Status and Further Development of Eurocodes in Albania

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- What is done so far
- Translation of Eurocodes
- Awareness
- Use of Eurocodes
- NAs and NDPs
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This presentation was prepared in the framework of the project "Support of Capacities of the Institute for Standardisation of Bosnia and Herzegovina in the Area of Implementation of EUROCODES" supported under the Czech Republic Development Cooperation and realized by the Czech Office for Standards, Metrology and Testing (ÚNMZ)

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Introduction

The adoption of the Eurocodes in Albania has not progressed at the same rhythm with the construction development

The Government has approved some legislative acts regarding the approach with European technical design Principles and Rules of Applications in the construction fields.

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Introduction

- The technical conditions approved by Decision of the Council of Ministers No. 68/2001 **"Adoption of standards and technical conditions of design and execution of Construction works"**, (amended in 2008)

- This enables the adoption of the new design principles and applications rules in our country, and of the use of Eurocodes which offer more opportunities in the design of buildings and civil engineering works to be constructed in our country

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Institutions involved in the process of adopting EC

- Ministry of Infrastructure and Energy.
- Public Authoritis.
- Polytechnic University;
- Construction Institute;
- General Directorate of Standardization;
- Albanian Association of Constructors

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..... So, what is done

- Translation and adaptation of terms and definitions by the Working Group for the usage and conditions of our country;
- Methodology of using Eurocodes by Working Group;
- Presentation and awareness about the Eurocodes through road-shows in some 12 Albanian districts;
- Translation in Albanian language all parts of EN 0, 1, 2, 3,4,6,7 and 8 which have been initiated by a group of engineers and constructors supported by Albanian Association of Constructors for:
  a. Preparation of all parts including normative and informative Annexes;
  b. Translation terminology used in ENs

