekta. Pregled ponuđenih vrijednosti opreme i radova, kao i rokova za završetak radova po fazama, dat je u sljedećoj tabeli:

	Vrijednost opreme i radova	Rok završetka radova
Faza 1	749.601 EUR	287 dana
Faza 2	470.505 EUR	141 dana
Faza 3	1.779.919 EUR	302 dana
Ukupno:	**3.000.025 EUR**	**730 dana**

Fazna implementacija informacionog sistema predviđa sljedeće aktivnosti:

- Faza 1 - razvoj centralnog informacionog sistema (baza i veb aplikacija); razvoj interfejsa za automatsko prikupljanja podataka o potrošnji el. energije i vode od snabdjevača energijom i vodom; automatizacija procesa prikupljanja podataka za 50 testnih javnih objekata na osnovnom nivou; implementacija naprednog nivoa monitoringa za 10 pilot javnih objekata;
- Faza 2 - implementacija naprednog nivoa monitoringa za dodanih 49 javnih objekata (rekonstruisanih u okviru namjenskih projekata energetske efikasnosti);
- Faza 3 - automatizacija procesa prikupljanja podataka za 2500 javnih objekata na osnovnom nivou i implementacija naprednog nivoa monitoringa za dodatnih 191 javni objekat (rekonstruisanih u okviru namjenskih projekata energetske efikasnosti i drugih većih potrošača energije u javnom sektoru).

Realizacija Faze 1 uspostavljanja Informacionog sistema za monitoring potrošnje energije i vode u javnom sektoru je završena u martu 2022. godine, a što je potvrđeno od strane nadzora (konsultant Fichtner GmbH & Kopring PMC & Belit).

Imajući u vidu značajan porast cijena opreme i usluga na tržištu, koje nisu mogle biti predviđene u trenutku davanja ponude izvođač, Alarm automatika je dostavio zahtjev za odobrenje povećanje jediničnih cijena u nastavku realizacije projekta (Faza 2 i 3). Nadzor nad izvođenjem radova, je u julu 2022.godine, dao saglasnost za odobrenje zahtjeva za povećanje cijene.

Ministarstvo kapitalnih investicija je u oktobru 2022. godine angažovalo eksperta sa ciljem pribavljanja nezavisnog stručnog mišljenja, u vezi navedenog zahtjeva za odobrenje povećanja cijene (Vlatko Mihajlov, Ugovor br. 03/04-302/22-11695/6 od 02.11.2022. godine). Mišljenje nezavisnog eksperta je potvrdilo da izvođač Alarm Automatika može podnijeli zahtjev za povećanje cijene u skladu za Zakonom o obligacionim odnosima (član 706), iako povećanje troškova nije predviđen ugovorom, uz odgovarajuće dokaze.

Izvođač, Alarm automatika je izvršio dopunu zahtjeva na osnovu mišljenja nezavisnog eksperta (03/5-302/22-13865/1 od 13.12.2022. godine) kojim je prikazao povećanje troškova od 18.0317%.

Ministarstvo kapitalnih investicija je izvršilo evaluaciju zahtjeva za povećanje troškova i konstatovalo da:

- Odredbe Zakona o obligacionim odnosima nijesu adekvatno primijenjene u konkretnom slučaju iz razloga što realizacija Ugovora za Faze 2 i 3 još uvijek nije počela niti je Izvođač u mogućnosti da dokumentuje povećanje cijena, već je procjenu povećanja uradio na osnovu indeksne metode (koja nije prepoznata navedenim Zakonom);
- Izvođač ima pravo na povećanje troškova shodno odredbama osnovnog Ugovora (Kratka forma ugovora, tačka 10 – Izmjene i potraživanja) i u cilju dokazivanja povećanja troškova može primijeniti indeksnu metodu koja je međunarodno priznata i odobrena od strane KfW banke za ovu vrstu ugovora.

