

Svijetska potrošnja i procjenjene rezerve energije

Energetika i ekologija

Zdenko Šimić

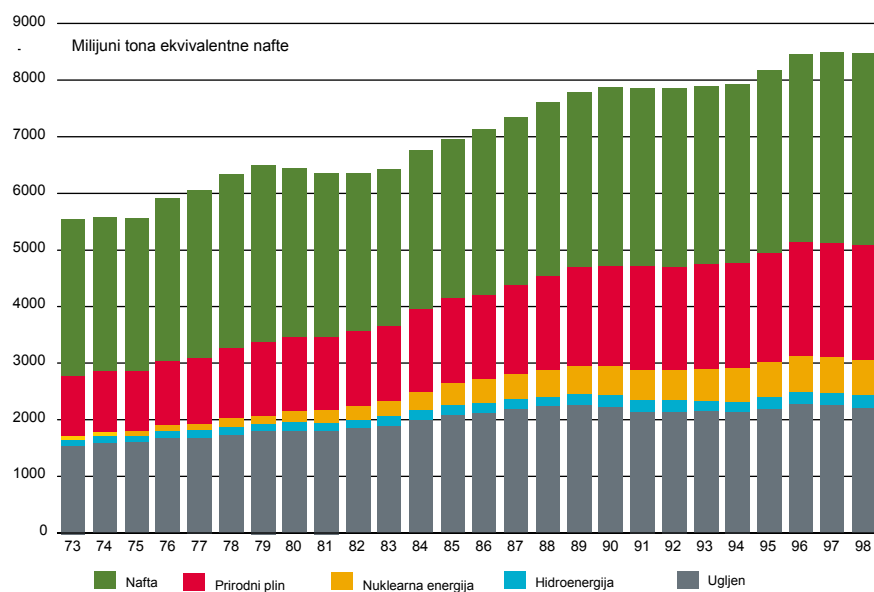
2004.

Svijetska potrošnja energije

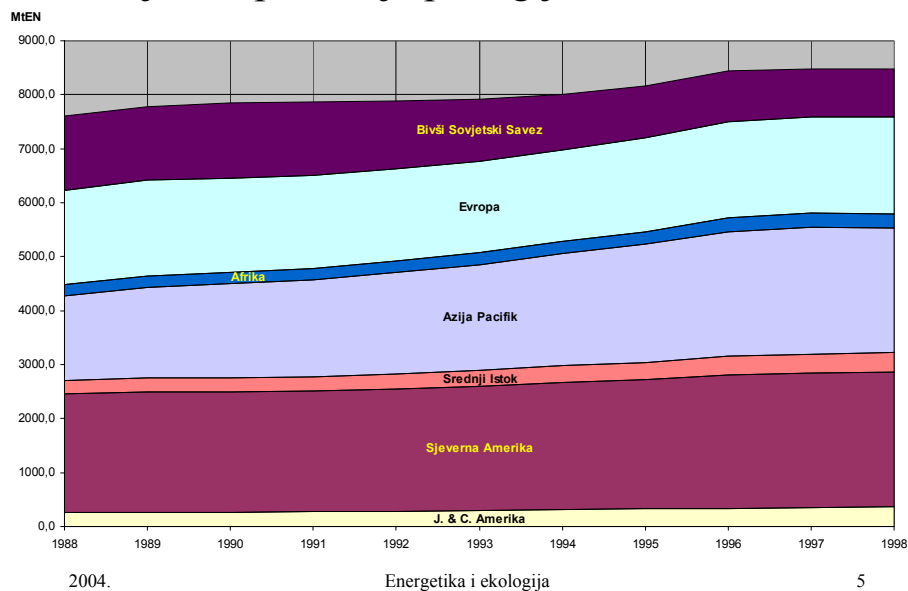
Podjela svijeta na regije (primjer)



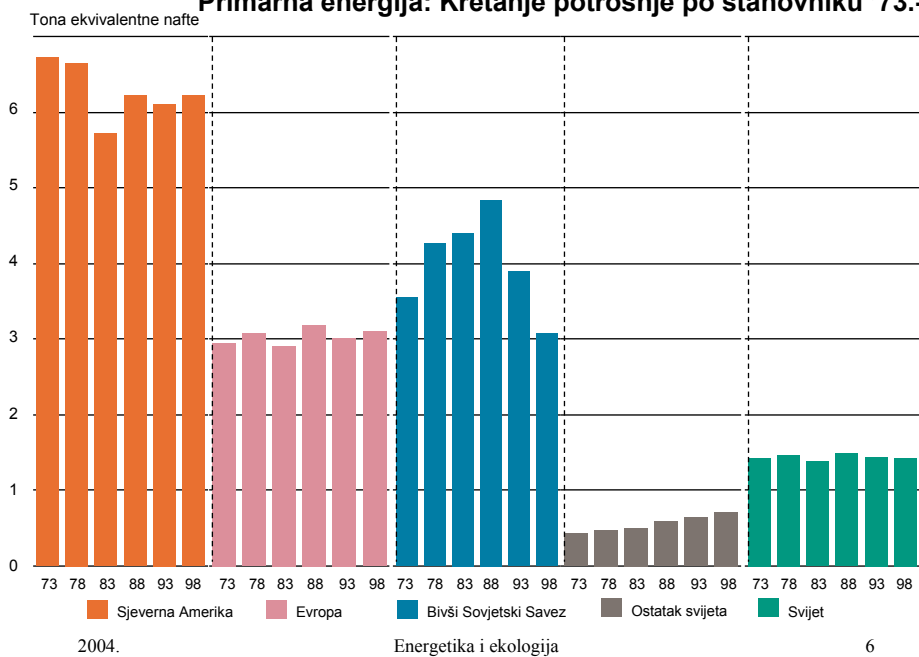
Kretanje svijetska potrošnje primarne energije



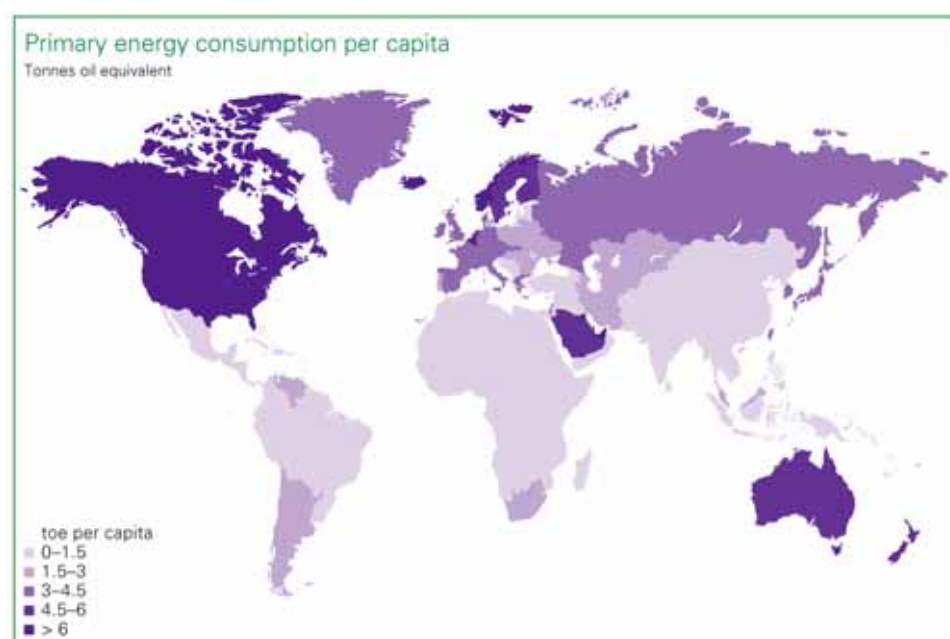
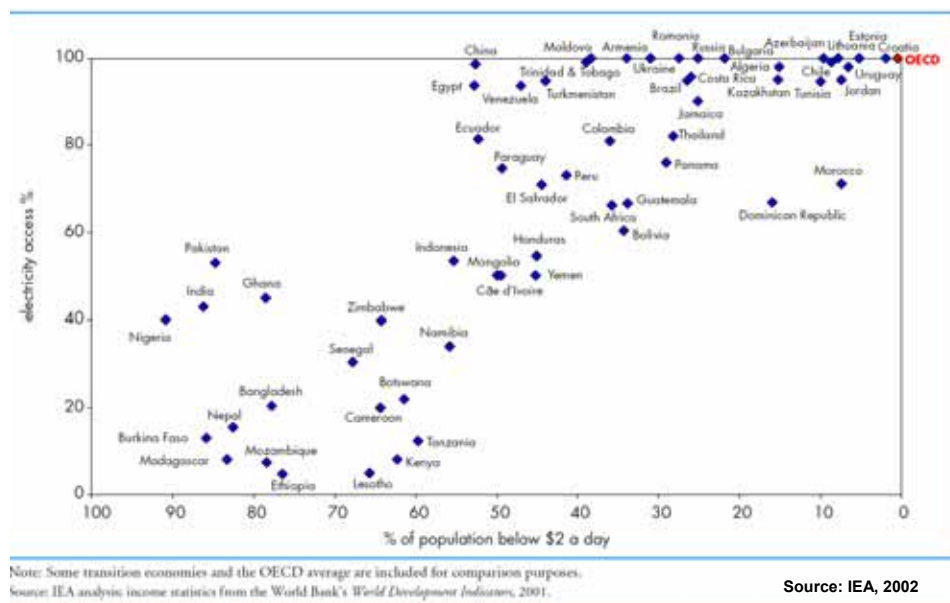
Svjetska potrošnja po regijama: 1988-1998

