

# Είναι η Ιατρική Φυσική ανδρική υπόθεση?

## Αποτελέσματα της έρευνας του Παγκόσμιου Οργανισμού Ιατρικής Φυσικής

**Β. Τσαπάκη**

Πρόεδρος ΕΦΙΕ

International Organization for Medical Physics (IOMP) Secretary General 2015-2018



**(UNSCEAR Report 2008;)**

# ΠΑΓΚΟΣΜΙΑ ΚΑΙ ΕΤΗΣΙΩΣ:



3,600 million X-ray exams  
(> 300 million in children)



37 million nuclear  
medicine procedures



7.5 million radiation  
oncology treatments

# Stewart BW, Wild CP. World Cancer Report 2014

**ΣΗΜΑΝΤΙΚΟ ΓΕΓΟΝΟΣ:**

**Η ΠΡΟΣΒΑΣΗ ΤΩΝ ΑΣΘΕΝΩΝ ΣΤΗΝ ΑΚΤΙΝΟΘΕΡΑΠΕΙΑ  
ΠΡΕΠΕΙ ΑΜΕΣΑ ΝΑ ΑΥΞΗΘΕΙ**

14 εκατομμύρια νέες περιπτώσεις καρκίνου και 8.2  
εκατομμύρια θάνατοι λόγω καρκίνου ετησίως

**Atun R, Jaffray DA, Barton MB, et al.  
Expanding global access to radiotherapy.  
Lancet Oncol. 2015;16(10):1153-86**

- Γενικά υπάρχει εξαιρετικά μικρή πρόσβαση στην ακτινοθεραπεία διεθνώς, γεγονός που δεν είναι αποδεκτό.
- Εάν αυξηθεί η πρόσβαση των ασθενών στην ακτινοθεραπεία κατά το χρονικό διάστημα 2015–35 σε σχέση με τα σημερινά επίπεδα αυτό θα οδηγήσει στο να σωθούν περίπου 26.9 εκατομμύρια χρόνων ζωής σε χώρες χαμηλής ή μέσης οικονομικής κατάστασης.
- Αυτό θα έχει ΑΜΕΣΗ οικονομική συνέπεια εξοικονόμησης περίπου \$278.1 δις
- Η επένδυση στην ακτινοθεραπεία οδηγεί σε θεραπεία πολλών ασθενών με καρκίνο αλλά και σε υψηλά θετικά οικονομικά στοιχεία.

# Global Task Force on Radiotherapy for Cancer Control report 2015 Lancet Oncology · September 2015

- 22.100 περισσότεροι ακτινοφυσικοί μέχρι το 2035.
- 6.000 ακτινοφυσικοί θα πρέπει να εκπαιδευθούν μέχρι το 2025
- 1.000 νέοι ακτινοφυσικοί χρειάζονται κάθε χρόνο για 20 χρόνια μόνο στις χώρες χαμηλής οικονομικής στάθμης



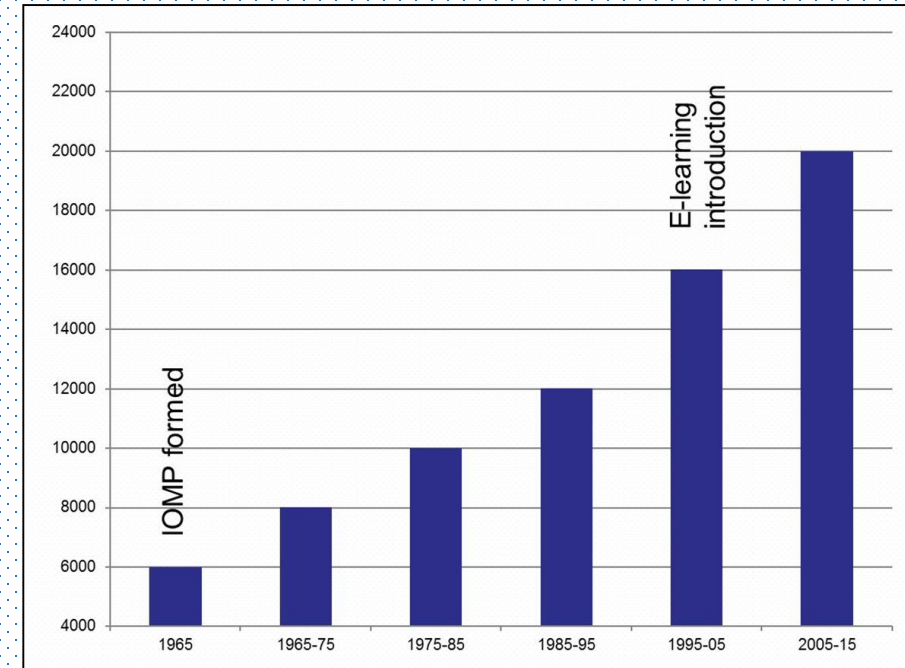
# International Organization for Medical Physics (IOMP) [1963]

represents c. 25000 medical physicists worldwide  
(2017)

- 86 affiliated national member organizations.
- 6 Regional Organisations :  
(AFOMP, ALFIM, EFOMP,  
FAMPO, MEFOMP, SEAFOMP)
- Corporate Members