Imajući u vidu navedeno Ministarstvo kapitalnih investicija je uputilo predlog Izvođaču u kojem odobrava povećanje troškova za 8.0137% u ovom trenutku, sa mogućnošću da, ukoliko dođe do dodatnog povećanja cijena materijala i opreme, Izvođač zahtijeva dodatne troškove tokom implementacije projekta na bazi dokumentacije (fakture, plaćanja i dr.).

Izvođač se saglasio sa predlogom Ministarstva kapitalnih investicija za povećanje troškova za 8.0317% . Nadzor je dostavio pisanu izjavu kojom se odobrava povećanje troškova.

Na osnovu navedenog predlaže se potpisivanje Aneksa 1 ugovora kojim bi se izvođaču radova odobrilo povećanje troškova za implementaciju Faza 2 i 3 projekta u iznosu od 8.0317%. Kako se zahtjev za povećanje troškova odnosi na iznos od 1.970.424,00 € povećanje troškova izraženo u novcu iznosi 158,258.16 €.

Detaljan pregled troškova sa povećanjem cijene dat je u Tabeli 1. Pozicije na koje se odnosi povećanje troškova su date u kurziv fontu.

Tabela 1: Pregled troškova sa povećanjem cijene na osnovu zahtjeva Izvođača

	Ugovorena cijena	**Povećana cijena (8,0317%)**
Faza 1 - Ukupno	**749,601.00**	**749,601.00**
Faza 2		
- Ugradnja mjerne opreme	*410,505.00*	*443,475.45*
- Održavanje i podrška (5 godina)	60,000.00	60,000.00
Faza 2 - Ukupno	**470,505.00**	**503,475.45**
Faza 3		
- Ugradnja mjerne opreme	*1,559,919.00*	*1,685,206.71*
- Održavanje i podrška (5 godina)	220,000.00	220,000.00
Faza 3 - Ukupno	**1,779,919.00**	**1,905,206.71**
Ukupna vrijednosti ugovora (sve tri faze)	**3,000,025.00**	**3,158,283.16**
Uvećanje ugovorenog iznosa		*158,258.16*

U prilogu Zapisnika dostavljamo:

1. Informaciju o realizaciji ugovora na implementaciji Informacionog sistema za monitoring potrošnje energije i vode u javnom sektoru sa predlogom aneksa Ugovora za realizaciju Faze 2 i Faze 3

Sredstva za plaćanje konsultantskih usluga obuhvaćenih Aneksom 1 Ugovora obezbijeđena su u okviru projekta „Unapređenje energetske efikasnosti u javnim zgradama“.

2. Razmatranje i usvajanje predloga aneksa ugovora sa konsultantom za nadzor (Fichtner/Kopring) nad implementacijom Sistema za monitoring potrošnje energije i vode u javnim objektima (Faza 3).

Sa konsultantom za nadzor nad implementacijom Sistema za monitoring potrošnje energije i vode u javnim objektima (konzorcijum firmi: Fichtner/Kopring) sklopljen je ugovor u pružanju ove usluge za realizaciju Faza 1 i Faze 2.

Nakon sklapanja ugovora o implementaciji Faze 2 i Faze 3 projekta sa izvođačem radova (Alarm Automatika) potrebno je sklopiti ugovor i sa konsultantom za nadzor za realizaciju ove usluge za Fazu 3 projekta.

Konsultantu za nadzor je upućen zahtjev za dostavljanje inovirane ponude za realizaciju usluga nadzora za Fazu 3 projekta. Konsultant je dostavio ponudu za implementaciju usluga nadzora za ugradnju naprednog monitoringa za 191 objekat na iznos 147.683,00€.

Jedinica za implementaciju projekta će pripremiti materijal za predloga aneksa ugovora sa konsultantom za nadzor (Fichtner/Kopring) nad implementacijom Sistema za monitoring potrošnje energije i vode u javnim objektima (Faza 3) i dostaviti ga Koordinacionom odboru na razmatranje i usvajanje na sljedećoj sjednici.