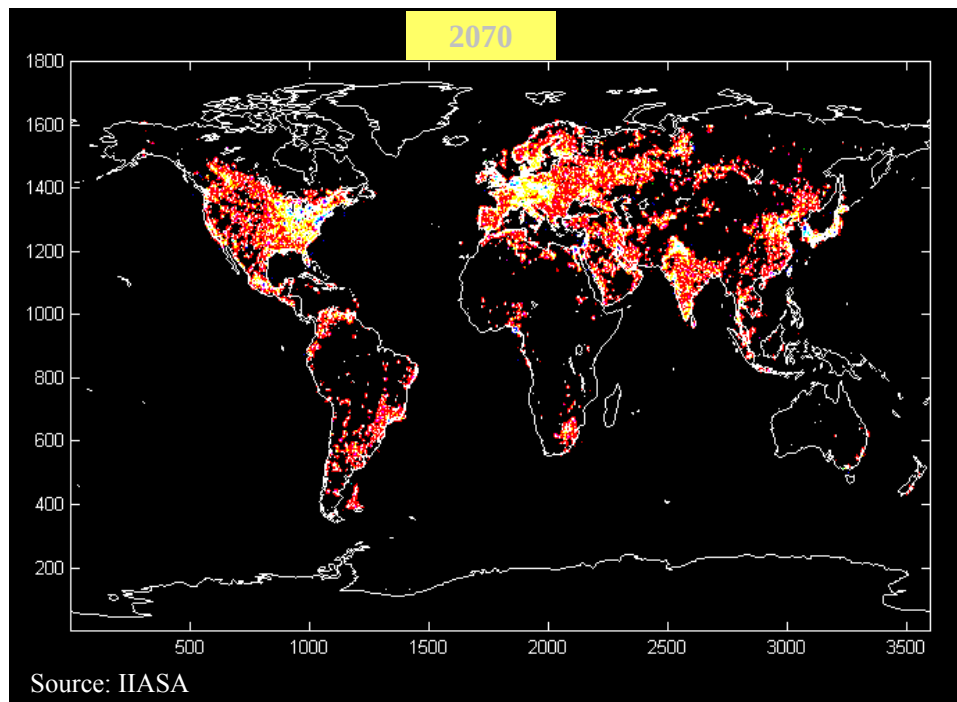
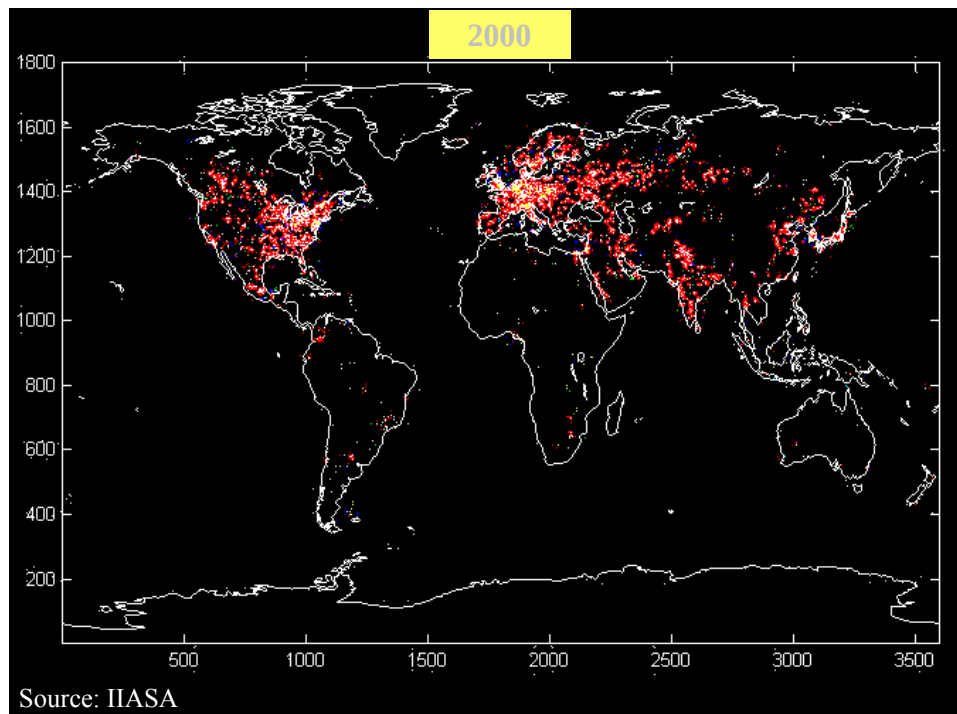


Primarna energija: Kretanje potrošnje po stanovniku '73.-'98



Korelacija siromaštva i dostupnosti električnoj energiji





Potrošnja energije 2001.

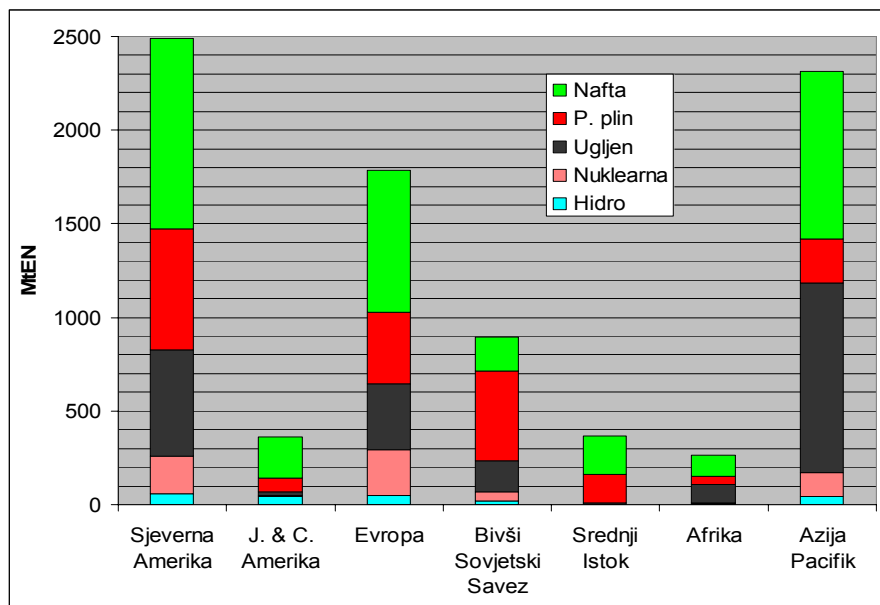
- Porast potrošnje ugljena (1,7%) i nuklearne (2,8%).
- Opadanje potrošnje hidroenergije (-3,7%).
- Bez rasta potrošnje nafte i plina.
- Potrošnja posebno slabija u Amerikama (SAD -2,4%, Južna i Srednja Amerika -0,3%).
- Azija (bez Kine) bilježi mali porast potrošnje od 1,3%.
- Kina bilježi porast od 4,3% (prestanak smanjivanja potrošnje ugljenja).
- Zemlje bivšeg Sovjetskog Saveza treću godinu za redom bilježe porast potrošnje.

2004.

