# TAHTALI DAM

**Hatice Yağmur KALKINÇ**

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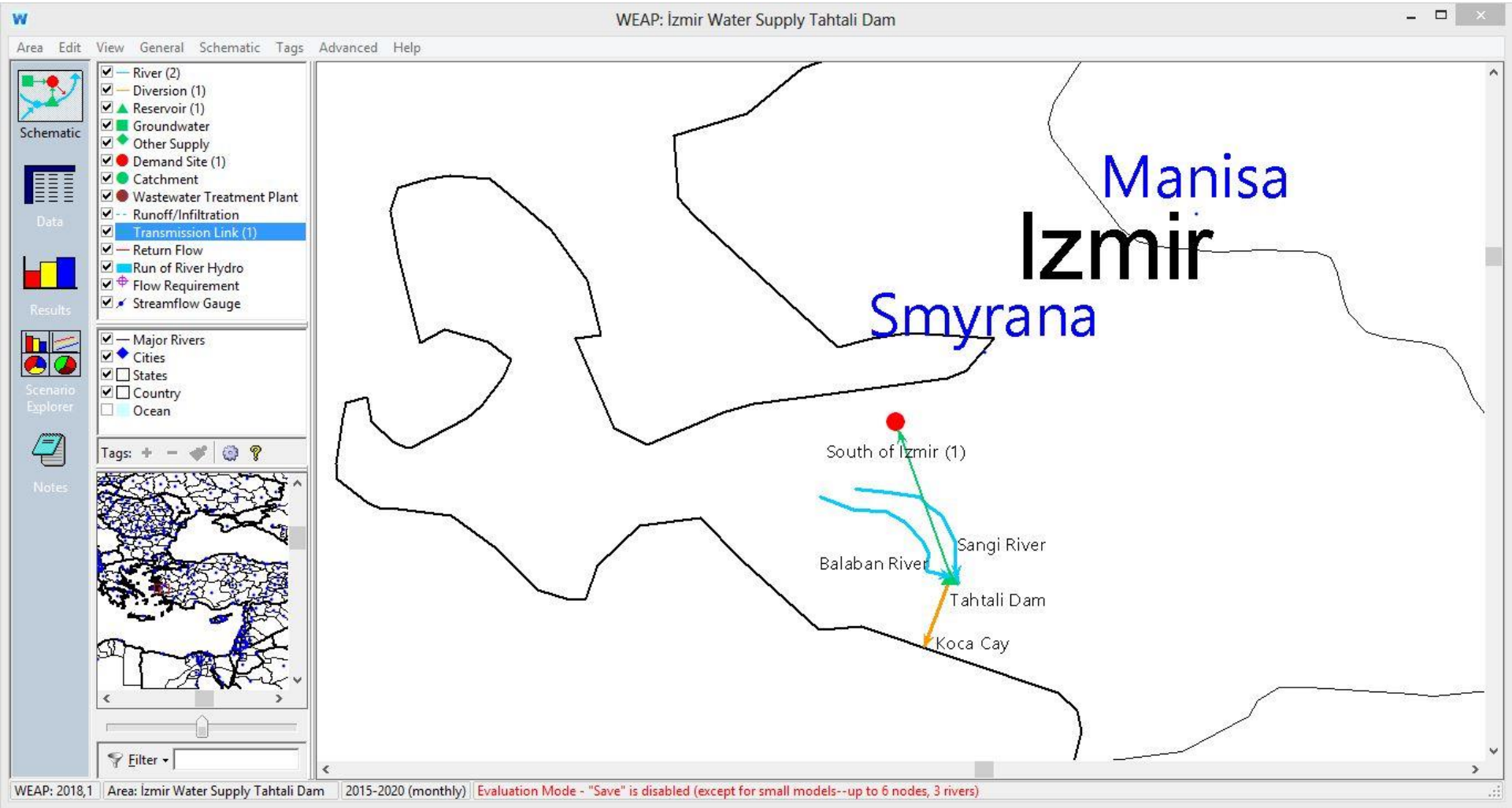
İZMİR
KÂTİP ÇELEBİ
UNIVERSITY