3. Obezbjeđenje inputa za projektni zadatak za novu zgradu – Studentski dom na Cetinju

U skladu sa prijedlogom sa XI sjednice Koordinacionog odbora, Vlada Crne Gore je usvojila informaciju, kojom je predloženo da se projektom obuhvati izgradnja Studentskog doma na Cetinju, umjesto administrativnog objekta, čija je izgradnja planirana na k.p.2221/2 i k.p.2215/1 KO Podgorica II.

S tim u vezi, Vlada Crne Gore je zadužila Ministarstvo prosvjete da pribavi UTU-e I definiše pravni aspekt korišćenja parcele. Ministarstvo prosvjete je pokrenulo proceduru pribavljanja UTU-a.

Kako bi se koncipirao projektni zadatak i počelo sa pripremom za objavljivanje javnog arhitektonskog konkursa, neophodno je da Ministarstvo prosvjete, najkasnije do 15.januara 2023.godine dostavi podatak o broju kroisnika, namjeni prostorija i ostalim potrebama.

Na osnovu navedenih podataka Institut Fraunhofer će pripremiti analizu omotača zgrade i tehničkih sistema, što će poslužiti kao ulazni podatak za poziv na arhitektonski konkurs.

4. Održavanje objekata u kontekstu energetske efikasnosti - planiranje daljih aktivnosti

Nakon usvojenog Koncepta za unaprjeđenje sistema održavanja, pripremljenog od strane konsultanta Fichtner/Kopring, u septembru 2021.godine održana je obuka za osoblje koje je zaduženo za održavanje na nivou objekata, koji su bili obuhvaćeni projektom. Planirano je bilo da obuci prisustvuju i predstavnici ministarstava/nadležnih institucija, koji su zaduženi za kontrolu cijelog procesa i odobravanje sredstava. Navedeno nije realizovano, tako da će se obuka ponoviti.

Takođe, neophodno je i da Uprava za katastar i državnu imovinu organizuje održavanje objekata, koji su obuhvaćeni projektom na način definisan preporukama proizvođača opreme. Ukoliko se navedeno ne realizuje na odgovarajući način postavlja se pitanje opravdanosti ulaganja u ostale administrativne objekte.

5. Razno

Pripremljen poziv za pretkvalifikaciju za rekonstrukciju i adaptaciju objekta Ministarstva finansija, Ministarstva vanjskih poslova i Predsjednika. Dokument će biti dostavljen KfW-u na saglasnost nakon dobijanja saglasnosti za objavljivanje poziva od strane svih korisnika.

Za škole koje su date na listi sa klasterima kao opcione 21-23, pripremiti Detaljne energetske preglede, kako bi se obuhvatile projektom.

ZAKLJUČCI

Članice Koordinacionog odbora Sanja Pavićević i Zorica Golubović su bile uzdržana u vezi sa zaključcima sa sjednice, za Tačku 1, datim u nastavku, jer su prvi put prisustvovale sjednici Koordinacionog odbora i nijesu blagovremeno informisane o pojedinostima vezanim za aneks ugovora sa Alarm Automatikom.

1. Za tačku 1: Koordinacioni odbor je razmotrio i usvojio Informaciju o realizaciji ugovora na implementaciji Informacionog sistema za monitoring potrošnje energije i vode u javnom sektoru.
2. Za tačku 1: Koordinacioni odbor predlaže potpisivanje aneksa ugovora o pružanju konsultantskih usluga na implementaciji Informacionog sistema za monitoring potrošnje energije i vode u javnom sektoru – Faze 2 i 3.
3. Za tačku 2: Jedinica za implementaciju projekta će pripremiti materijal za predloga aneksa ugovora sa konsultantom za nadzor (Fichtner/Kopring) nad implementacijom Sistema za monitoring potrošnje energije i vode u javnim objektima (Faza 3) i dostaviti ga Koordinacionom odboru na razmatranje i usvajanje na sljedećoj sjednici.

