

ECO-CUTE

-CO₂ Heat Pump

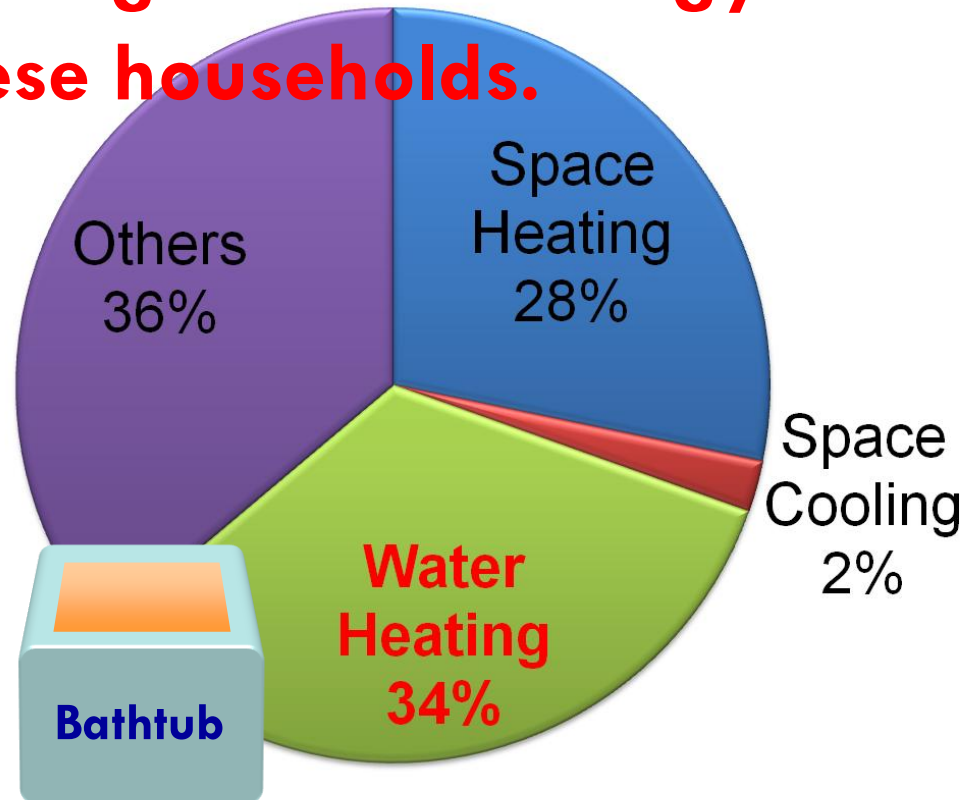
Water Heater- in Japan

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Water Heating Efficiency is important!

Residential Energy Consumption by End use
Water heating is the #1 energy consumer in Japanese households.