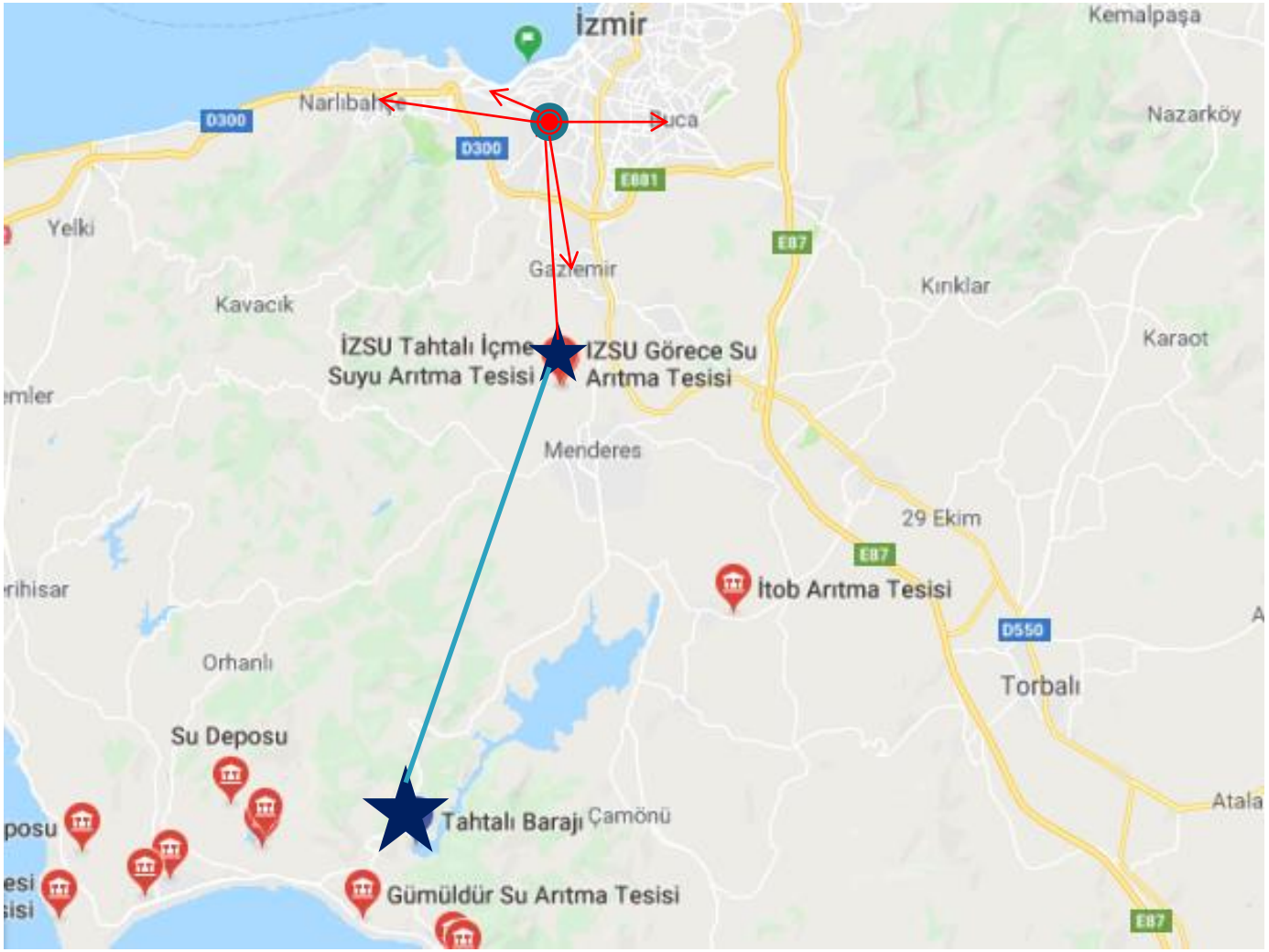
# Introduction

- Goal of the this study is to evaluate the future qualification of the Tahtalı Dam for İzmir.

# Schematic View in WEAP



# Study Area

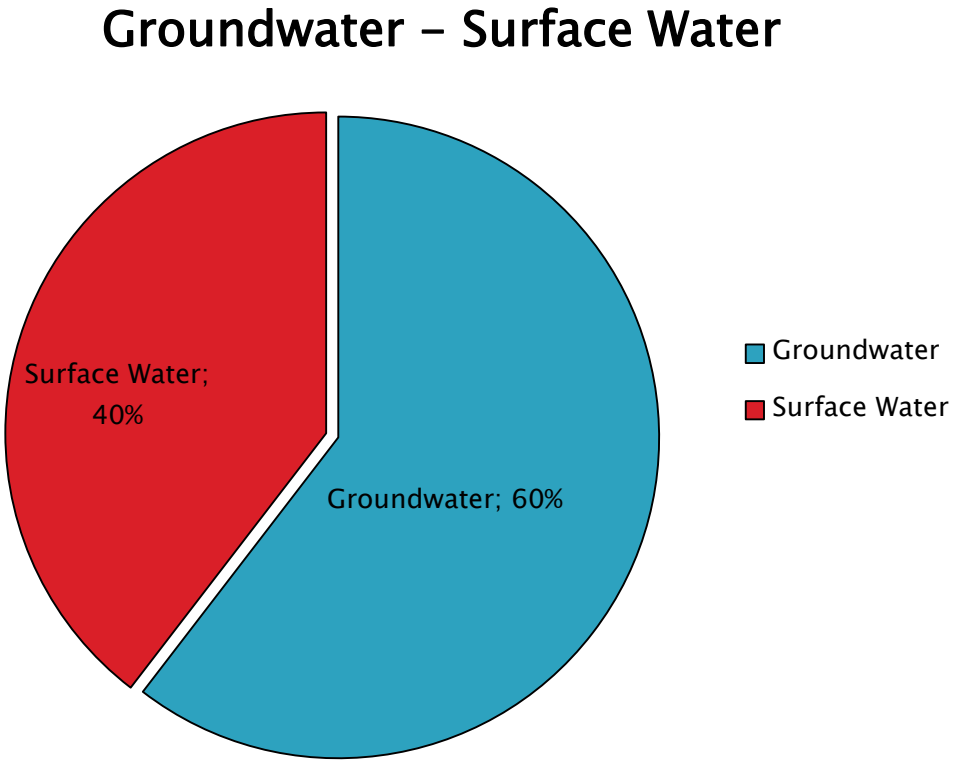

İzmir
Kemalpaşa
Narlıbahçe
D300
D300
E881
Nazarköy
Yelki
E87
Gaziemir
Kınıklar
Kavacık
İZSU Tahtalı İçme Suyu Arıtma Tesisi
İZSU Görece Su Arıtma Tesisi
Karaot
Menderes
29 Ekim
E87
İtob Arıtma Tesisi
D550
Orhanlı
Torbalı
Su Deposu
Tahtalı Barajı
Çamönü
Atala
Gümüldür Su Arıtma Tesisi
E87

# Tahtalı Dam Properties

- Precipitation Area :**546 km$^2$**
- Average potential amount of water :**153.000.000 m$^3$/year**
- A.P.A.W can be withdrawn from the dam :**128.000.000 m$^3$/year**
- Type of dam : **Clay core + cutter steep rock fill**
- Crest elevation : **62,5 m**
- Reservoir minimum water elevation : **31 m**
- Reservoir maximum water elevation : **60,5 m**
- Volume at minimum water elevation : **19.600.000 m$^3$**
- Volume at maximum water elevation : **306.650.000 m$^3$**
- Reservoir active volume (Normal V.-Minimum V.) : **287.050.000 m$^3$**

# Why Tahtalı Dam is important for İzmir?

- Tahtalı Dam is an important water resource for İzmir because of 32% of İzmir's water supplied by Tahtalı Dam.