4. Za tačku 3: Ministarstvo prosvjete da do 15. januara 2023. dostavi ulazna podatke potrebne za nastavak aktivnosti na pripremu arhitektonskog konkursa za objekat Studentskog doma na Cetinju.
5. Za tačku 4: Jedinica za implementaciju projekta da pripremi detaljnu informaciju vezanu za potrebe održavanja objekata koji su rekonstruisani i objekata čija je rekonstrukcija planirana u kontekstu energetske efikasnosti, kako bi Koordinacioni odbor mogao zauzeti odgovarajući stav.

SA ZAPISNIKOM SAGLASNI:

Ministarstvo kapitalnih investicija:
Admir Šahmanović
Sanja Pavićević
Nikola Vujošević

Ministarstvo prosvjete:
Maša Stevović

Uprava za katastar i državnu imovinu:
Zorica Golubović

Ministarstvo rada i socijalnog staranja
Dragan Đukanović
Miloš Pejković

Ministarstvo finansija
Bojana Boljević

ZAPISNIK PRIPREMILI:
Sandra Šipčić
Božidar Pavlović

Saglasnost KfW banke

From: Lydia.Glock@kfw.de <Lydia.Glock@kfw.de>
Sent: Tuesday, December 27, 2022 3:55 PM
To: bozidar.pavlovic@ee-me.org
Cc: ralf.kynast@kfw.de; Ana.Brailo-Batricevic@kfw.de; sandra.sipcic@ee-me.org
Subject: RE: Urgencija: Amendman Ugovora za uspostavljanje EMS-a – Faza 2 i Faza 3

Poštovani Božidare,

Na osnovu vašeg dodatnog objašnjenja nemamo dodatnih komentara.

Hvala i srdačan pozdrav

Lidija

Lidija Glok
Portfolio menadžer

KfW Development Bank
Palmengartenstraße 5-9
60325 Frankfurt am Main

Von: bozidar.pavlovic@ee-me.org <bozidar.pavlovic@ee-me.org>
Gesendet: Donnerstag, 22. Dezember 2022 15:33
An: Glock, Lydia <Lydia.Glock@kfw.de>
Cc: Kynast, Ralf <ralf.kynast@kfw.de>; Brailo-Batricevic, Ana <Ana.Brailo-Batricevic@kfw.de>; sandra.sipcic@ee-me.org
Betreff: RE: RE: Urgencija: Amendman Ugovora za uspostavljanje EMS-a – Faza 2 i Faza 3
Priorität: Hoch

Poštovana Lidija,

U prilogu se nalazi ažurirani aneks Ugovora za uspostavljanje EMS sistema – faza 2 i faza 3.

Kao što smo Vas već obavijestili, naše pravna služba je obustavila proceduru za usvajanje aneksa na Ugovor za uspostavljanje EMS sistema zbog neodgovarajućeg pravnog osnova (odredbe Zakona o obligacionim odnosima, koji je definisan kao pravni osnov u Zahtjevu od strane Alarm Automatike, nijesu primijenjene na odgovarajući način).

U skladu sa zaključcima iz naše komunikacije (datim u nastavku), obavijestili smo Izvođača otvorenom pitanju u vezi sa pravnim osnovom za zahtjev i dali instrukcije za izmjenu u skladu sa čl. 10.1 Kratke forme Ugovora. Izvršili smo evaluaciju proračuna za povećanje troškova po osnovu podnijetog Zahtjeva, koja je urađena na osnovu indeksne metode i predložili povećanje troškova za 8,0371%. Izvođač je pozitivno odgovorio na naš predlog i prihvatio povećanje troškova za 8,0371%.

Na kraju, novi dogovor smo unijeli u članu 7 predloga aneksa.