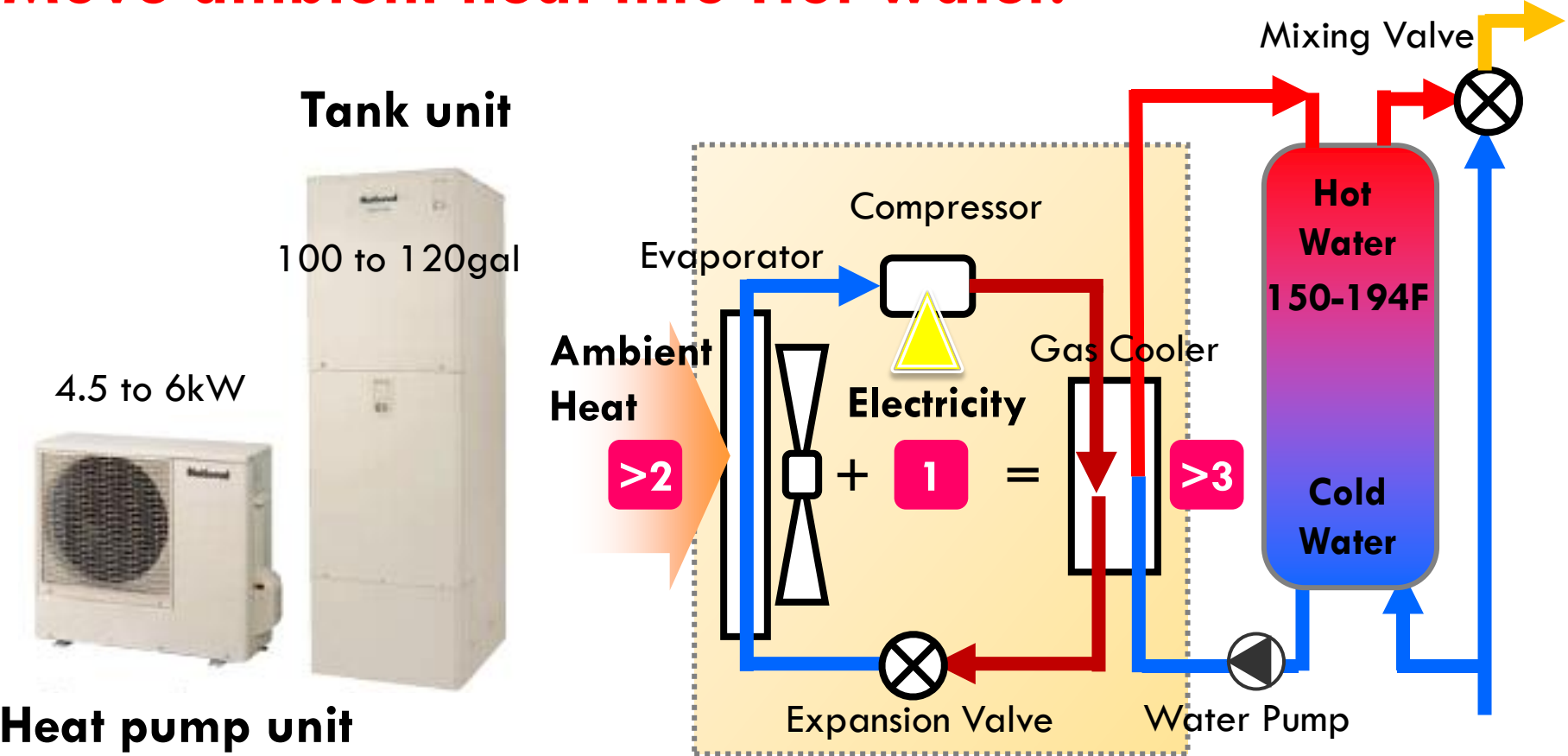


Source: "Residential energy annual report 2001" reported by JYURI

excerpt from ECCJ website: <http://www.eccj.or.jp/databook/2003/public2.html>

How CO2 Heat Pump works?

Move ambient heat into Hot water.



Source of the product picture: model# HE-K37AQS from Panasonic(Matsushita) online catalogue

<http://national.jp/sumai/hp/online.html>

What are the Advantages?

Highly Efficient

	CO2 HPWH	Electric	Gas
Total Efficiency	>300%	90%	80%

Environmentally Friendly

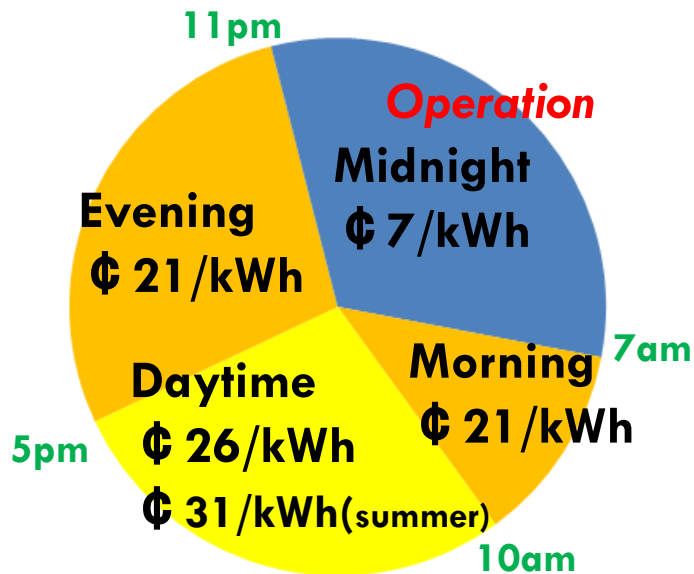
	CO2 (natural ref.)	R410	R22
ODP	0	0	0.055
GWP	1	1,730	1,700