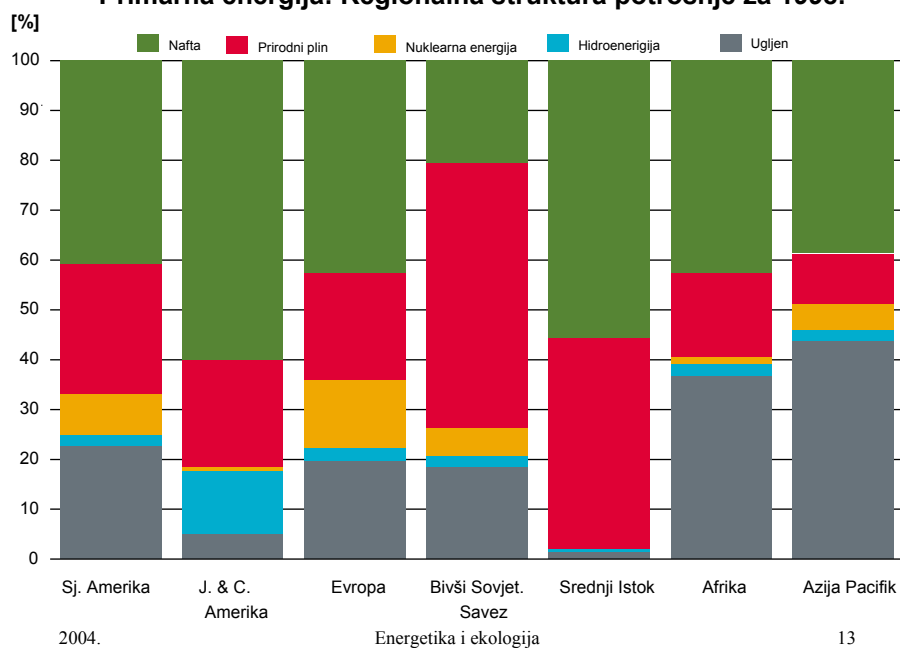
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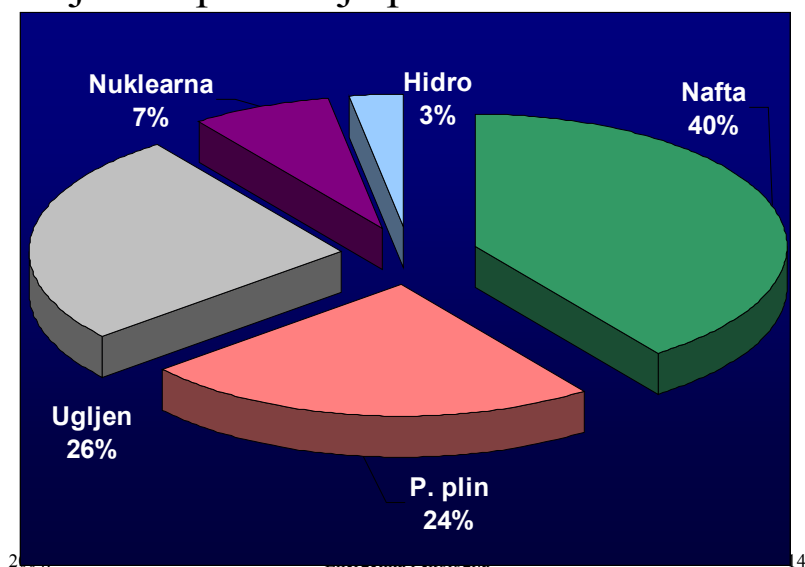
Svjetska potrošnja energije po regijama – 1998.



Primarna energija: Regionalna struktura potrošnje za 1998.



Svjetska potrošnja po izvorima za 1998.



Najveći potrošači 1998.

- tri zemlje sudjeluju sa 41% u svjetskoj potrošnji primarne energije: SAD 25%, Kina 9% i Rusija 7%
- Japan i Njemačka troše daljnjih 9.3%
- Indija , Kanada, Francuska, V. Britanija i Brazil sudjeluju sa 13.8% u potrošnji
- navedenih 10 zemalja troši 64%

Svjetska potrošnja i rezerve nafte

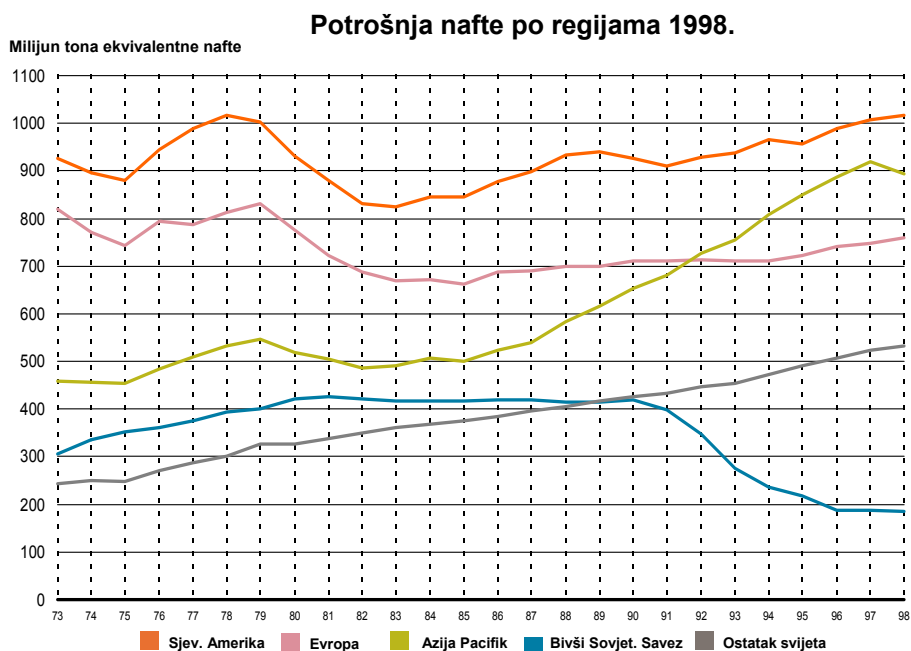
Svjetska potrošnja nafte u 2001.

- Brent oil prosječna cijena \$24,77 (niže od ~29 u 2000. i puno niže od skoro \$40 u krizi sa Irakom 2003.).
- Potrošnja minimalno snižena (prvo smanjenje od 1993.).
- Porast potrošnje zabilježen jedino u Evropi i Africi.
- Azija troši manje za 0,5% (10-godišnji trend je +3,6%).

2004.

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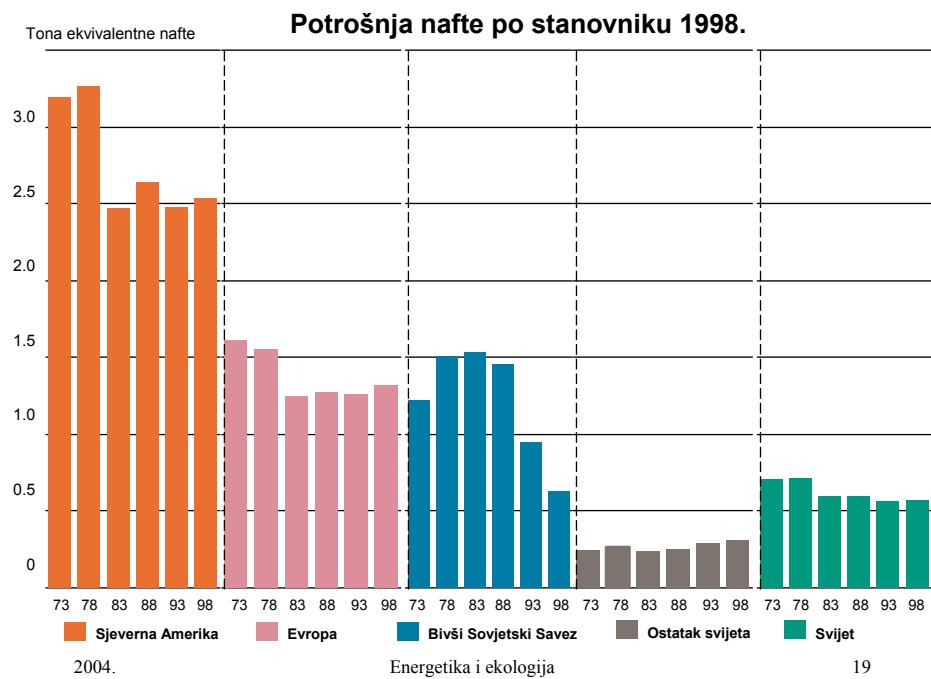
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2004.