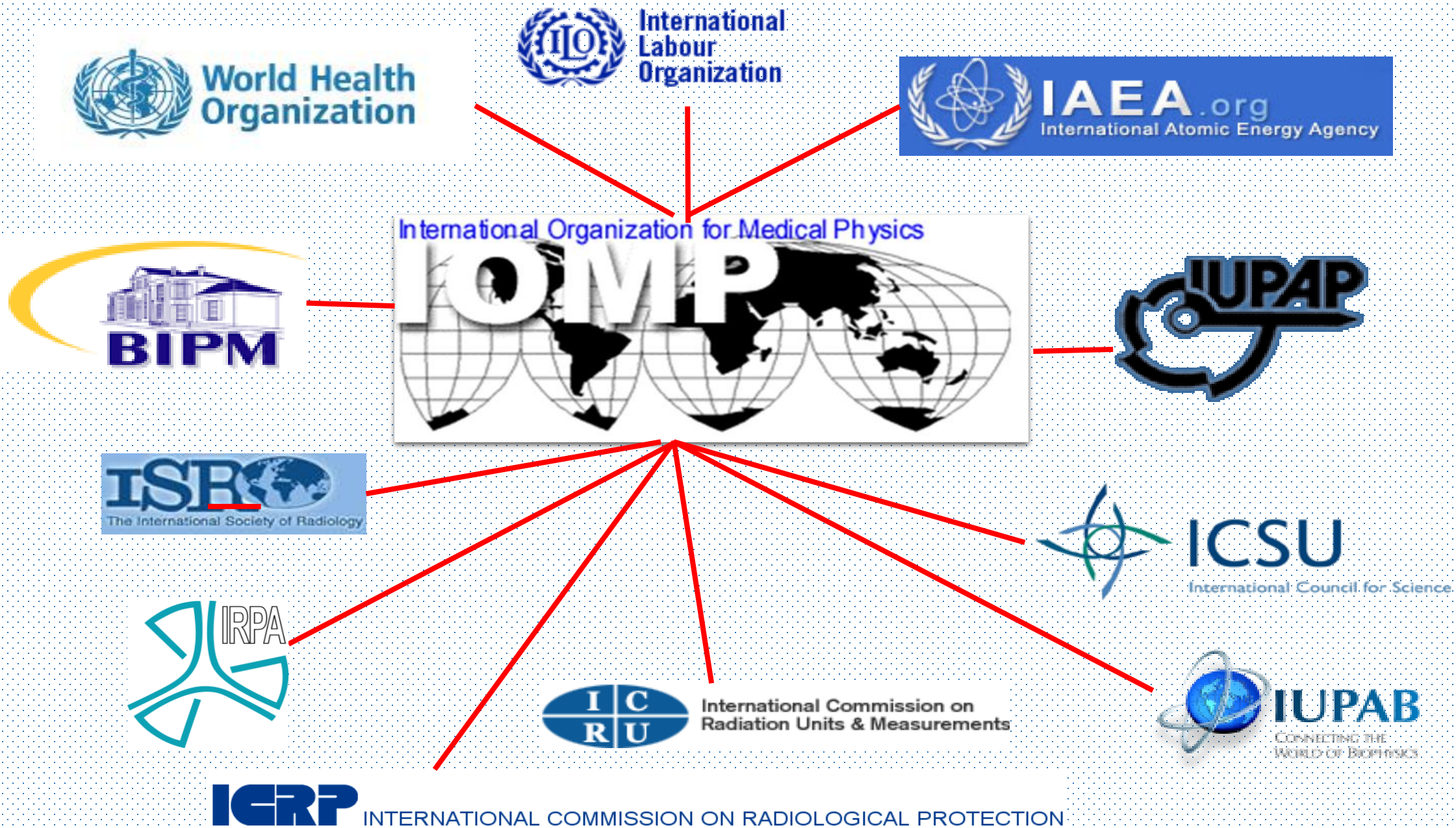
## IOMP Objectives

- To organize international cooperation in medical physics and to promote communication between the various branches of medical physics and allied subjects.
- To contribute to the advancement of medical physics in all its aspects.
- To advise on the formation of national organizations of medical physics in those countries which lack such organizations, and also the possible formation of national committees in those countries where there is more than one medical physics organization.



# IOMP – International Cooperations

ICSU  
IUPAP  
IUPAB  
IAEA  
WHO  
IRPA  
ICRP  
ICRU  
ISR  
ILO  
BIPM





ELSEVIER

Contents lists available at ScienceDirect

Physica Medica

journal homepage: <http://www.physicamedica.com>

Original paper

## Female medical physicists: The results of a survey carried out by the International Organization for Medical Physics

Virginia Tsapaki <sup>a,\*</sup>, Madan M. Rehani <sup>b,1</sup><sup>a</sup> Medical Physics Unit, Konstantopoulou General Hospital, Agias Olgas 3-5, 14233 Nea Ionio, Greece<sup>b</sup> Massachusetts General Hospital and Harvard Medical School, Boston, USA

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Gender balance

Gender distribution

## ABSTRACT

**Introduction:** The gender composition of the existing medical physicist (MP) workforce around the world is basically unknown. The International Organization for Medical Physics (IOMP) performed a survey in order to investigate the number of MPs in countries around the world and the percentage of women MPs compared to total number of MPs.