İZSU : http://www.izsu.gov.tr/Pages/standartPage.aspx?id=212

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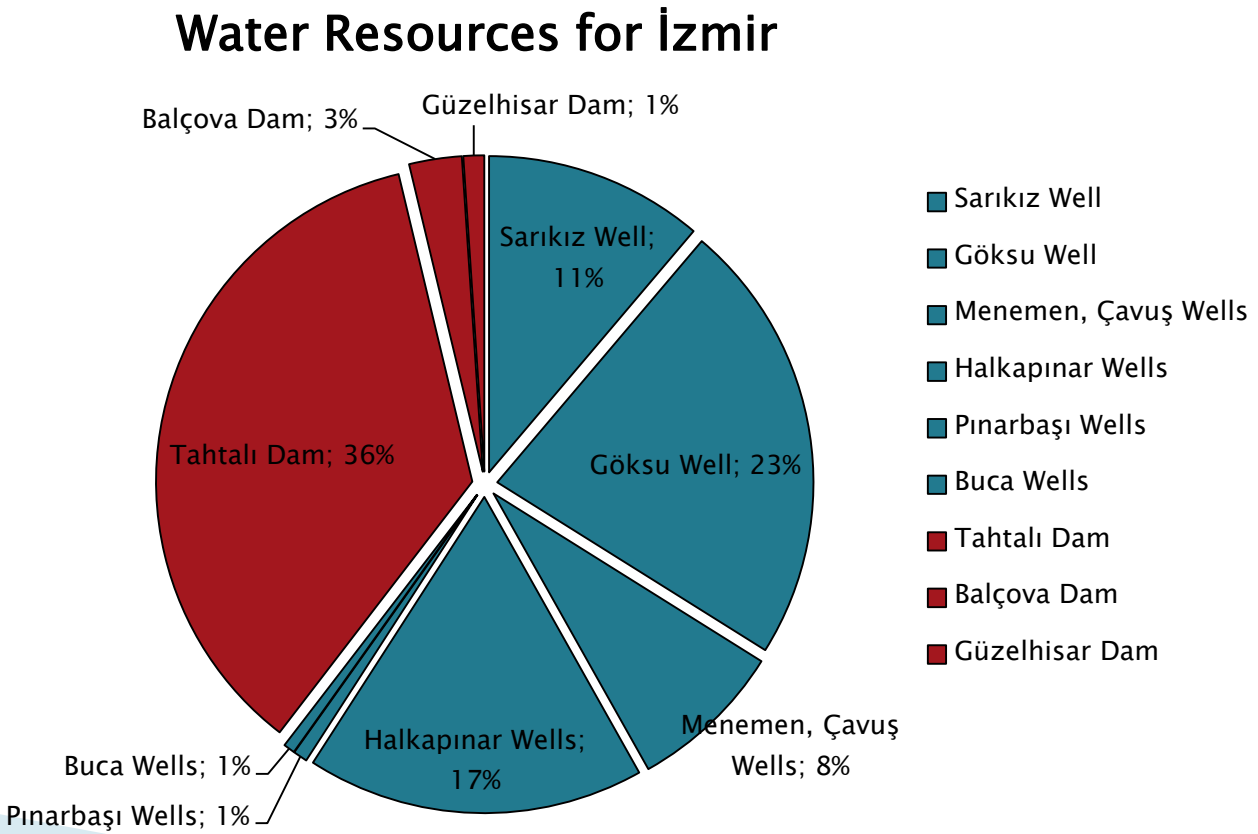
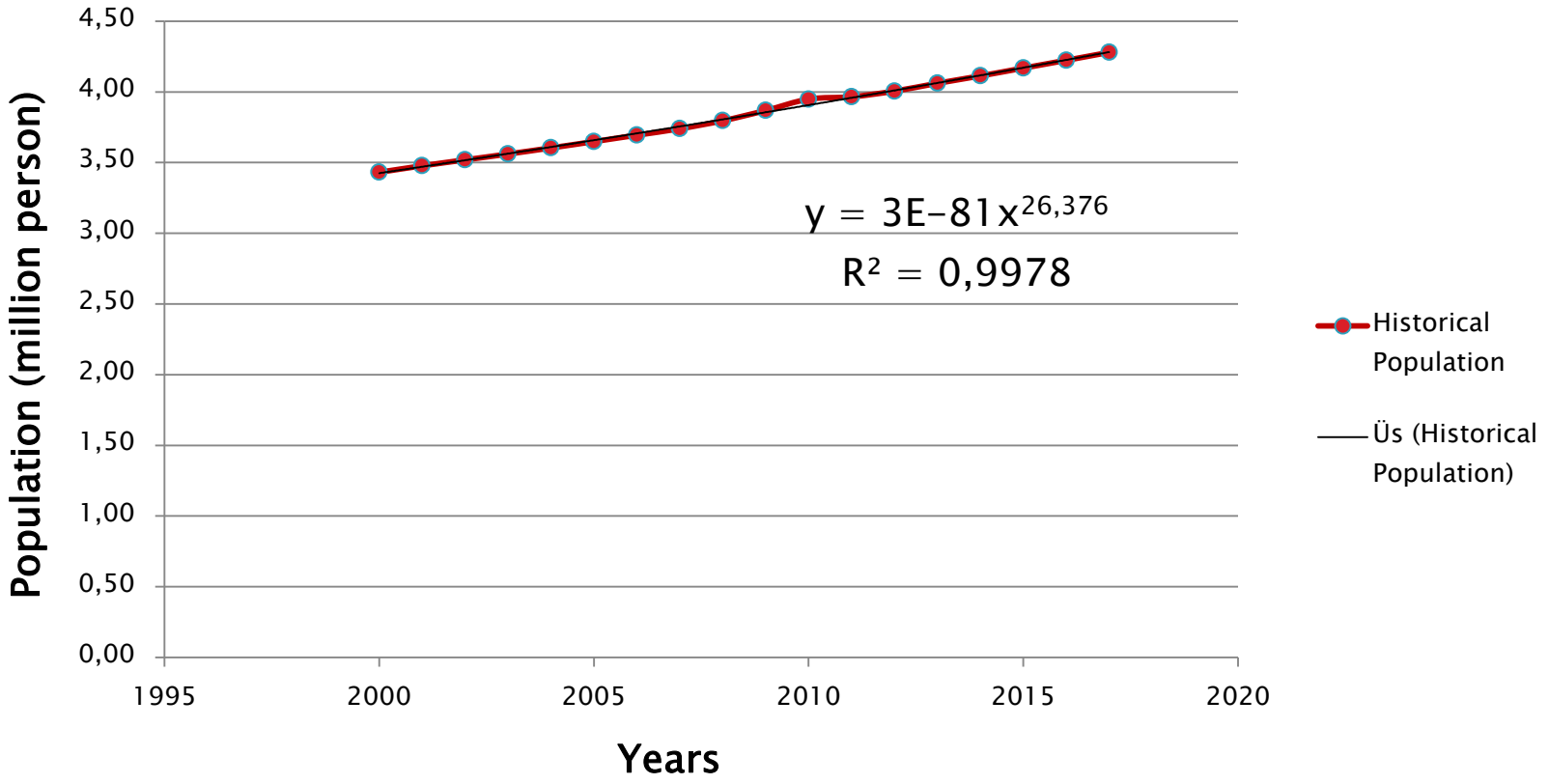
1. Gaziemir
2. Karabağlar
3. Buca
4. Balçova
5. Menderes
6. Narlıdere