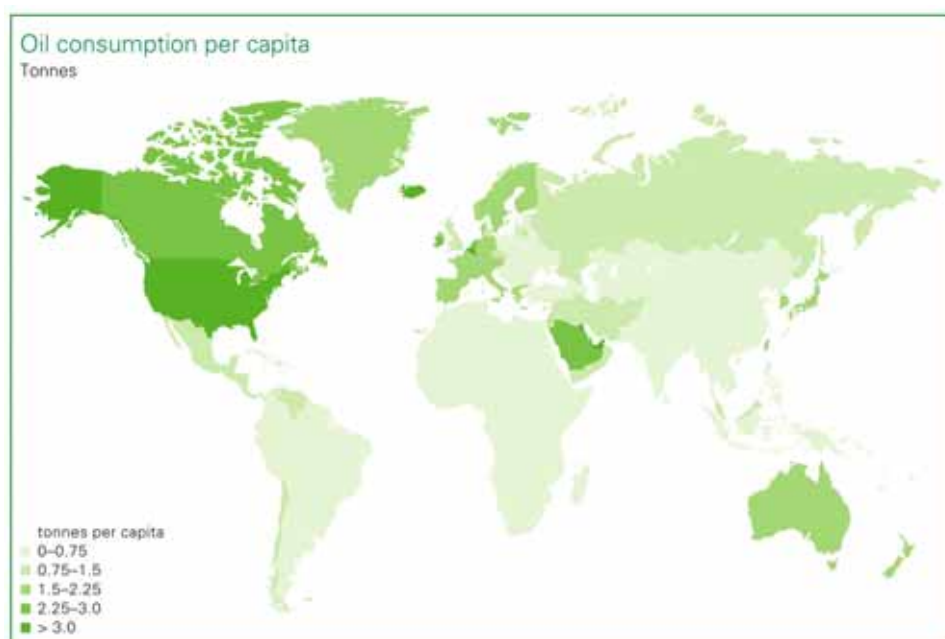
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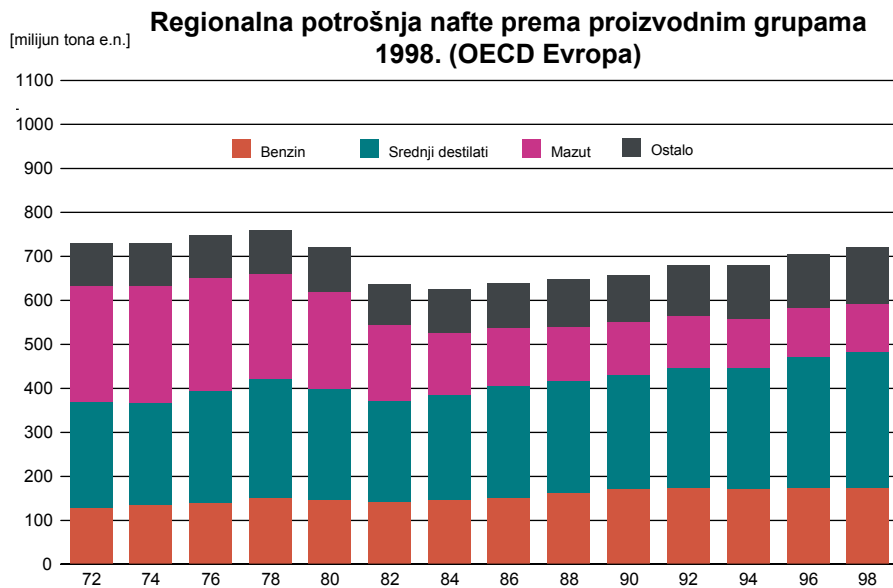
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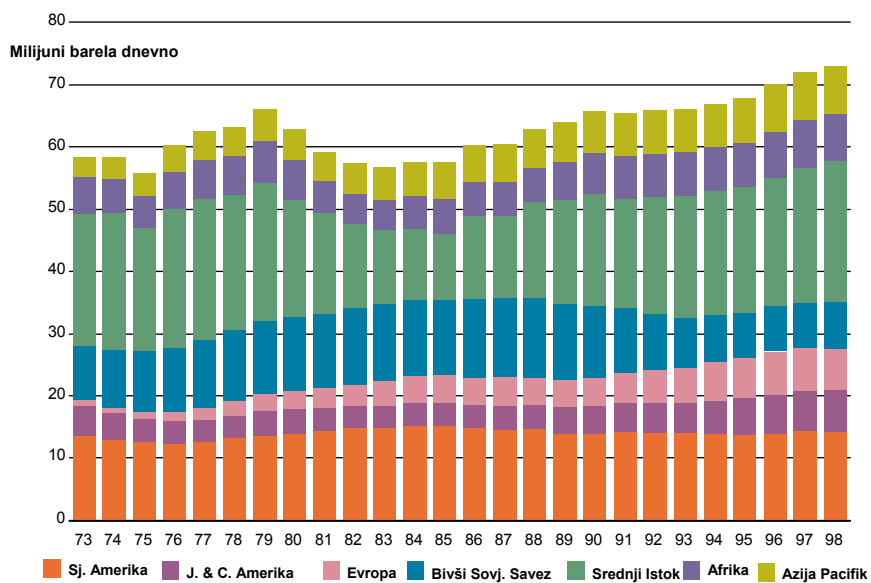
2004.

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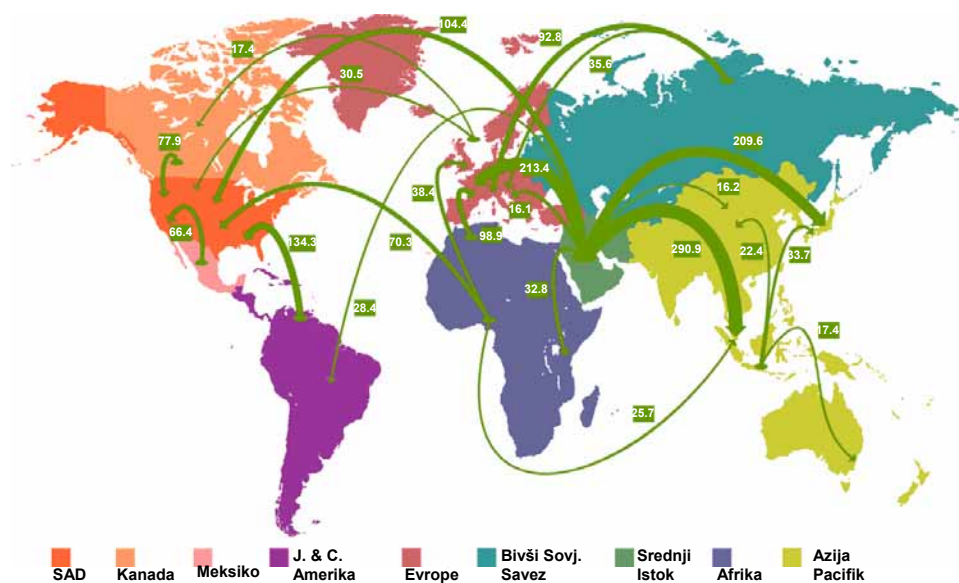