**Materials and methods:** A simple online questionnaire prepared as a Google Forms survey asking the country, the total number of MPs, the number of female MPs and finally the gender of the person providing the data was sent in mid-March 2013 to six regional member organizations of IOMP, as well as contact points in many member countries.

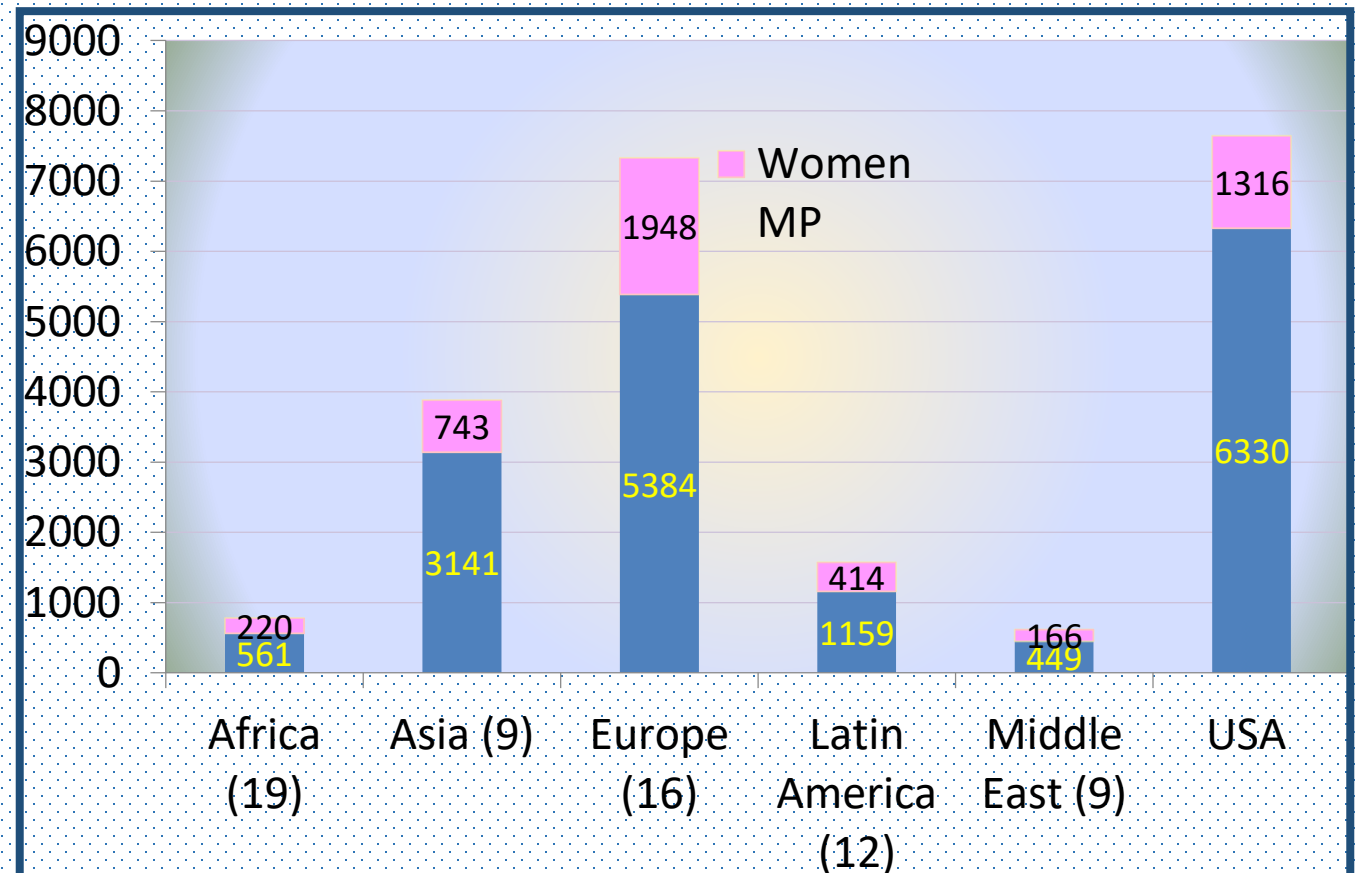
**Results:** Sixty-six countries responded to the survey by mid-July 2013. Fifty two percent of those who filled the form were females, the rest males. The total number of MPs was 17,024, of which 28% were female (4807). The median values of percentages of females were 21% in the USA, 47% in Europe, 35% in Asia, 33% in Africa and 24% in Latin America.

**Conclusion:** This is the first international survey that investigates the number and percentage of female MPs around the world. There are European countries that are far away from the target set by European Commission (40%) whereas in countries in the Middle East and Asia, female MPs actually outnumber males. This study is the first step in a more in-depth study that needs to be taken in near future.