# Methodology

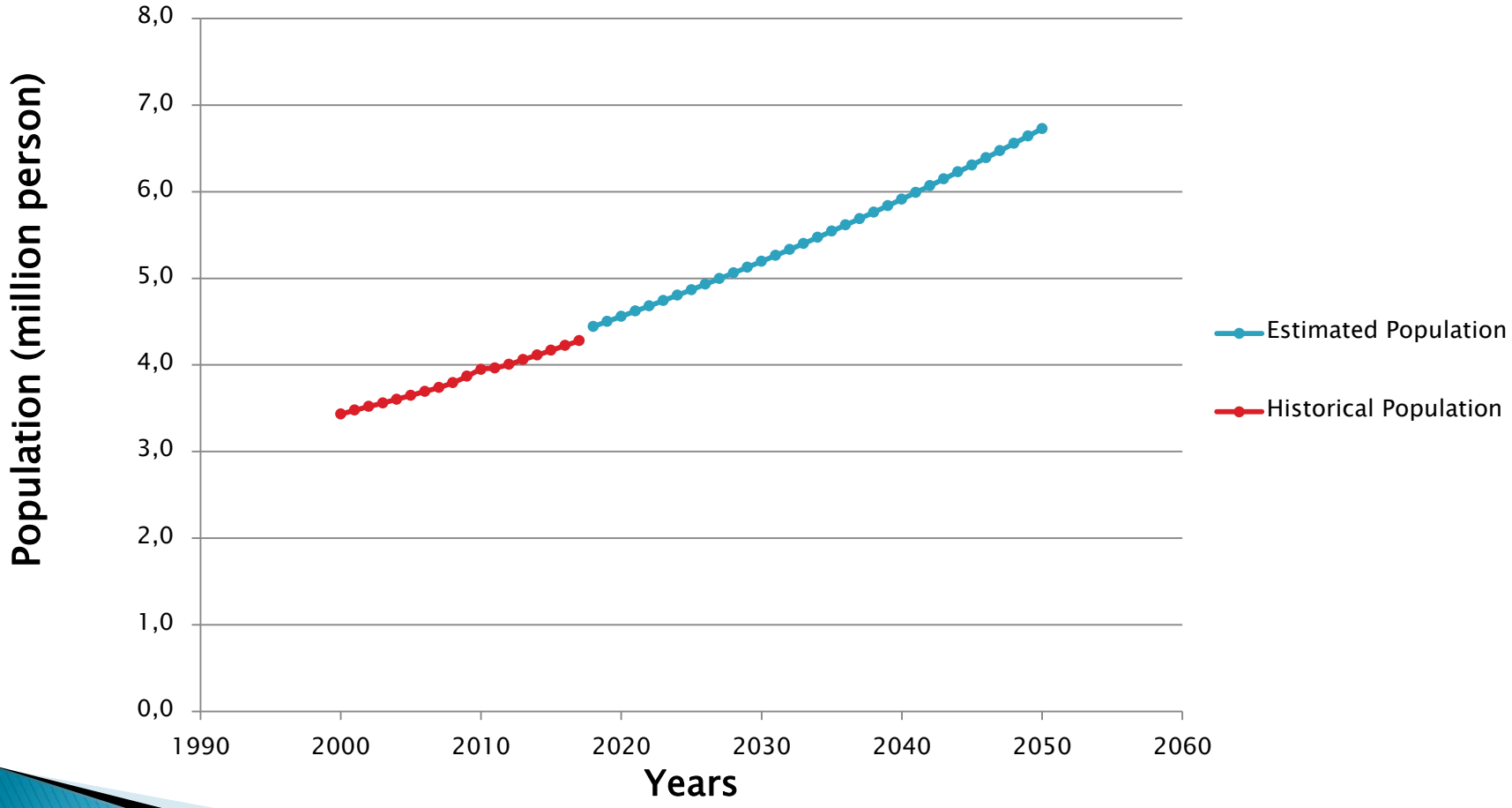
- **Statistical Data and Analysis**
  - Historical Trend in Population
  - Population Projection
  - WUPC for İzmir
  - Water Demand Estimation for İzmir
  - Water Demand Estimation for Tahtalı
  - Water Demand Analysis Based on the Dam Capacity