Proizvodnja nafte po regijama

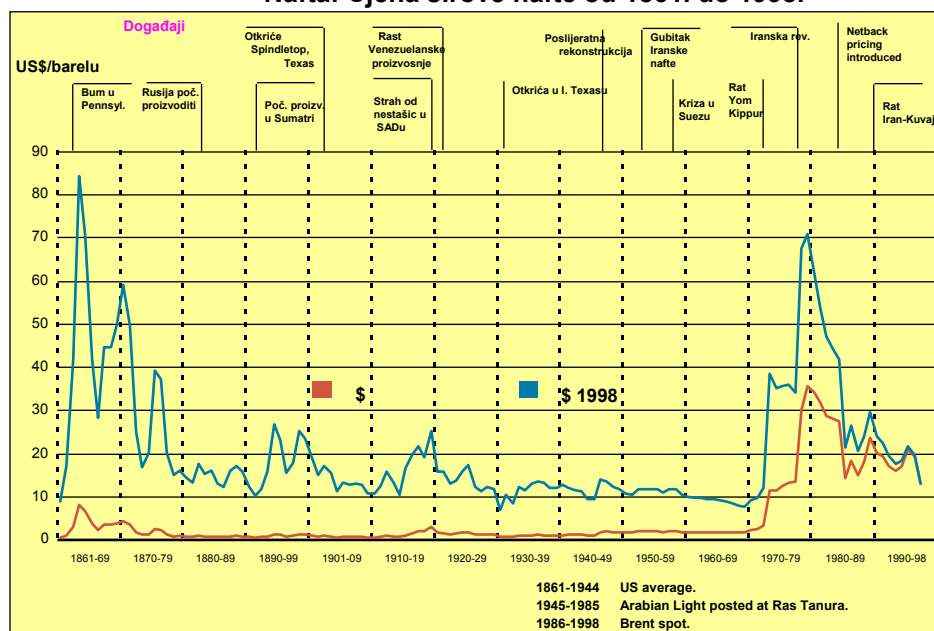


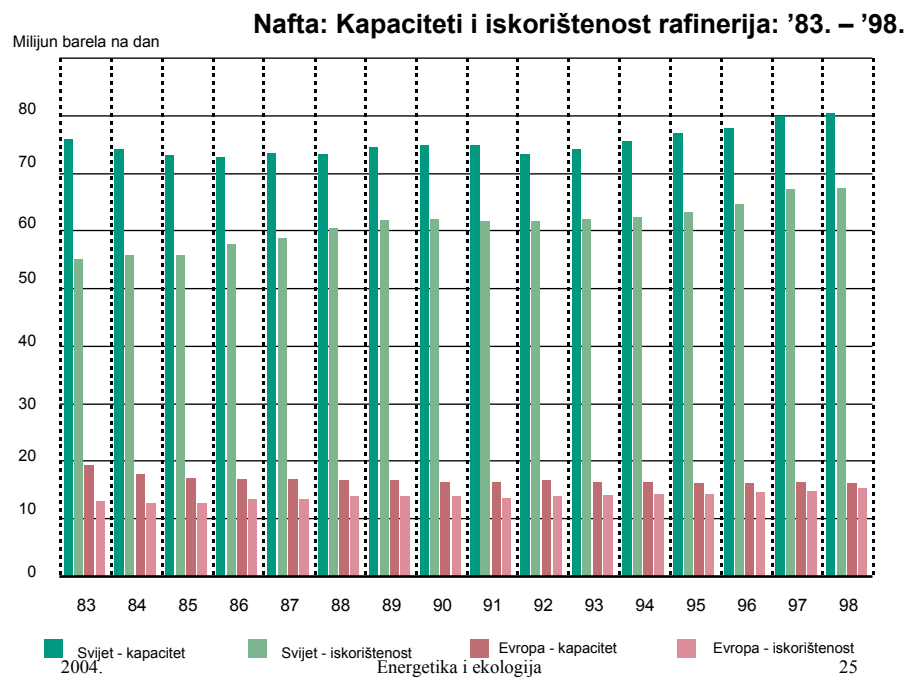
Glavna trgovinska kretanja nafte 1998.

Trgovinski tok (milijuni tona e.n.)



Nafta: Cjena sirove nafte od 1861. do 1998.

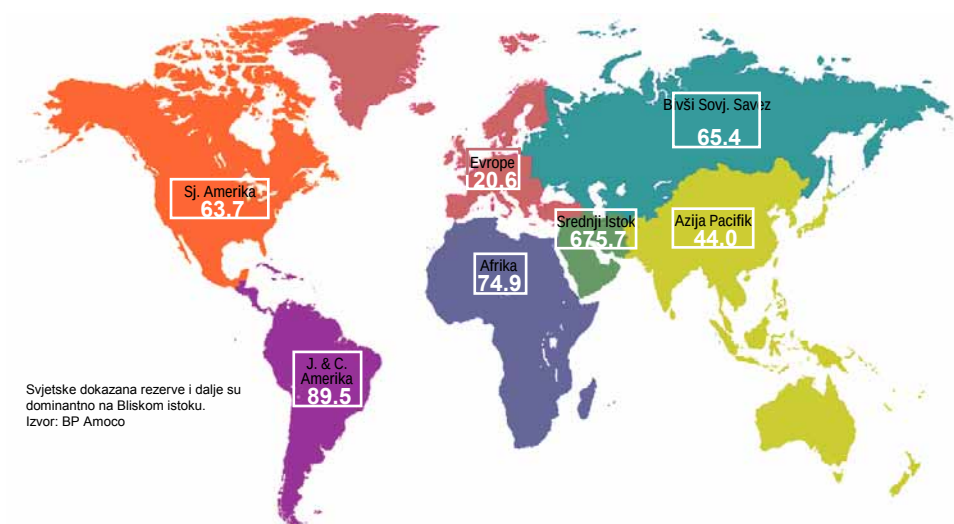




Svjetske rezerve nafte

Nafta: dokazane rezerve na kraju 1999.

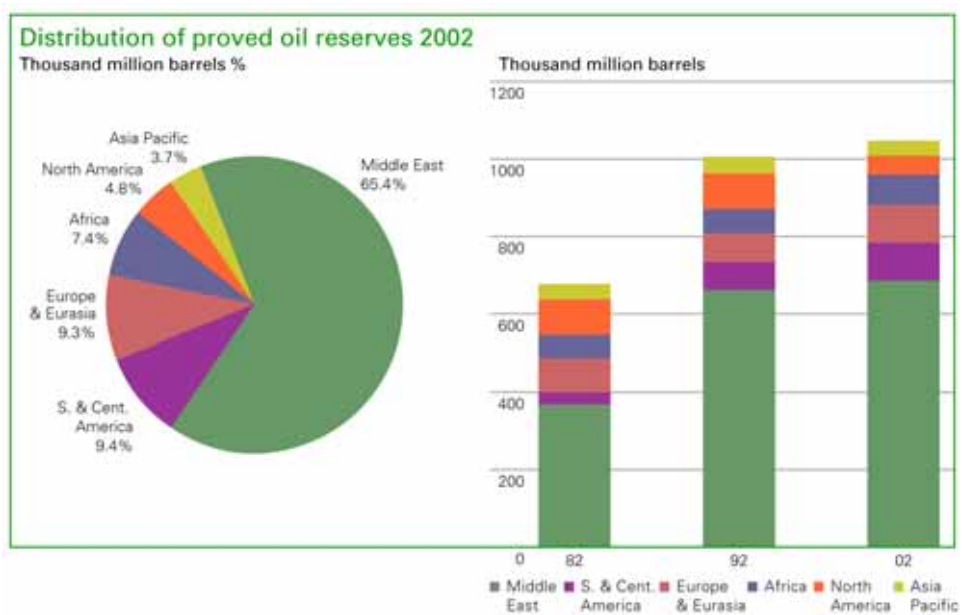
Tisuće miliona barela



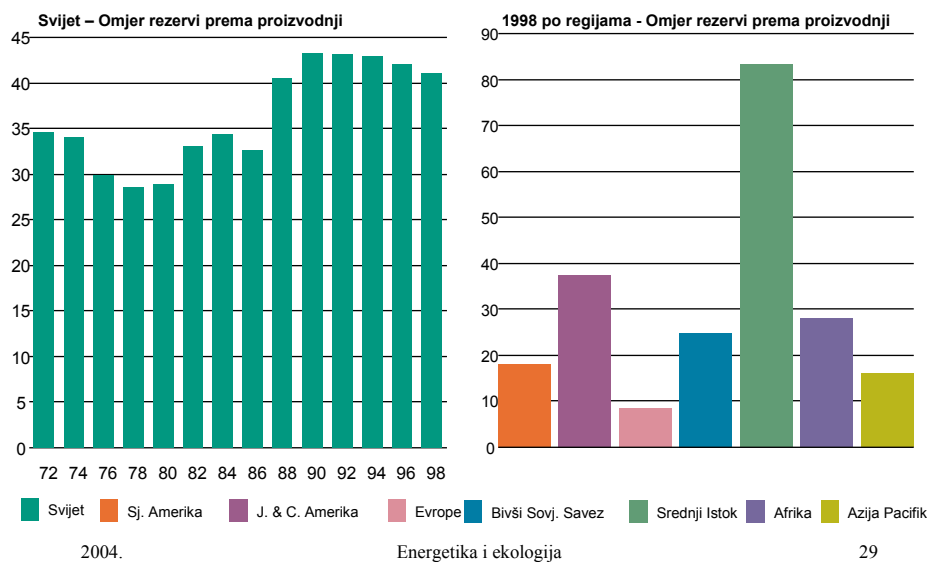
2004.

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Nafta: R/P omjer



Svjetska potrošnja i rezerve prirodnog plina

Svjetska potrošnja prirodnog plina u 2001.

- Potrošnja porasla samo 0.3%, dosta niže od prosjeka (2%) u zadnjoj dekadi
- Potrošnja opala u najvećem tržištu plina SAD za 5% kao posljedica blage zime (potrošnja je porasla – rezerve velike)
- Potrošnja znatno porasla u ostalim regijama, a posebno i Azijskom Pacifiku (5%)

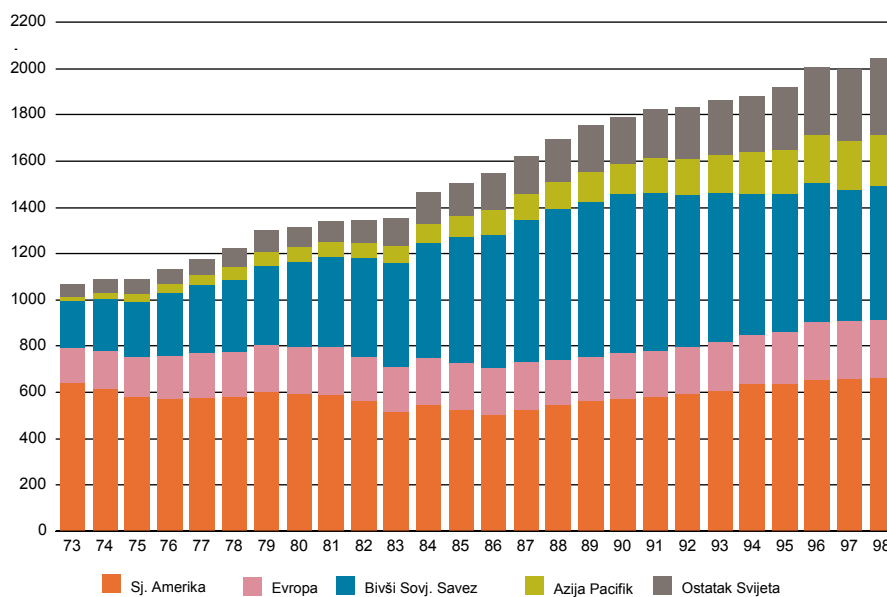
2004.