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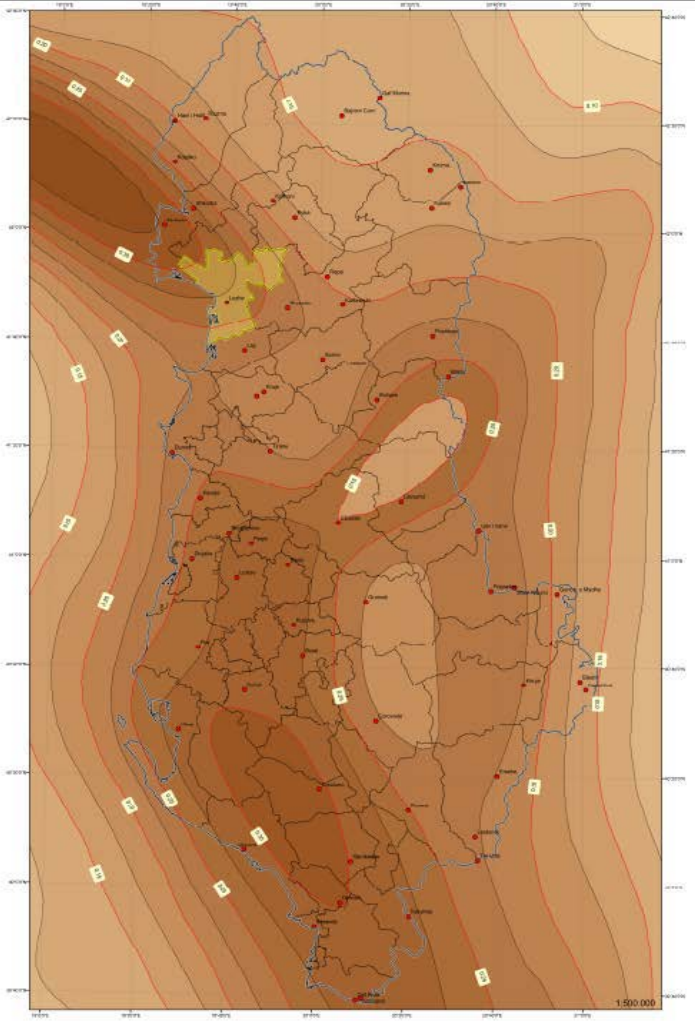
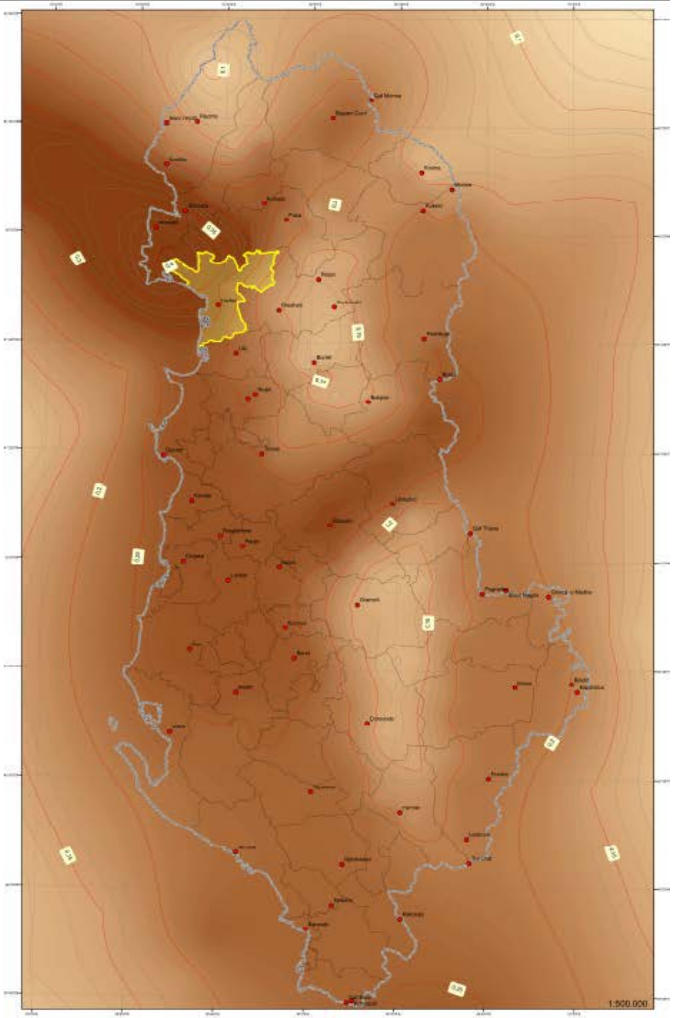
..... So, what is done

Two drafts of seismic hazard Maps



HARTA E SHPEJTIMEVE MAKSIMALE REFERENCE, NE TRUALL
TE FORTE PER PERIUDHE RIKTHIMI 475 VJET
("Vleresimi i Rrezikut ne Shqiperi", PNUD 2003)



HARTA E SHPEJTIMIT MAKSIMAL PER SHQIPERINE, NE TRUALL SHKEMBOR PER 475 VJET
PERIUDHE RIKTHIMI (SIZMICITETI), SIZMOTEKTONIKA DHE VLERESIMI I RREZIKUT SIZMIK
NE SHQIPERI - AKADEMIA E SHKENCAVE E SHQIPERISE)
"Fazë Studimore"