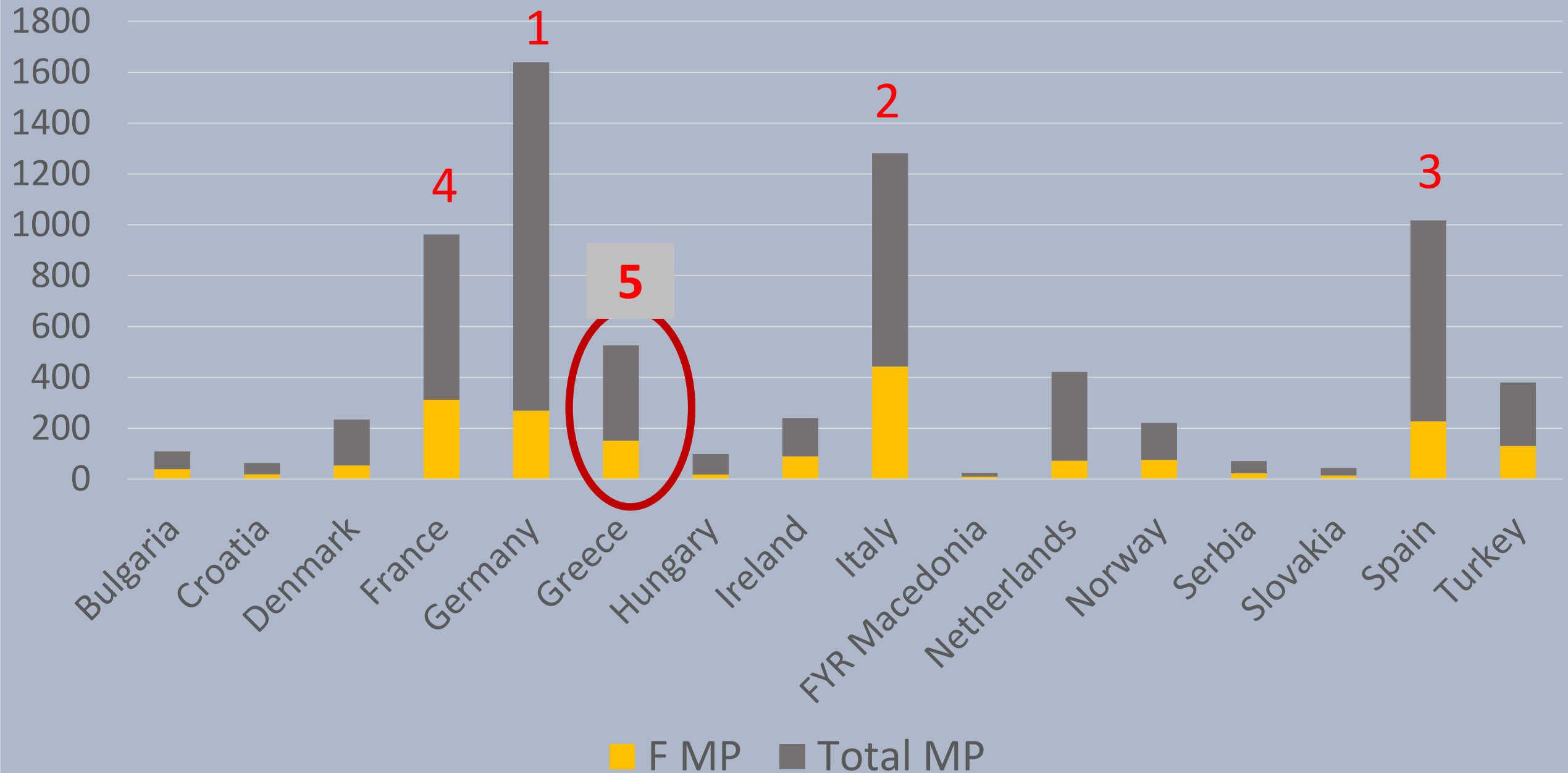
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# Πρώτη έρευνα 2015

## 28% γυναίκες ακτινοφυσικοί παγκοσμίως



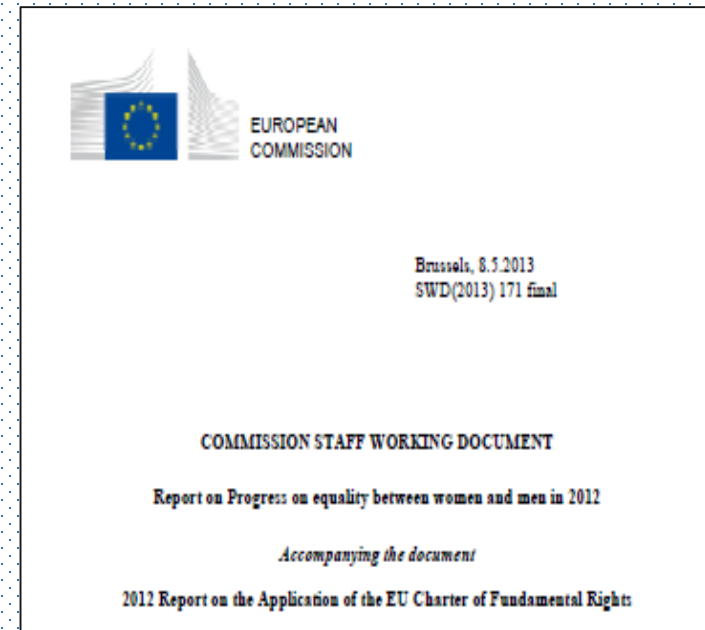
# Στατιστικά αριθμού ακτινοφυσικών στην Ευρώπη