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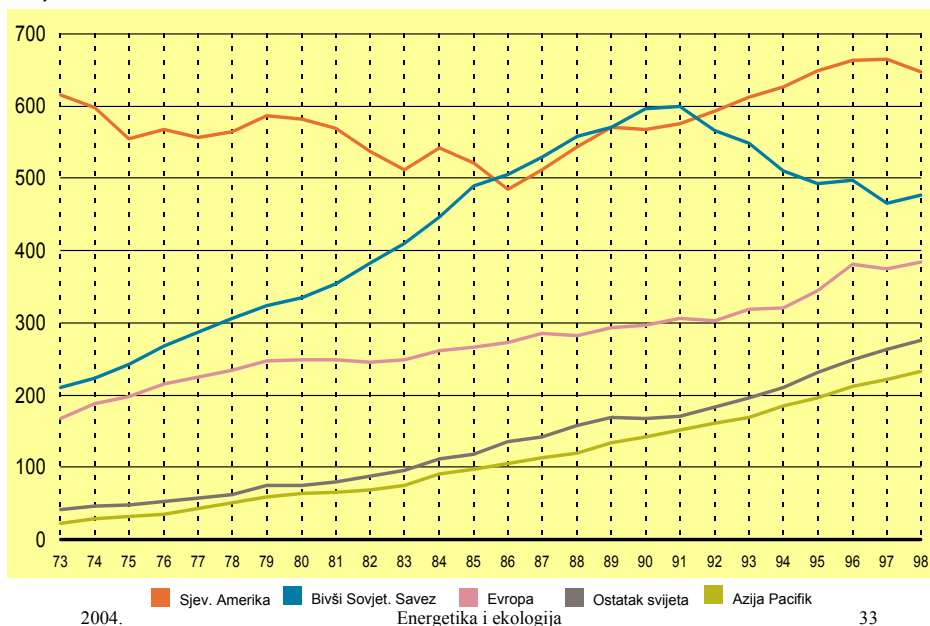
Proizvodnja prirodnog plina po regijama

Milijuni tona ekvivalentne nafte



Potrošnja prirodnog plina po regijama 1998.

Milijun tona ekvivalentne nafte



2004.

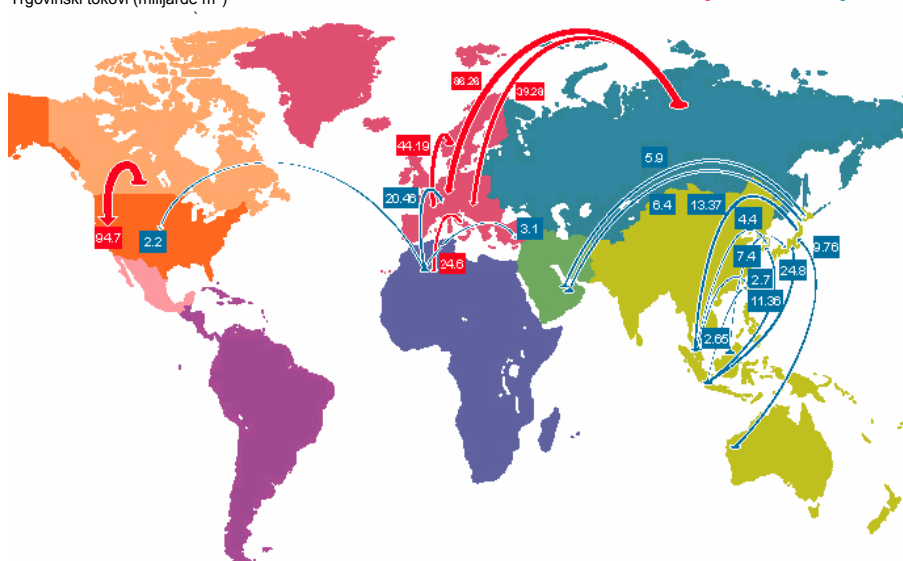
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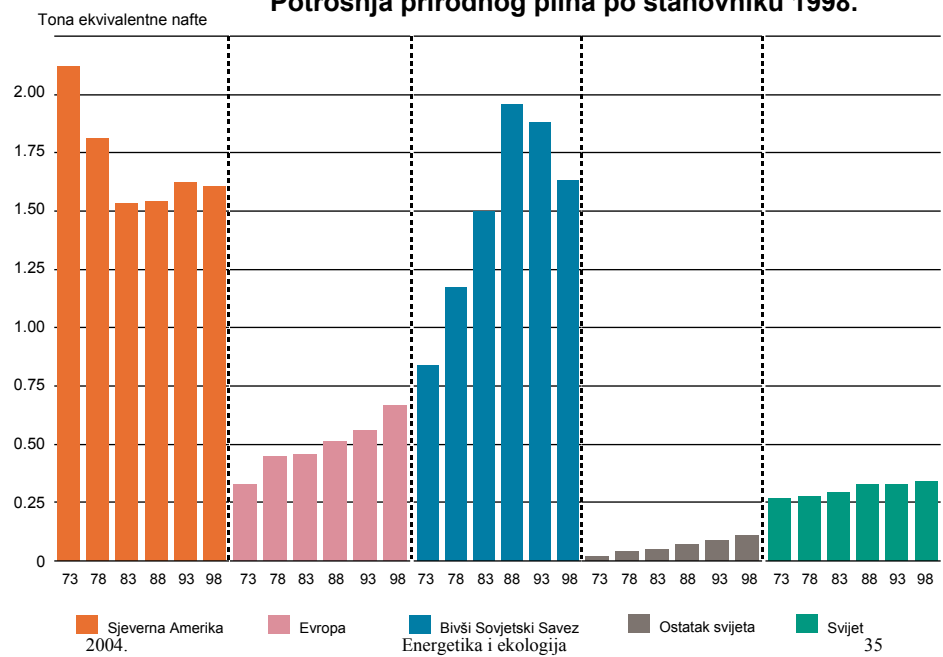
Glavni trgovinski tokovi prirodnog plina 1999.

Trgovinski tokovi (milijarde m³)

Prirodni plin → UPP



Potrošnja prirodnog plina po stanovniku 1998.



Natural gas consumption per capita
Tonnes oil equivalent



Svjetske rezerve prirodnog plina

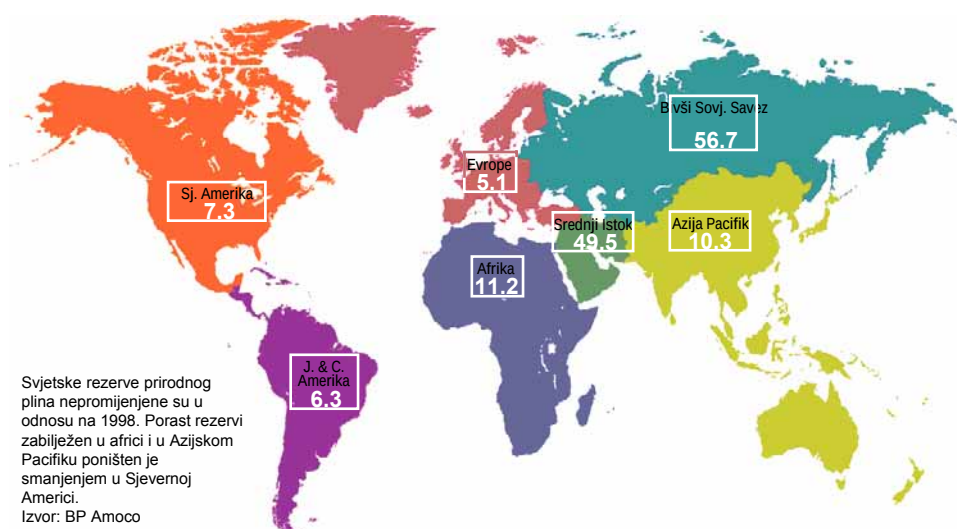
2004.