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..... So, what is done

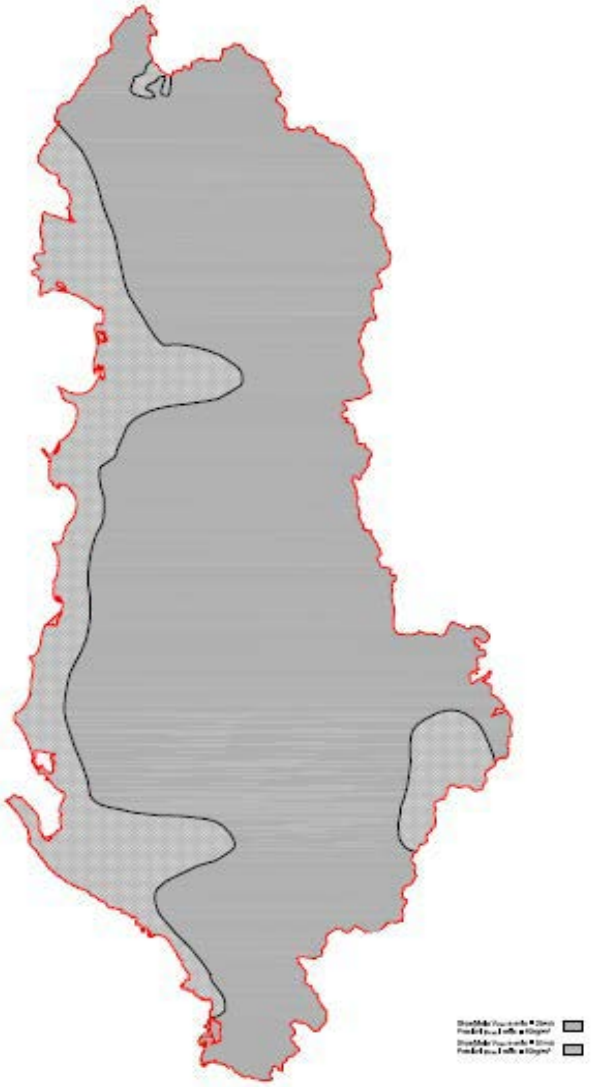
Wind Map according to Technical Design Conditions (KTP) *Divisions of Albania territory in two zones*

Wind Speed max – 25m/s

wind pressure max – 40kg/m2

Wind Speed max – 31m/s

wind pressure max – 60kg/m2



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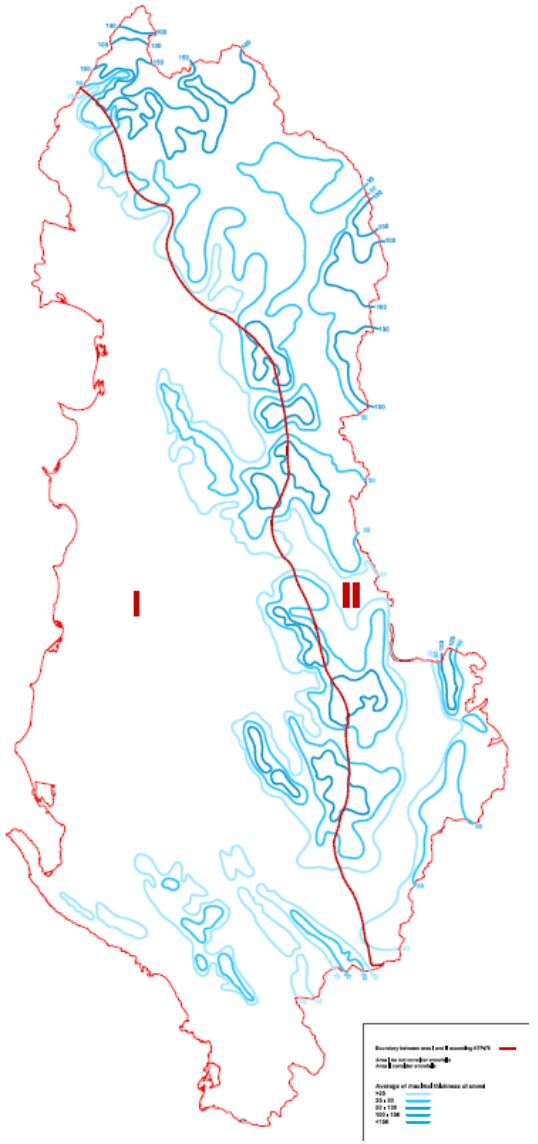
..... So, what is done