# EC Communication 1999

*Communication from the Commission COM(1999) 76 Final of  
17.02.1999.*

Η ΕΕ υιοθέτησε το 1999 μία Οδηγία για την προώθηση των γυναικών στην έρευνα και την επιστήμη με στόχο να επιτευχθεί τουλάχιστον 40% εκπροσώπηση σε διάφορες επιστημονικές ομάδες, επιτροπές και ερευνητικά προγράμματα εντός ΕΕ.





## She Figures

The only major publication presenting a Europe-wide data collection on women in science from tertiary education through to the job market.

European Commission. She figures 2003/2006/2009/2012 women and science statistics and indicators. Directorate-General for Research, Science and Society.

“Although the country figures generally show an improvement over 2002, a profound gender imbalance is still observed in a vast majority of countries”

# UN WOMEN INITIATIVE

<http://www.unwomen.org/en/about-us>

- Help UN Member States to implement standards by providing expertise and financial support.
- Assists other parts of the UN system in their efforts to advance gender equality.

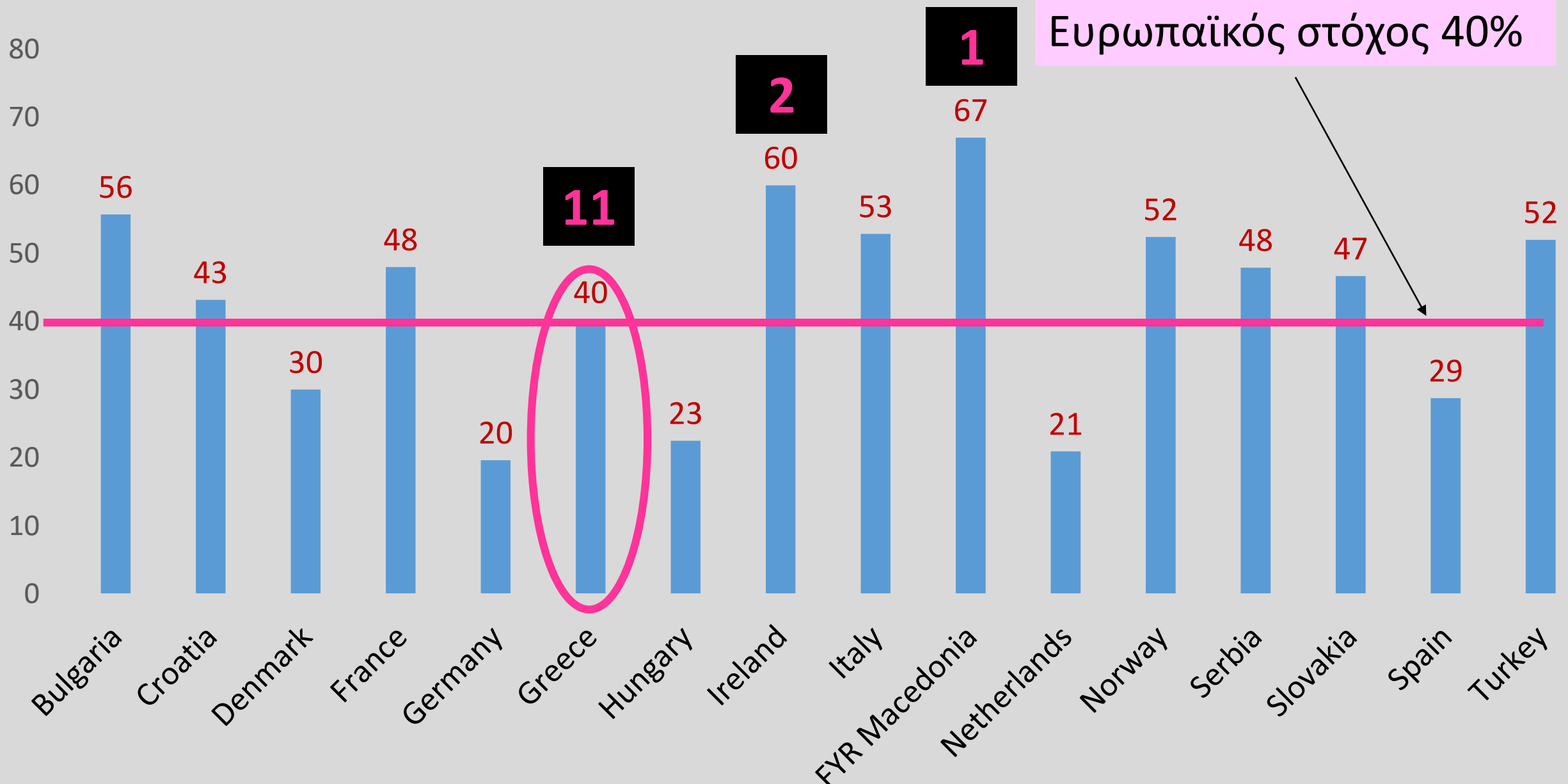