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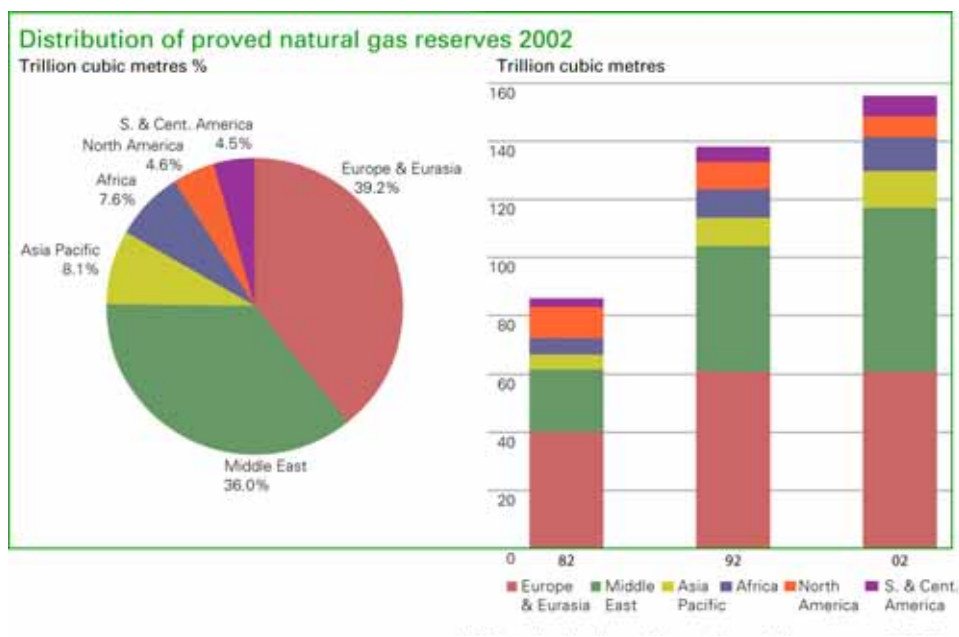
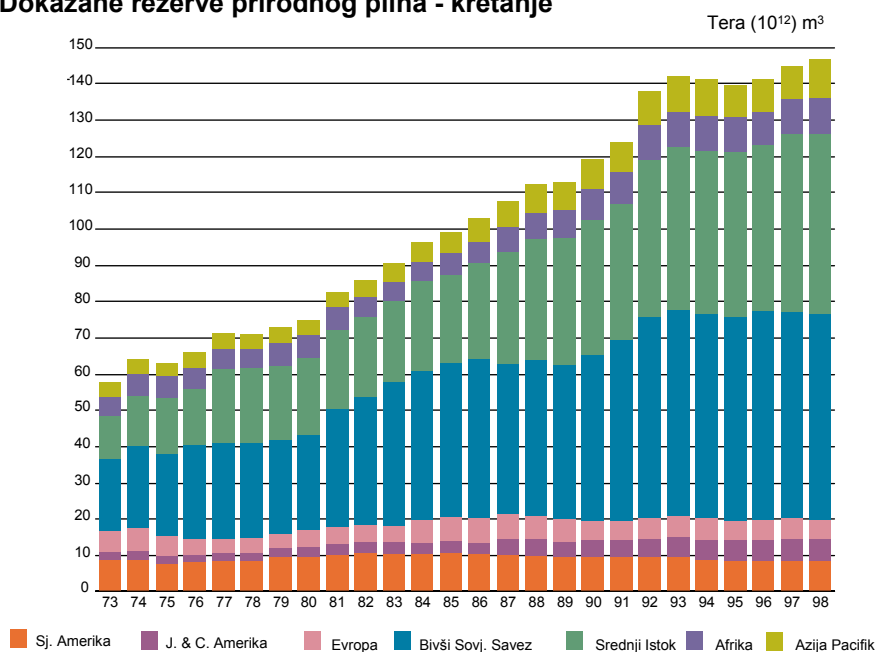
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Dokazane rezerve prirodnog plina na kraju 1999.

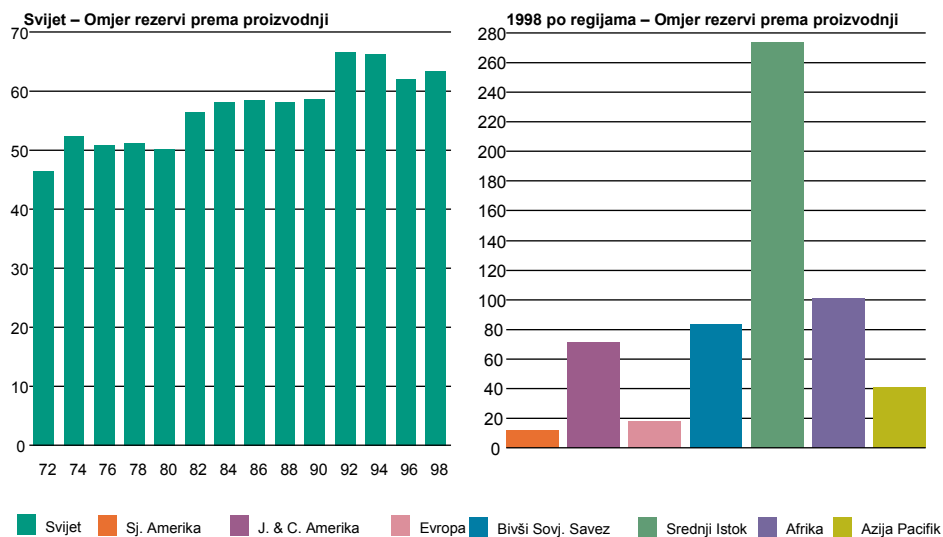
Tera (10^{12}) m³



Dokazane rezerve prirodnog plina - kretanje



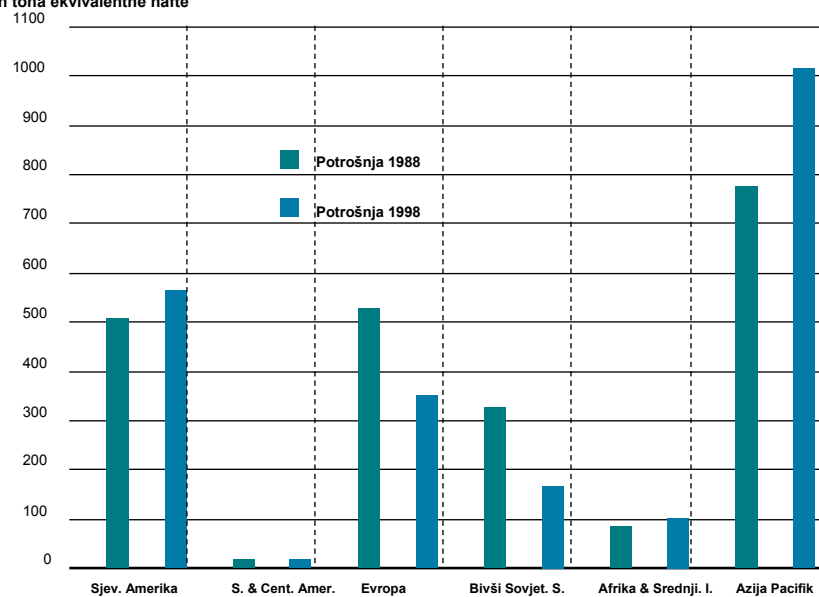
Omjer rezervi i proizvodnje za prirodni plin



Svjetska potrošnja i rezerve ugljena

Regionalna potrošnja ugljena 1988. i 1998.