Plus, CO2 HPWH can heat water up to 194F even in the ambient temp is 14F because of supercritical state and small high/low side pressure ratio.

How about the Cost?

Cheap midnight electricity & Governmental Subsidy reduces both Operating & Initial Costs.

TOU electricity Price #1



Governmental Subsidy #2

Equipment MSRP	\$6,000 to \$9,500
Subsidy per unit (residential)	\$420

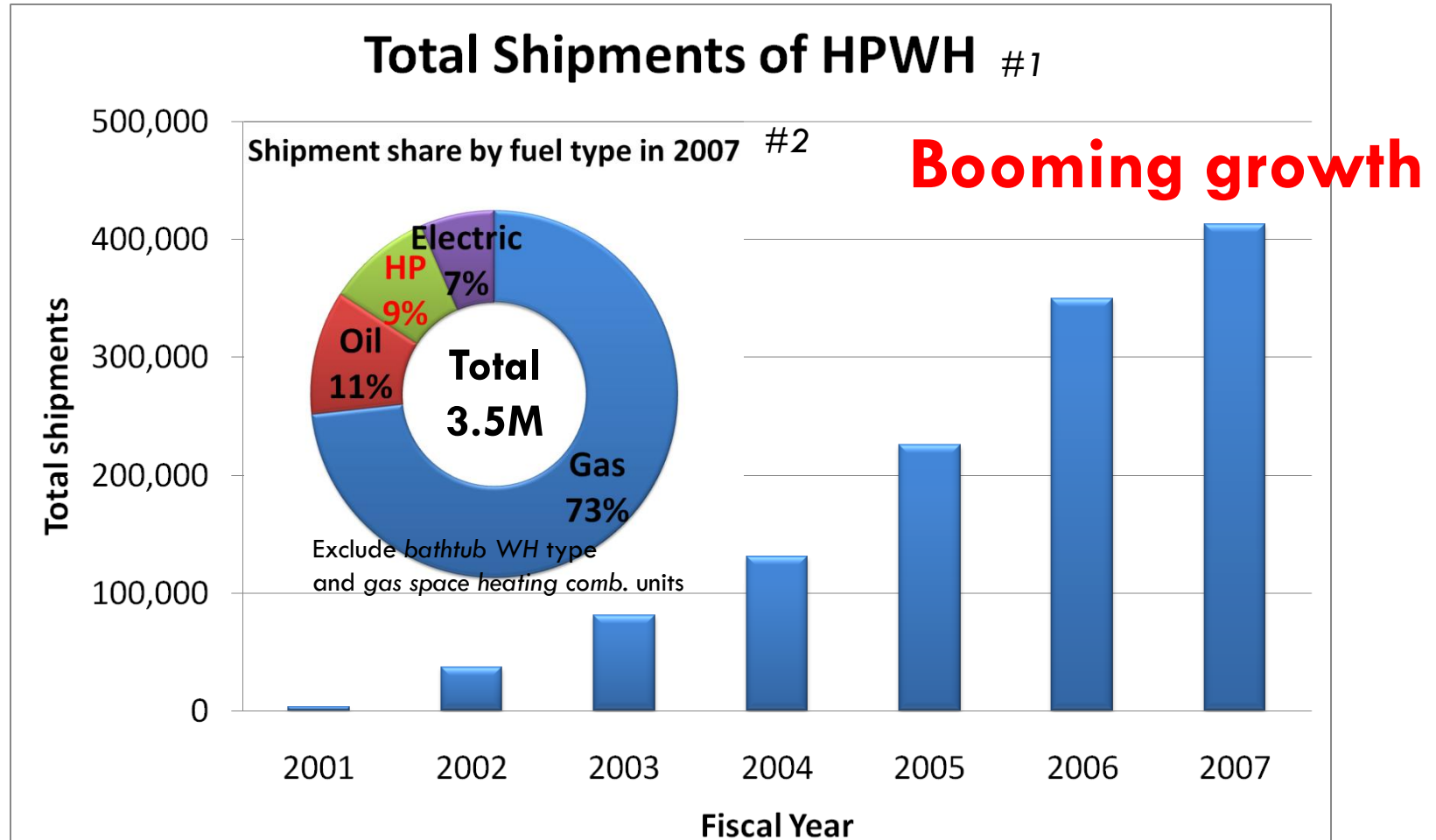
Currency exchange rate; \$1 as ¥100

Operating Cost can be \$10 to 20/month

Source: #1. Price plan of "Denka Jozu" (TEPCO) <http://www.tepco-switch.com/cost/menu/denka-j.html>

#2. ECO CUTE subsidy guide in 2008 (JEHC) http://www.jeh-center.org/ecocute/download/h20_pamph.pdf

What happened in the market?



Source: #1. Shipment data of residential HPWH(JRAIA) http://www.jraia.or.jp/frameset_product.html

#2. Production and Shipment data of residential electrical equipments(JEMA) <http://www.jema-net.or.jp/>

Statistics on production report by METI (excerpt from JGKA website) <http://www.jgka.or.jp/>