The screenshot shows the UN Women website homepage. At the top left is the UN Women logo. To the right are four navigation buttons: EXECUTIVE BOARD, COMMISSION ON THE STATUS OF WOMEN, TRUST FUNDS, and GET INVOLVED. Below these is a main navigation bar with buttons for ABOUT, WHAT WE DO, WHERE WE ARE, HOW WE WORK, PARTNERSHIPS, NEWS AND EVENTS, and DIGITAL LIBRARY. A secondary navigation bar includes Home and Get involved. The main content area features the 'PLANET 50-50 BY 2030 | STEP IT UP FOR GENDER EQUALITY' campaign. Below this is a paragraph: 'We envisage a world where all women and girls have equal opportunities and rights by 2030. Step It Up asks governments to make national commitments that will close the gender equality gap – from laws and policies to national action plans and adequate investment. NOW is the time to Step It Up!'. At the bottom, there is a list of links under the heading 'Member State commitments':

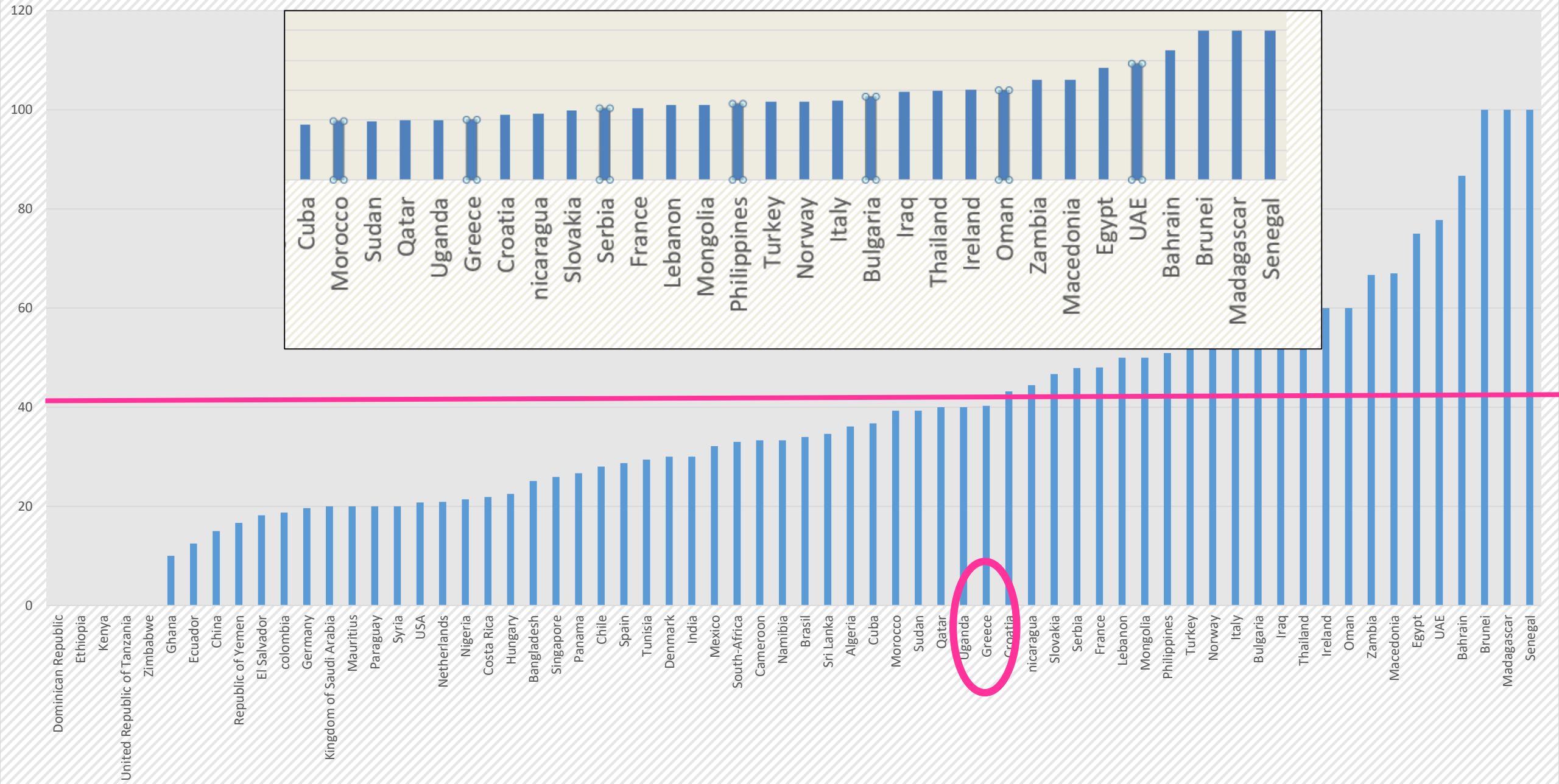
- [Member State commitments](#)
- [Additional partner commitments \(regional organizations, civil society, private sector\)](#)
- [Step It Up for Gender Equality Media Compact](#)
- [About Step It Up](#)
- [Planet 50-50 by 2030 Campaign logo](#)
- [World leaders agree: We must close the gender gap \(27.09.2015\)](#)
- [Robust actions mount, at one year mark of landmark meeting on gender equality and women's empowerment \(27.09.2016\)](#)