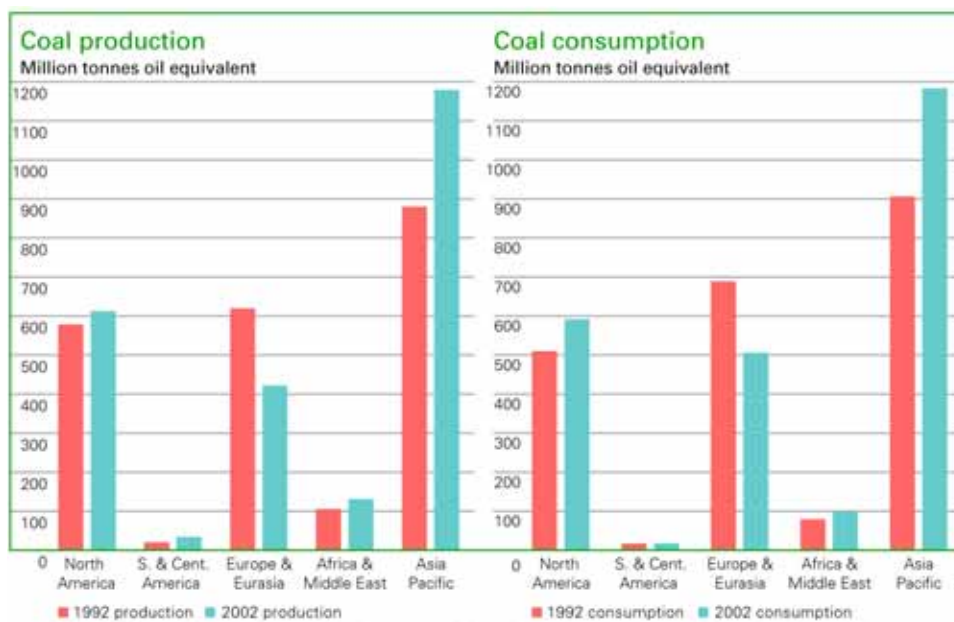
Milijun tona ekvivalentne nafte



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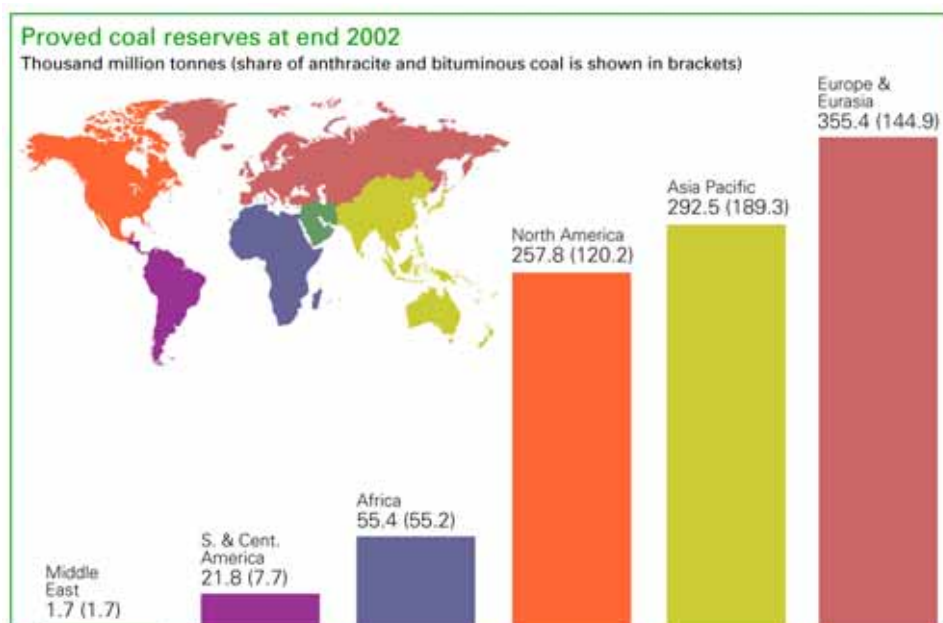
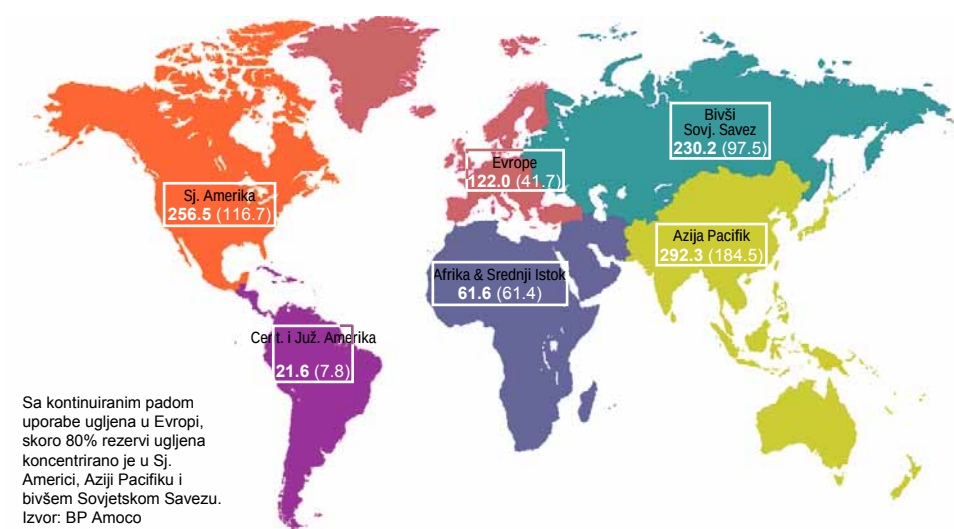


Global coal production and consumption have grown by less than 1% per annum over the last decade as gains in Asia Pacific and North America have been partially offset by declines in Europe and Eurasia.

Source: International Energy Agency (IEA), World Energy Outlook 2004

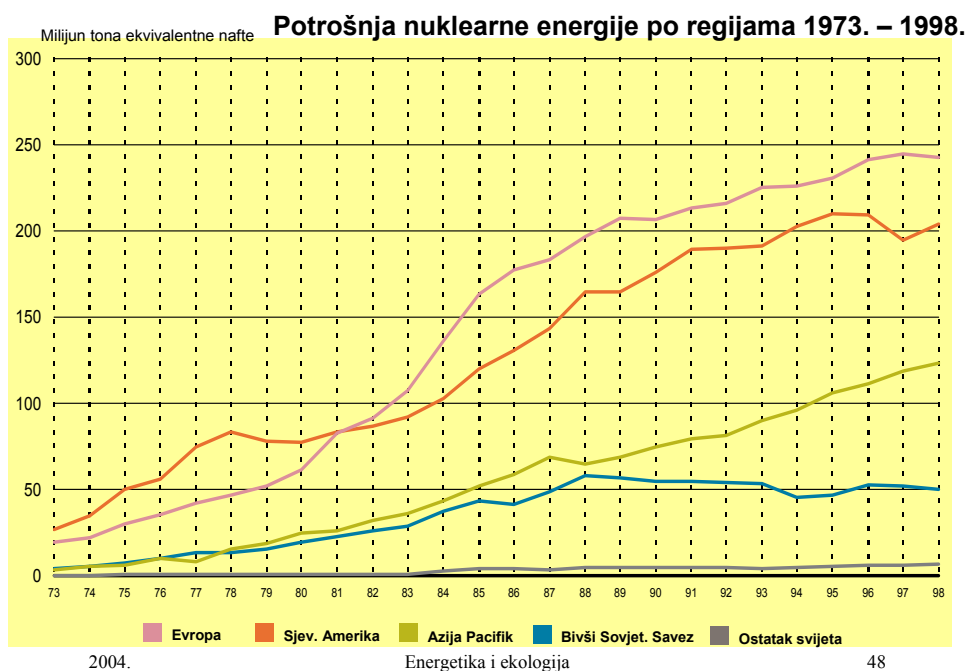
Dokazane rezerve ugljena na kraju 1999.

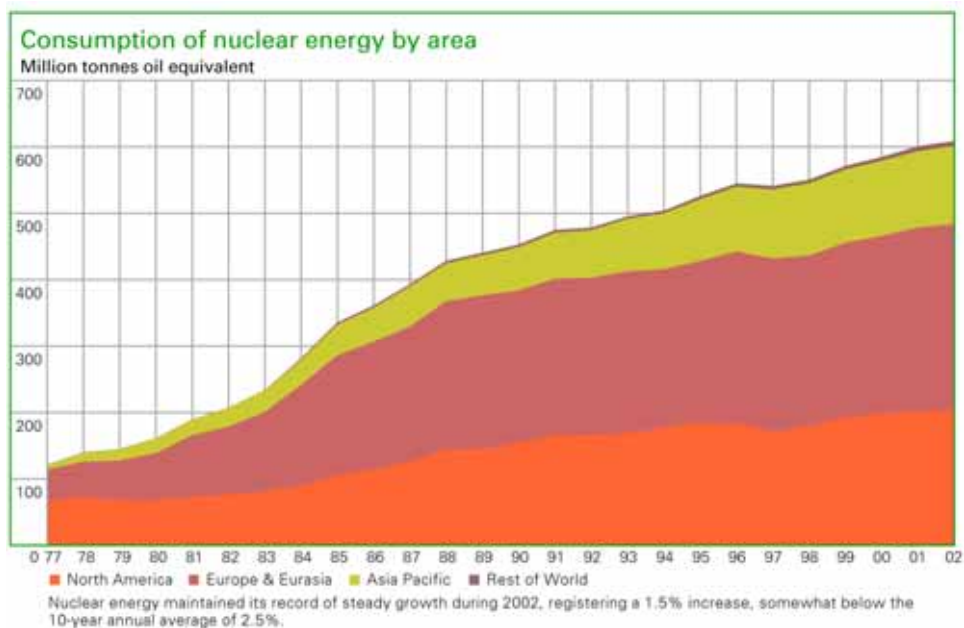
Tisuće milijuna tona (udio antracita i bituminoznog ugljena prikazani su u zagradi)



Svjetska potrošnja u 2001. za ostala goriva

- potrošnja ugljena porasla je za 1,7% (Evropa i SAD pad, Kina porast)
- potrošnja nuklearne energije je ponovom porastu za 2.8%
- potrošnja hidroenergije je opala za 3.7%
 - Sjeverna Amerika (-14,1%) i Brazil (-11,7%)





Milijun tona ekvivalentne nafte **Potrošnja hidroenergije po regijama 1973. – 1998.**