# Historical Trend in Population

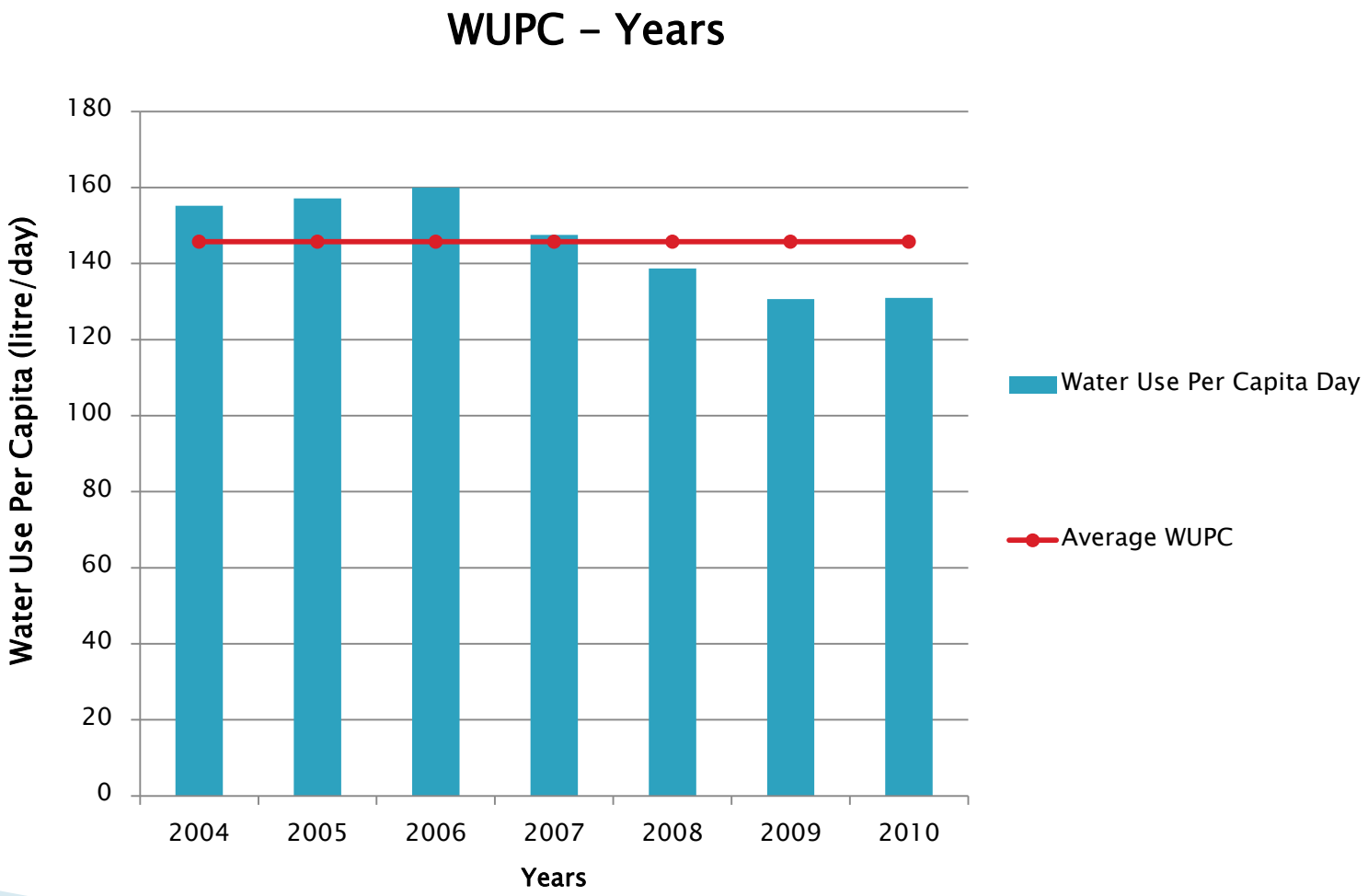



TUİK : http://www.tuik.gov.tr/UstMenu.do?metod=temelist

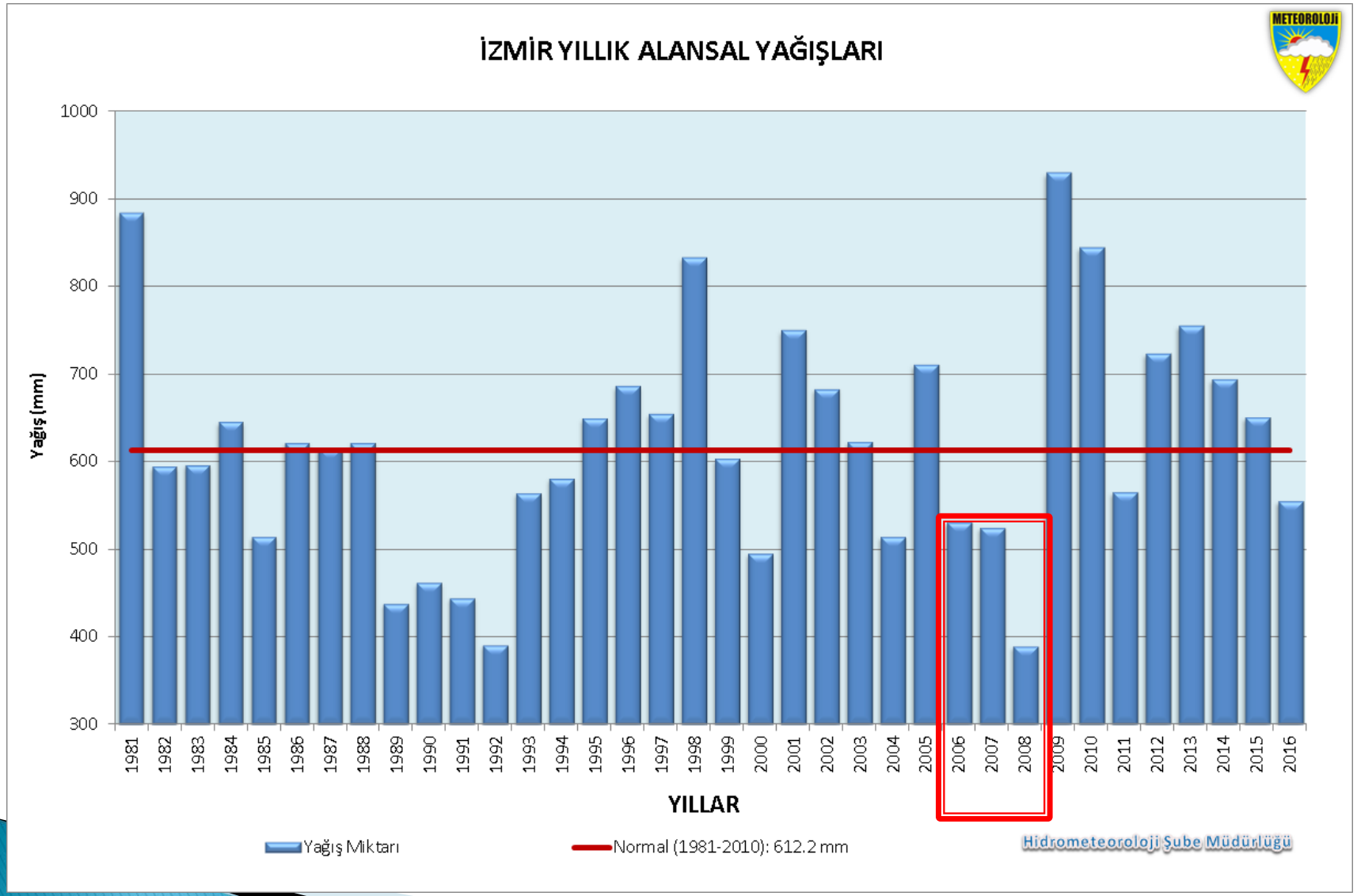
# Population Projection



# WUPC for İzmir



- In spite of this decrease in water resources, there was no water shortage in İzmir with renewal of water distribution networks and water saving campaigns.