Snow Map
According to the Technical Design Conditions (KTP)
Divisions of Albania territory in two zones



Zone I: generally do not consider snowfall
above 500m q_0 = 75dN/m2

Zone II: consider snowfall
for all area q_0= 75dN/m_2
for zones with dense snowfall q0= 220xh
h –thickness of the snow

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Translation of Eurocodes

Fully translated:

SSH EN 1990
SSH EN 1991
SSH EN 1992
SSH EN 1993
SSH EN 1994
SSH EN 1996
SSH EN 1997
SSH EN 1998

Not translated:

SSH EN 1995
SSH EN 1999

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Training materials

A glossary of terms and definitions for Eurocodes;

Technical materials

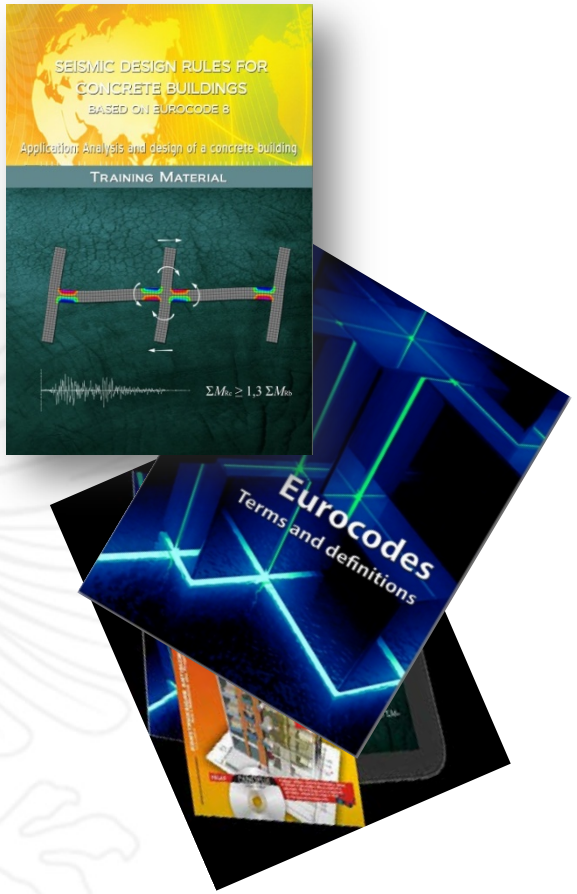
Understanding EN 1990;

Design procedures for concrete structures Seismic design rules for concrete buildings;

Many diplomas and master thesis have been deal with different aspects of Eurocodes;

Understanding, elaborating and use of NDP-s has been subject of research works within and outside the universities;

Papers and research works, are presented in different workshops and conferences



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Conferences and Workshops

Round-tables with institutions and stakeholders

Several workshops and training seminars across Albania

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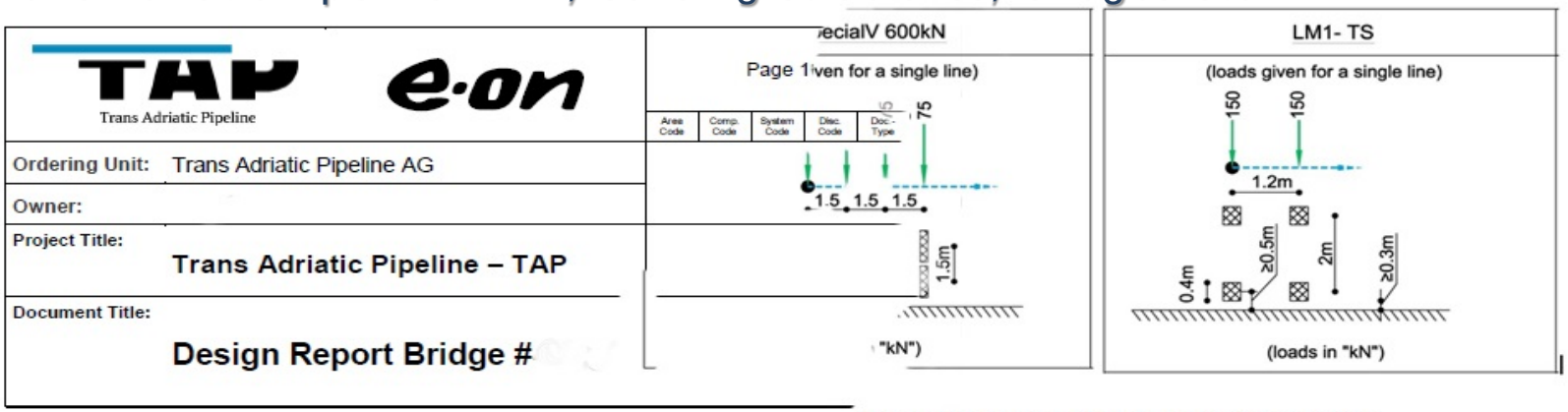
Use of Eurocodes