Molimo da nas obavijestite ukoliko imate dodatne komentare/sugestije na najnovije izmjene aneksa. Želimo da nastavimo sa procedurom odobravanja aneksa Ugovora od strane Vlade.

S poštovanjem,
Božidar

ENGLESKA VERZIJA

From: Lydia.Glock@kfw.de <Lydia.Glock@kfw.de>
Sent: Tuesday, December 27, 2022 3:55 PM
To: bozidar.pavlovic@ee-me.org
Cc: ralf.kynast@kfw.de; Ana.Brailo-Batricevic@kfw.de; sandra.sipcic@ee-me.org
Subject: RE: Urgencija: Amendman Ugovora za uspostavljanje EMS-a – Faza 2 i Faza 3

Dear Bozidar,

Based on your additional explantation we have no further comments.

Many thanks and best regards
Lydia

Lydia Glock
Portfolio Manager

KfW Development Bank
Palmengartenstraße 5-9
60325 Frankfurt am Main

From: bozidar.pavlovic@ee-me.org <bozidar.pavlovic@ee-me.org>
Sent: Friday, December 23, 2022 10:36 AM
To: 'Lydia.Glock@kfw.de' <Lydia.Glock@kfw.de>
Cc: 'ralf.kynast@kfw.de' <ralf.kynast@kfw.de>; 'Ana.Brailo-Batricevic@kfw.de' <Ana.Brailo-Batricevic@kfw.de>; 'sandra.sipcic@ee-me.org' <sandra.sipcic@ee-me.org>
Subject: RE: Urgent: Amendment to the Contract for Establishment of EMS - Stage 2 and Stage 3

Dear Lydia,

Original Claim require increase of the costs by 18,0317% (rounded). Two figures „1.970.424,00" and EUR "2.325.724,56" are not calculated, it is just taken out from the Claim – page 6 (please find enclosed, this is part of Appendix 2).

Employer is ready to accept 8,0317% . Contractor provided consent on Employer's proposal for costs increase and provided updated BoQ which is given in Appendix 1.

Regards,

Bozidar

From: Lydia.Glock@kfw.de <Lydia.Glock@kfw.de>
Sent: Friday, December 23, 2022 10:12 AM
To: bozidar.pavlovic@ee-me.org
Cc: ralf.kynast@kfw.de; Ana.Brailo-Batricevic@kfw.de; sandra.sipcic@ee-me.org
Subject: AW: Urgent: Amendment to the Contract for Establishment of EMS - Stage 2 and Stage 3

Dear Bozidar,

thanks for the prompt response. Please see my comments below.

Best regards
Lydia

Von: bozidar.pavlovic@ee-me.org <bozidar.pavlovic@ee-me.org>
Gesendet: Freitag, 23. Dezember 2022 10:01
An: Glock, Lydia <Lydia.Glock@kfw.de>
Cc: Kynast, Ralf <ralf.kynast@kfw.de>; Brailo-Batricevic, Ana <Ana.Brailo-Batricevic@kfw.de>; sandra.sipcic@ee-me.org
Betreff: RE: Urgent: Amendment to the Contract for Establishment of EMS - Stage 2 and Stage 3

Dear Lydia,

Thank you for quick response.

Yes you are right it is difficult to put exact percentage because the figures are taken form the BoQ (which is calculated on the basis of unit prices). Therefore we propose to indicate that percentage is rounded figure „ 8.0317% (rounded)" and to refer to BoQ. Updated BoQ is given in the Appendix 1 of the Amendment. Please find enclosed revised version. Could you kindly explain the increases from EUR 1.970.424,00 to EUR 2.325.724,56? Unfortunately this is still not clear to me how the "EUR 2.325.724,56" is calculated.

Regarding clause 10 of the Short form of Contract, we made general reference that was agreed with Contractor and EAC. If you think that it is necessary to refer to sub-clauses 10.1 and 10.2 please advise. Or we can provide Employer statement and Contractor consent as a part of Appendix 2 of the Amendment? This is completely your decision.