# % Γυναικών στην Ευρώπη



# % Γυναικών στην Ιατρική Φυσική στον Παγκόσμιο χάρτη

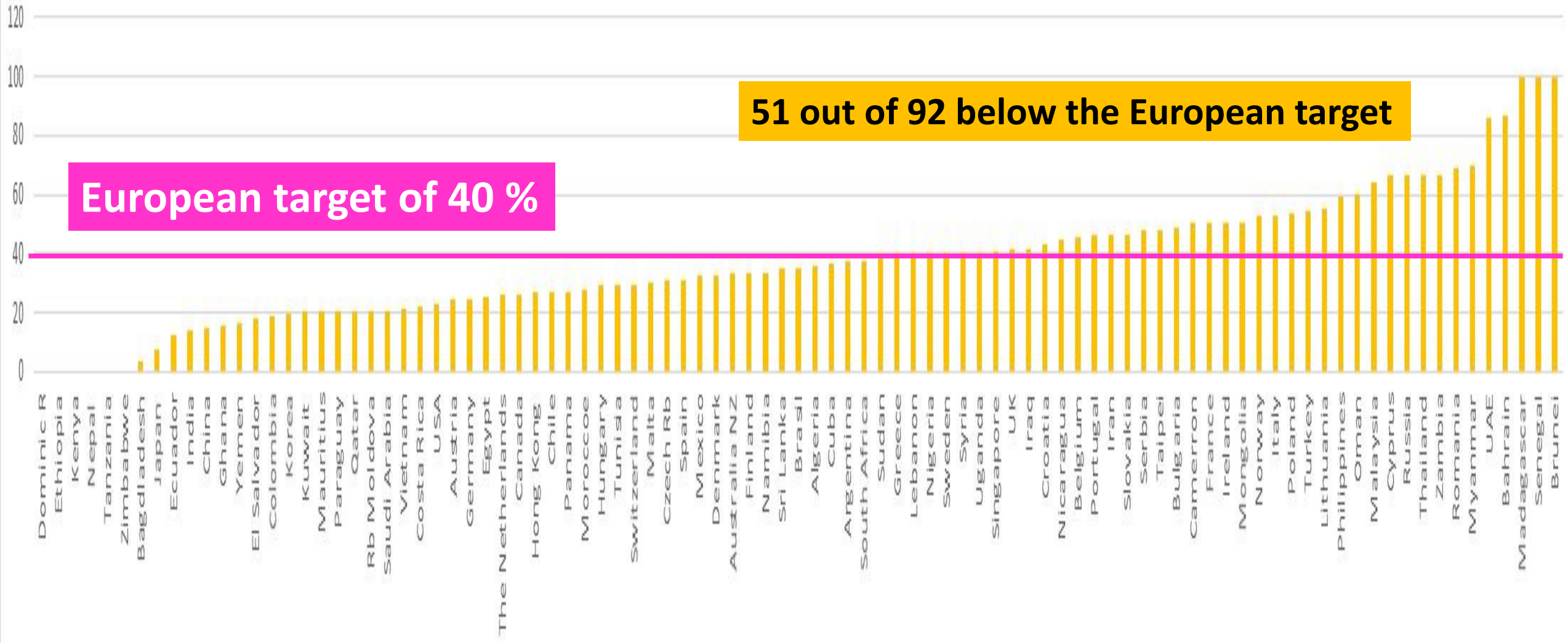


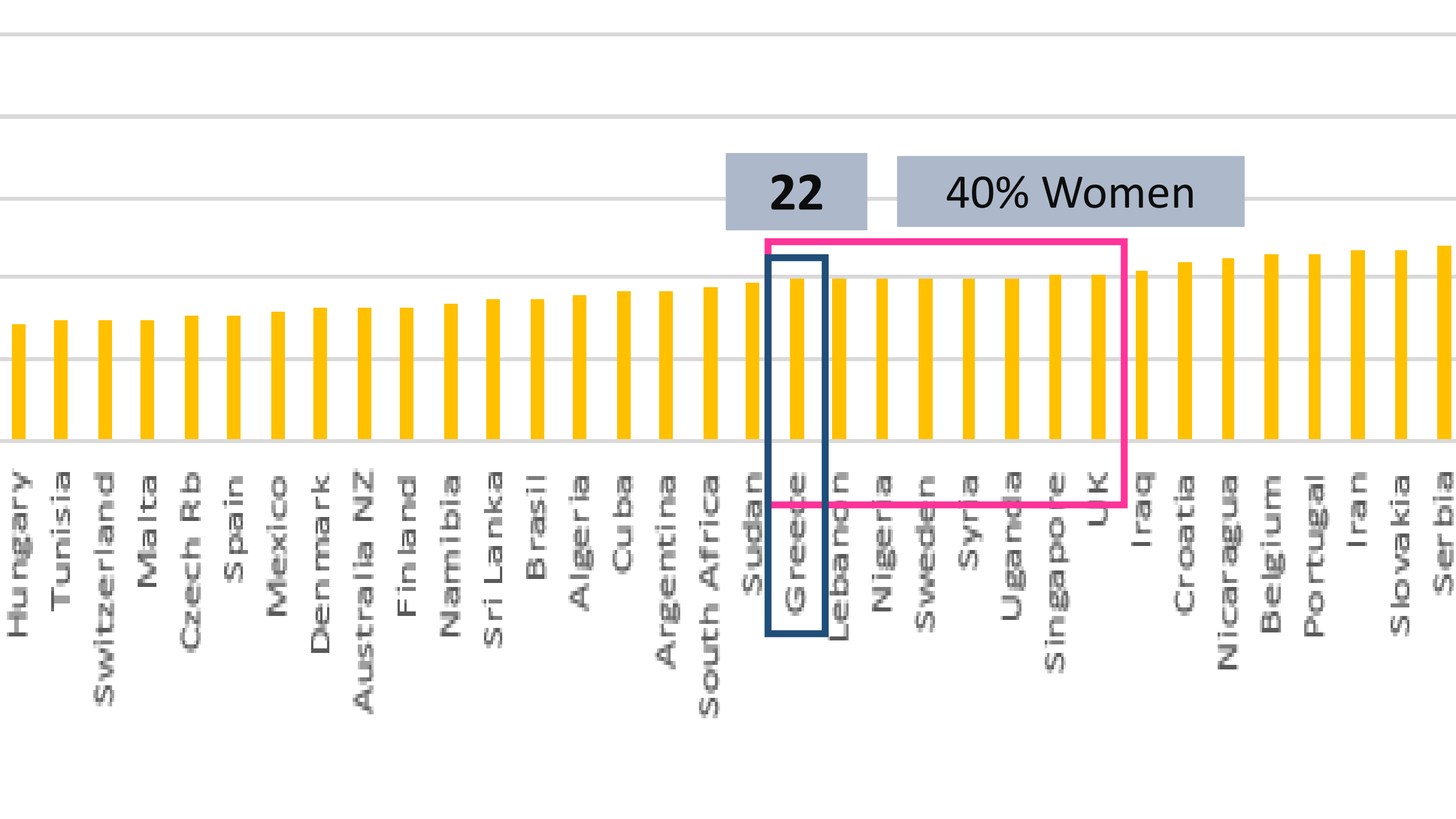
IOMP updated survey 2017  
% women

92 countries  
29086 total MP  
20421 Men MP  
8665 Women MP

51 out of 92 below the European target

European target of 40 %







We are here for you to address the challenges faced by women in the field of Medical Physics.





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5. www.

# ...If I Had Known About Medical Physicists, I Would Have Decided to Become One!



## MARÍA DEL ROSARIO PÉREZ

*Physician graduated at the School of Medicine of Buenos Aires University, Argentina (1980), specialized on Radiation Oncology, a post-graduate diploma on Radiation Protection and Nuclear Safety (1990). Radiation protection expert at the Atomic Energy Commission and Nuclear Regulatory Authority (1991-2006), scientist at the WHO Department of Public Health, Environmental and Social Determinants of Health (2007 up-to-now). Responsible for the technical coordination of the WHO Global Initiative on Radiation Safety in Health Care Settings, WHO representative at: Joint Secretariat for the revision of the International Radiative Basic