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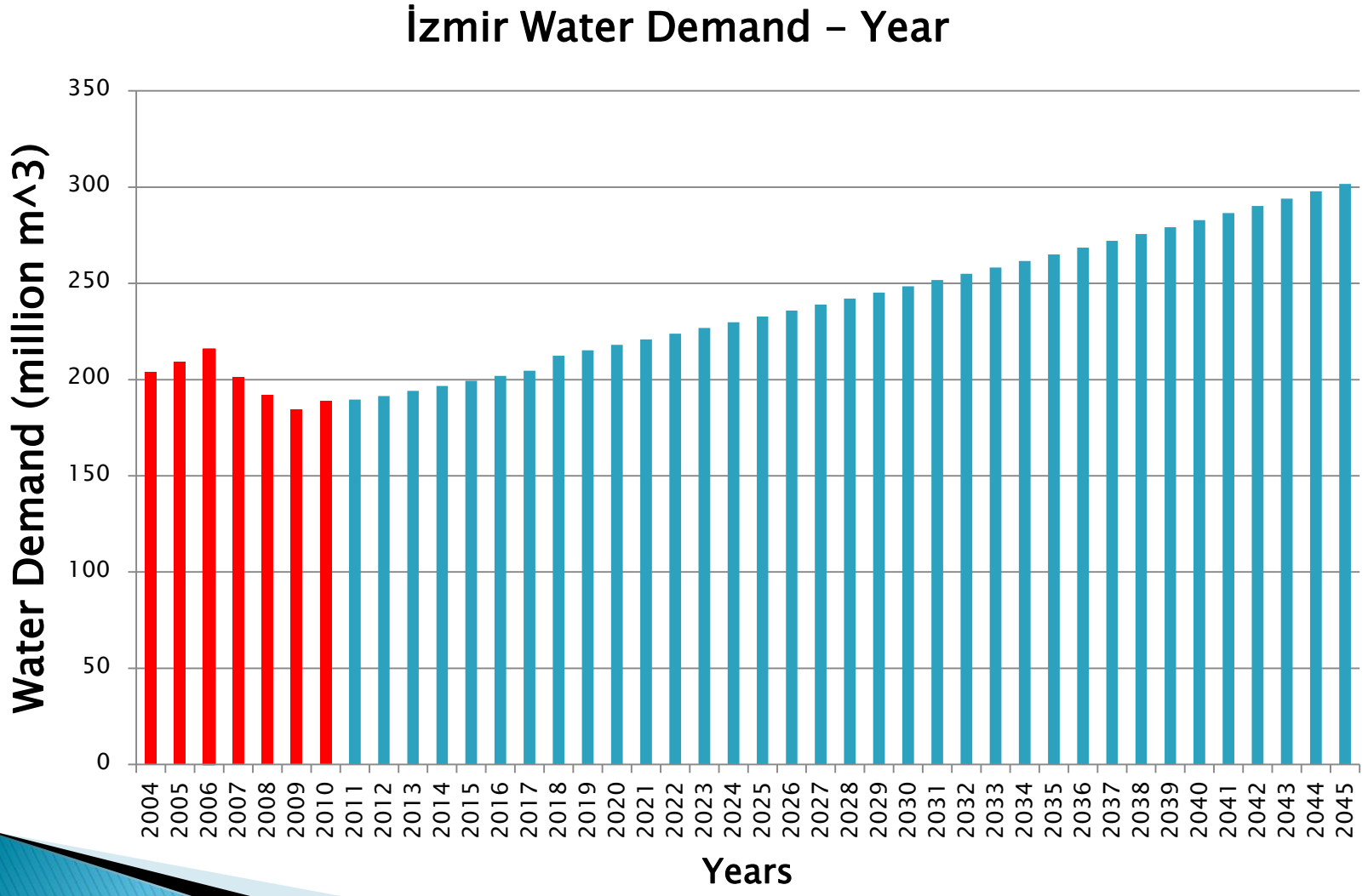