Just Make Hot Water?

They are more than water heaters!

Informational remote controllers (kitchen & bathroom)

Learning control system for hot water storage (usage)

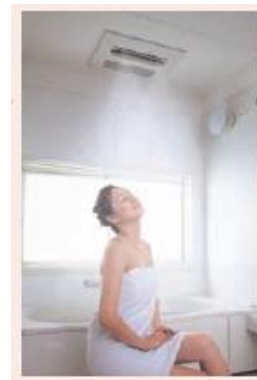
Multi-Function type with floor heating, Mist Sauna etc.



Communication remote controller



Floor heating



Mist Sauna

Source of the product picture: Panasonic(Matsushita) online catalogue

<http://national.jp/sumai/hp/online.html>

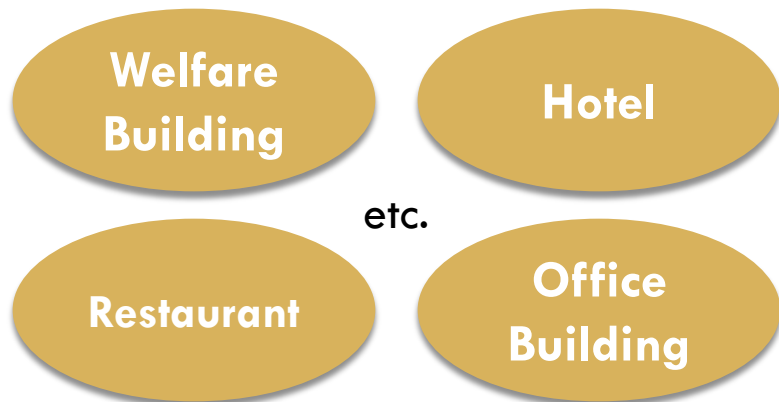
Only Residential?

They are also performing in Commercial Sector

Combination of residential units (several HP units & tanks)

Larger heating capacity size (to 40kW)

There are governmental subsidy & tax incentive



Governmental Subsidy #1

Equipment MSRP	to around \$60,000
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Subsidy per unit (commercial)	\$810 to 8,700
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Currency exchange rate; \$1 as ¥100

Contact Information



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