

**2nd CEN-CE classroom pilot training and certification**

Time	Topic	Trainers	Lecture hours
<b>TUESDAY 11.02.2020.</b>			
8:30-8:50	Registration of participants		
8:50-9:00	Introductory words and training session opening		
<b>1. INTRODUCTION</b>			
9:00-9:15	1.1 Energy performance of buildings Directive and related EU and national legislation novelties 1.2 New EPB standards: overarching and heating&domestic hot water systems 1.3 Energy performance calculations use and role	Laurent Social	
9:15-9:30	1.4 CEN-CE project 1.5 EU-wide common training and qualification scheme 1.6 How to become training provider of CEN-CE training scheme at national level 1.7 How to become CEN-CE standards certified expert	Laurent Social	
<b>2.OVERVIEW OF NEW HOURLY CALCULATION: BUILDING ENVELOPE</b>			
9:30-10:30	2.1 Basic principles: time step and dynamics 2.2 Description of building elements and energy balance with ISO 52016 hourly method 2.3 Calculation of needs with ISO 52016 hourly method 2.4 Thermal zoning	Laurent Social	
<b>3.OVERVIEW OF NEW HOURLY CALCULATION: TECHNICAL SYSTEMS</b>			
10:30-11:00	3.1 Heating systems: overview of changes with hourly and dynamics 3.2 Ventilation and airco: overview and changes with hourly	Laurent Social	
11:00-11:15	Pause and coffee break		
<b>4. ENERGY PERFORMANCE CALCULATION CHANGES: HEATING AND DHW SYSTEMS</b>			
11:15-12:00	4.1 EN 15316-5 Storage system 4.1.1 Fundamentals 4.1.2 Calculation procedure 4.1.3 Handbook and spreadsheet use 4.1.4 Examples and parametric analysis 4.1.5 CEN-CE certification test	Laurent Social	
12:00-13:00	4.2 EN 15316-4-3 Thermal solar and photovoltaic systems 4.2.1 Fundamentals 4.2.2 Calculation procedure 4.2.3 Handbook and spreadsheet use 4.2.4 Examples And parametric analysis 4.2.5 CEN-CE certification test	Laurent Social	
13:00-14:00	Lunch break		

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14:00-16:00	4.3 EN 15316-4-2 Heat pump systems 4.3.1 Fundamentals 4.3.2 Calculation procedure 4.3.3 Handbook and spreadsheet use 4.3.4 Examples (nZEB) and parametric analysis 4.3.5 CEN-CE certification test	Laurent Socal	
16:00-16:10	Pause and coffee break		
<b>5. ENERGY PERFORMANCE CHECK: ENERGY SIGNATURE</b>			
16:10-17:30	5.1 EN 15378-3 Energy performance verification 5.1.1 Fundamentals 5.1.2 Calculation procedure 5.1.3 Handbook and spreadsheet use 5.1.4 Examples 5.1.5 CEN-CE certification test	Laurent Socal	
17:30 – 18.00	Free questions		