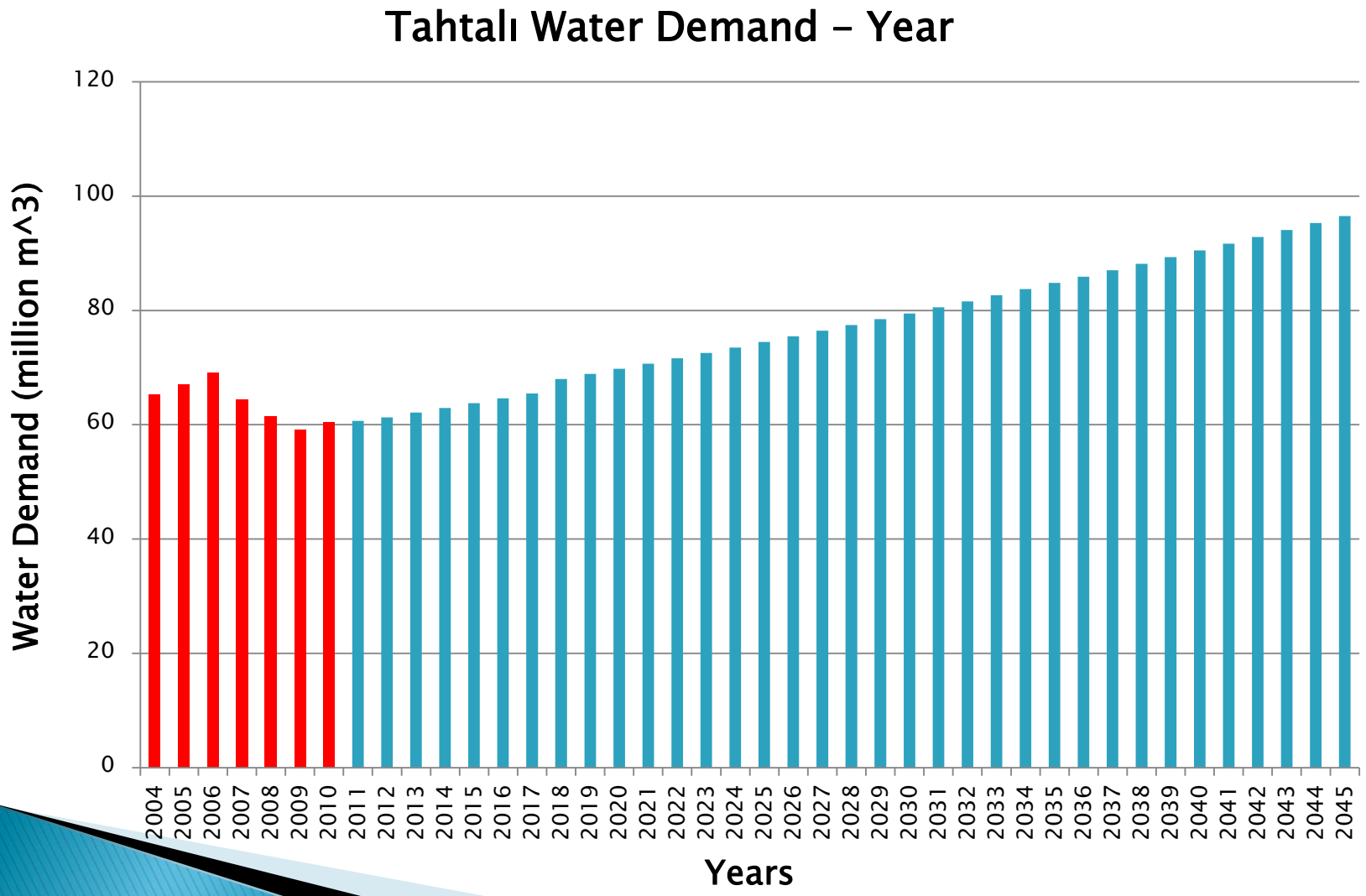
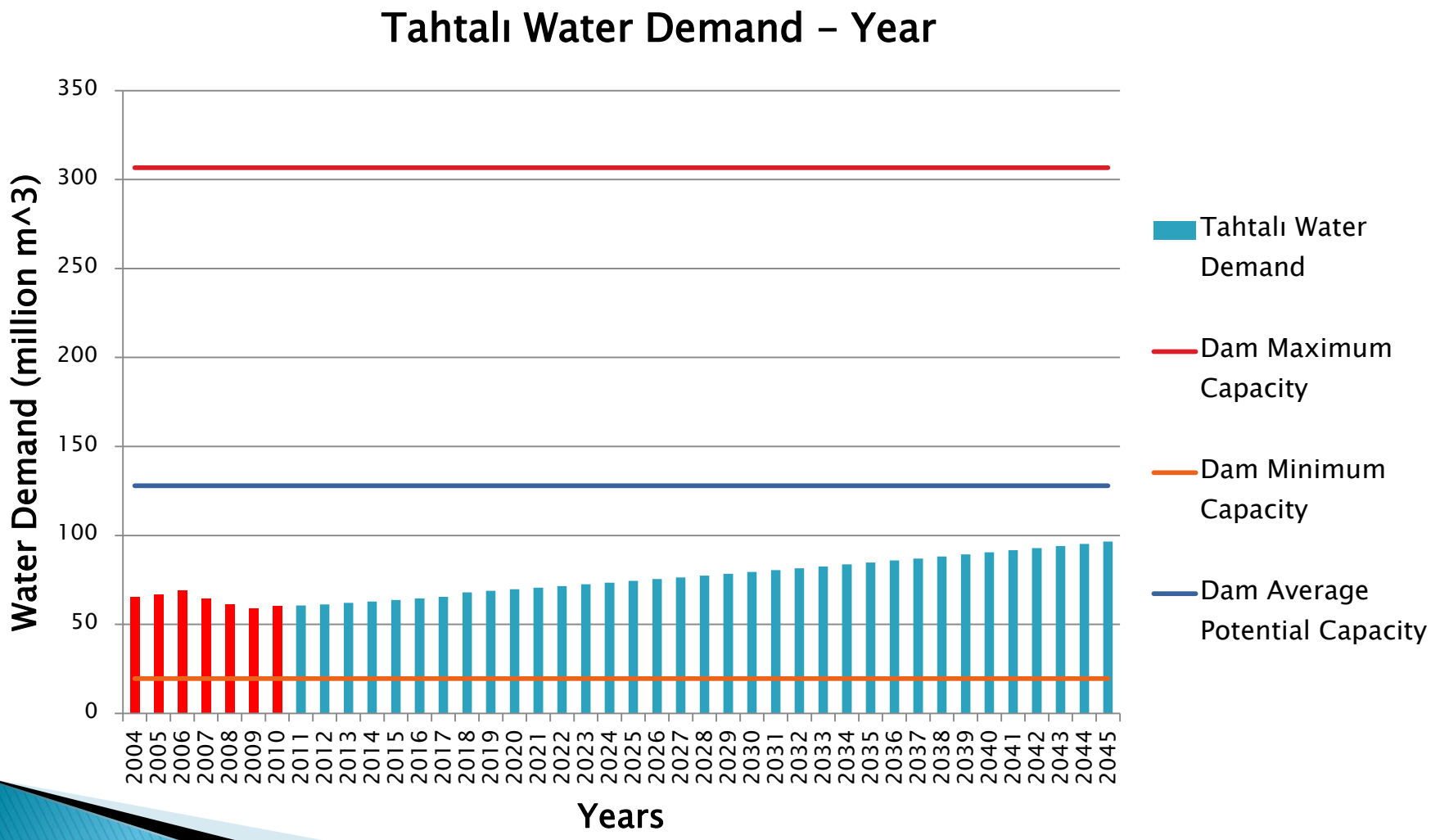
# Water Demand Estimation for İzmir