Safety Standards (BSS), Inter-Agency Committee on Radiation Safety, United Nations Scientific Committee on the Effects of the Atomic Radiation, IAEA Radiation Safety Standards Committee, the EC Group of Scientific Experts referred to in Article 31 of the Euratom Treaty and the International Commission on Radiological Protection (ICRP).*



- Η παγκόσμια ανάγκη για μεγαλύτερη και καλύτερη πρόσβαση στην διάγνωση και θεραπεία των ασθενών αυξάνει και την ανάγκη ακτινοφυσικών στην Ελλάδα και διεθνώς.
- Όσον αφορά στον αριθμό ακτινοφυσικών στην Ευρώπη, η Ελλάδα είναι σε ικανοποιητικά επίπεδα (νούμερο 5 στην Ευρώπη)
- Όσον αφορά στην εκπροσώπηση των γυναικών στην Ιατρική Φυσική, η Ελλάδα έχει κατακτήσει τον Ευρωπαϊκό στόχο του 40% αλλά είναι αρκετά πίσω από άλλες Ευρωπαϊκές χώρες.
- Θα πρέπει να γίνουν περισσότερες προσπάθειες για να επιτευχθεί ο στόχος του 50-50 μέχρι το 2030 των Ηνωμένων Εθνών.

Σας ευχαριστώ για την προσοχή σας

88

I am sending you, under separate cover  
and the enclosed text of the copy of  
service, if you consented to read it in  
the new text.

I tried to describe what might come out  
and what it might mean, such detail  
I allude to as lot of a few lines  
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