Regards,

Bozidar

From: Lydia.Glock@kfw.de <Lydia.Glock@kfw.de>
Sent: Friday, December 23, 2022 9:08 AM
To: bozidar.pavlovic@ee-me.org
Cc: ralf.kynast@kfw.de; Ana.Brailo-Batricevic@kfw.de; sandra.sipcic@ee-me.org
Subject: AW: Urgent: Amendment to the Contract for Establishment of EMS - Stage 2 and Stage 3

Dear Bozidar,

thank you for your email.

We would kindly ask you to double check the numbers under Article 7. There it says both "increases from EUR 1.970.424,00 to EUR 2.325.724,56. This increase is calculated at 18.0317%" and "On the basis of the Annex 5 – clause 10 (Variation and Claims) Employer and Contractor reached mutual agreement for the increase of costs by 8.0317%. Therefore, the Contractor is entitled to claim a total amount of EUR 2.128.682,16."

Based on the table you provided previously the price increases from EUR 1.970.424,00 to EUR 2,128,682.16, which would be 8,03168%.

	Original costs	**Increased costs (8,0137%)**
Stage 1		
EMS software, IT equipment and licenses	400,000.00	400,000.00
EMS Interfaces	90,000.00	90,000.00
Installation of measuring equipment - 10 pilot facilities	82,101.00	82,101.00
Daywork	5,500.00	5,500.00

Maintenance and support (5 years)	172,000.00	172,000.00
Total	**749,601.00**	**749,601.00**
Stage 2		
Installation of measuring equipment	410,505.00	443,475.45
Maintenance and support (5 years)	60,000.00	60,000.00
Total	**470,505.00**	**503,475.45**
Stage 3		
Installation of measuring equipment	1,559,919.00	1,685,206.71
Maintenance and support (5 years)	220,000.00	220,000.00
Total	**1,779,919.00**	**1,905,206.71**
CONTRACT VALUE	**3,000,025.00**	**3,158,283.16**
Value of the positions that were by Claim	1,970,424.00	2,128,682.16
Total costs increase		158,258.16

Please also not that not only Art. 10.1 but also 10.2 are relevant in our view. However, the contract Amendment reflects this adequately by generally referring to clause 10.

Many thanks and best
Lydia

Von: bozidar.pavlovic@ee-me.org <bozidar.pavlovic@ee-me.org>
Gesendet: Donnerstag, 22. Dezember 2022 15:33
An: Glock, Lydia <Lydia.Glock@kfw.de>
Cc: Kynast, Ralf <ralf.kynast@kfw.de>; Brailo-Batricevic, Ana <Ana.Brailo-Batricevic@kfw.de>; sandra.sipcic@ee-me.org
Betreff: RE: Urgent: Amendment to the Contract for Establishment of EMS - Stage 2 and Stage 3
Priorität: Hoch

Dear Lydia,

Please find adjusted enclosed amendment to the Contract for Establishment of EMS System – Stage 2 and Stage 3.

As we already informed you, our Legal Department has stopped procedure for the adoption of the amendment for EMS due to the lack in legal ground (provisions of the Law on Contracts and Torts, which is specified as legal ground for the Claim by Alarm Automatic, were not applied in a propriate manner).

In accordance with conclusions from our communication (given below), we notify Contractor on open issue regarding legal ground for Claim and provide instruction for variation in accordance with Art. 10.1 od the Short Form of Contract. We evaluated calculation for increase of the costs form their Claim, which is done on the basis of the index method and we proposed costs increase by 8,0371%. Contractor positively reply to our proposal and accepted increase of the costs by 8,0371%.

Finally, we reflected new agreement in the Article 7 of the Amendment.

Please let us know if you have any comments/suggestions to the latest changes of the amendment. We would like to proceed with the procedure of adoption of the amendment by the Government.

Regards,

Bozidar