The design of construction works can't be completed using only the translated Eurocodes (e.g. EN 1997 is necessary).

Many consulting companies use the Eurocodes, especially in international projects and collaborations with European companies

Trans Adriatic Pipeline - TAP, building structures, bridges etc.



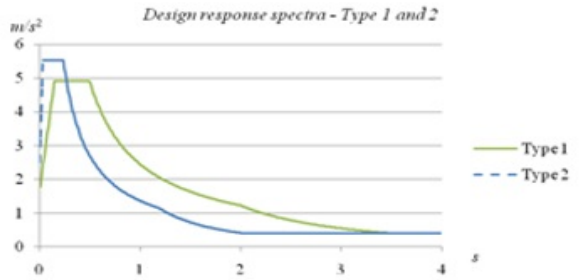


Figure 11 Design horizontal response spectra

Figure 11Eurocode and TAP Load models considered

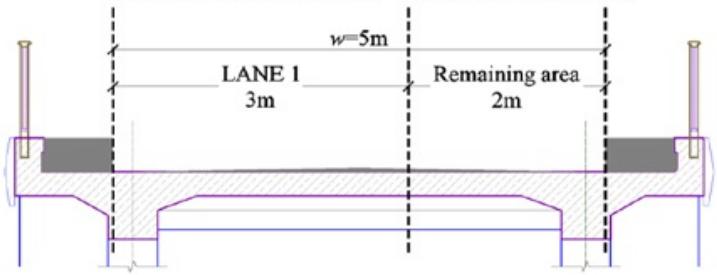


Figure 10 Definition of notional lanes

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Use of Eurocodes

- *Introduction of Eurocodes at universities;*

  Eurocodes have been partially introduced within different study programs in Universities for many years;

- *Execution, product and testing standards*

  Following CPD already incorporated in our legislation, many industries and companies operating in civil engineering have introduced ENs in their products and procedures;

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NAs and NDPs

- *NAs and NDPs - Partially prepared*

  Preparation of draft National Annexes, accepting all recommended parameters of 4 Eurocodes already translated;

  Examples to understand and apply some NDP's of Package 2/1. (concrete structure)

  The list of old Technical Codes to be replaced by Eurocodes as well as the list of those remaining after Eurocode implementations