# Water Demand Estimation for Tahtalı



# Water Demand Analysis Based on the Dam Capacity



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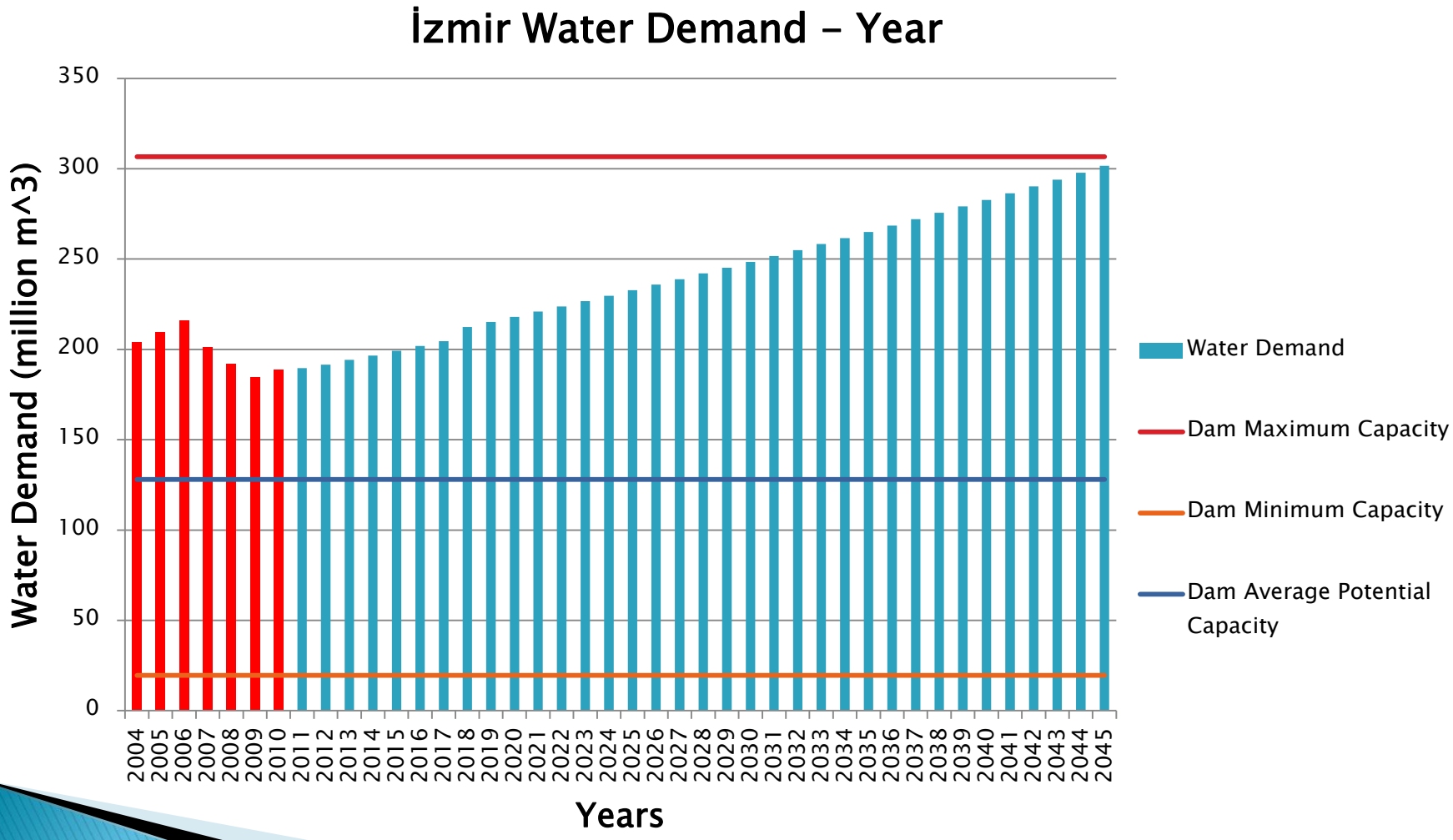

# Conclusion

- We examined the global warming can be effect the water demand. But in this effect there was no water shortage with help of renewal of water distribution networks and water saving campaigns.
- According to the our scenario Tahtalı Dam is can sufficient for 32% water demand of İzmir to 2045.

# Thanks For Listening