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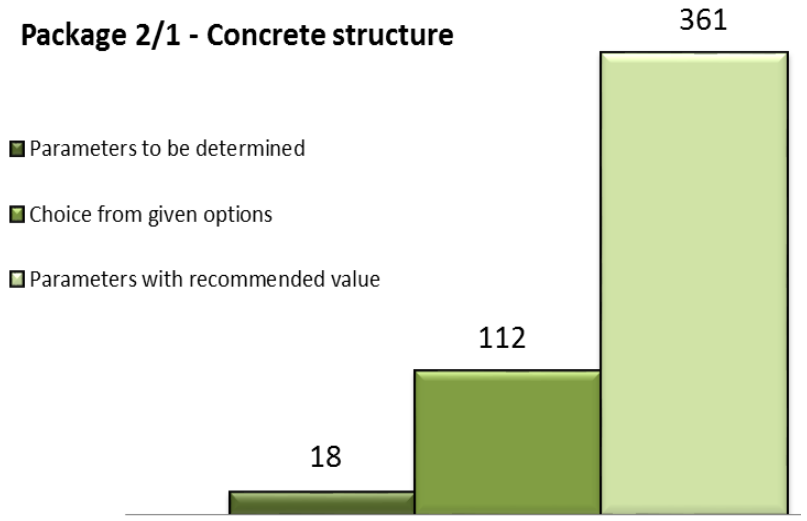
NAs and NDPs

NAs and NDPs - Partially prepared;

Preparation of a database containing NDP's of all Eurocodes, divided Into Eurocode Packages;

		Parameters to be determined	Choice from given options	Parameters with recommended
EN 1990	EN 1990 w/o A2	0	14	8
EN 1991	EN 1991-1-1	0	3	8
	EN 1991-1-2	2	7	1
	EN 1991-1-3	4	15	9
	EN 1991-1-4	6	20	56
	EN 1991-1-5	3	4	15
	EN 1991-1-6	0	11	16
	EN 1991-1-7	0	17	26
	EN 1991-3	0	1	6
EN 1992	EN 1992-1-1	0	1	118
	EN 1992-1-2	0	6	4
EN 1997	EN 1997-1	1	8	33
EN 1998	EN 1998-1	2	3	51
	EN 1998-3	0	2	6
	EN 1998-5	0	0	4
Totali	**Package 2/1**	**18**	**112**	**361**



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NAs and NDPs

- Preparation of draft National Annexes, accepting all recommended NDP-s of Eurocodes already adopted as Albanian standards;
- Draft Works for the preparation of country specific data (geographical, climatic, etc);
- Everyday use of the existing draft seismic hazard map;
- Use of the climatic maps (wind, snow and temperature maps of ***Technical Design Conditions***) together with Eurocode requirements;

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Difficulties

Coordination between different national authorities

1. **Adoption process requires collaboration between different government units (Ministry of Finance and Economy through DPS, Ministry of Infrastructure and Energy and the Geoscientific Institute, through Universities);**

2. **Also the legislation in construction sector requires interventions.**

Eurocode Steering Committee;

1. **The Eurocode Steering Committee that coordinate all activities leading to the replacement of the old Technical Regulation with Eurocodes is not constituted yet;**

2. **The TC-250 within DPS is a volunteer small group and in current status it does not have any legislative power to approve NAs with NDPs or other administrative and technical steps;**

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Difficulties

- Eurocodes: both “Standards” and “Technical Regulations”

– According to Albanian legislation in the field of construction, the design of structures must follow the KTPs – Technical Regulations.

– Therefore, it is not sufficient to accept Eurocodes as National Standards. They should also be approved as “Albanian Technical Codes”

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Difficulties

- Unified terminology;

  1. An unified terminology in Albanian is necessary in the field of Civil and Structural Engineering. Different Authorities use a non-unified terminology, leading to possible misunderstandings;

  2. Usage of European Standards in their official languages might lead to confusion to the end users.

- Financial support

  1. The government has to foresee a larger budget for Eurocode adopters;

  2. Alternative financial resources can speed up implementation process.

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Future actions

- The action plan 2019 foreseen to fully adopt the Eurocodes as Albanian Technical Regulations

- The Government has foresee a budget for 2018 –2019 (around Euro 300’000).

  - **Reflecting the amendments, corrigendum and improvements done by TC-250 within Eurocodes, including further recommendations;**

  - **Preparing guidance, interpretative and technical materials aiming to full understanding of the Eurocodes;**

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THANK YOU FOR YOUR ATENTION !

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