Cost Recovery
Facing increasing competition

- globalization
- commercialization of meteorological services (e.g. Single European Sky)
- private meteorological companies worldwide
Basic principles of Chicago Convention

- uniform conditions shall apply to the use of airport and air navigation facilities in one State by aircraft of all other States;
- charges for facilities shall not be higher for aircraft of other States than those paid by national aircraft; and
- no charge shall be imposed by a state solely for granting authorization for a flight into, out of, or over its territory.
Policies and guidelines by ICAO and WMO

- WMO-No. 904 (Guide on Aeronautical Meteorological Services Cost Recovery Principles and Guidance)
- ICAO Doc 7604 (Directory of National Civil Aviation Administrations)
- ICAO Doc 9082 (ICAO's Policies on Charges for Airports and Air Navigation Services)
- ICAO Doc 9562 (Airport Economics Manual)
WMO 6th Long Term Plan – applying from 2004-2007

“Assist members in the implementation of cost-recovery and other changes to national service arrangements”.
Cost Recovery - Benefits

- If aviation services come within the umbrella of government funding only, NMS would be vulnerable to reductions or uncertainty in that funding, and services may be cut or not provided as required.
Cost Recovery – Benefits

- accountability
- transparency
- paying customers can specify what services are required and how and when they should be delivered.
Cost recovery - principles

- Fair
- Equitable
- Agreed beforehand
First Step: only MA can recover costs directly from aviation

*ICAO Annex 3:

“Each Contracting State shall designate the authority, hereinafter referred to as the Meteorological Authority (MA) to provide or to arrange for the provision of meteorological service for international air navigation on its behalf.”

(Ref: ICAO Doc 7604 - Directory of National Civil Aviation Administrations)
Who?

♩ CAA
♩ NMS
Second step: estimate cost

- “direct” costs
- “core” services
Costs of shared infrastructures

- establish a transparent accounting system;
- establish and collect data on standards, quality and level of services provided;
- undertake consultations with users on a regular basis;
- pursue economic valuation studies to strengthen the case for the recognition of their contribution to the aviation community.
Cost Recovery - Consultations

- Ensure fairness and equity in the determination of air navigation costs
- Comprehensive consultations with the users should take place.
Cost Recovery - Consultations

- Should be continued on an ongoing basis throughout the year with a formal meeting, including all parties at least once during the year to review and discuss service provision and requirements.
ICAO guidelines

- where a service is for an aerodrome (A), the costs are recovered from airport fees
- if the service applies to en-route (E), the costs are recovered from air navigation fees
- Core Services are agreed and fully defined after consultation with all user groups
A list of facilities and services needed to meet aeronautical requirements should be prepared...
Cost Recovery - Aeronautical Requirements

List (I) - lists facilities and services intended to serve aeronautical requirements exclusively.
(I) Facilities and services exclusively needed to serve aeronautical users

- World area forecast centers (WAFCs)
- Regional area forecast centers (RAFCs)
- Volcanic ash advisory centres (VAACs)
- Tropical cyclone advisory centres (TCACs)
- Meteorological watch offices (MWOs)
- Aerodrome meteorological offices
- Aeronautical meteorological stations
- Operation of a regional OPMET data bank
- Telecommunications for aeronautical meteorological purposes, including VSAT stations to receive WAFS product and OPMET data
(I) Facilities and services exclusively needed to serve aeronautical users

- Facilities to provide meteorological data-processing of WAFS products
- Provision of VOLMET broadcasts
- Observation instruments provided for aeronautical purposes
- Specific aeronautical meteorological research
- Specific aeronautical meteorological training
- Specific aeronautical technical support (including administration)

# end of list #
Cost Recovery - Aeronautical Requirements

- List (II) - lists the products and functions needed to be provided by the MA to meet these aeronautical requirements.
(II) Products and functions exclusively needed to meet aeronautical requirements

- Meteorological observations and reports for local ATS units
- Meteorological reports disseminated beyond the aerodrome
- Aerodrome forecasts
- Landing forecast and forecasts for take off
- Area and route forecasts, other than those issued with WAFS
- Aerodrome and low-level wind shear warnings
- SIGMETS, AIRMETS, VA and TC advisories
- Aerodrome climatological information
- Flight documentation
(II) Products and functions exclusively needed to meet aeronautical requirements

- Meteorological watch by MWOs over FIR/UIR
- Aerodrome weather watch
- VA and TC watch by VAACs and TAACs
- Meteorological watch by WAFCs and RAFCs
- Briefing and consultation
- Provision of information to meteorological information systems and local operators
- Provision of information for ATS and AIS
- Provision of information for search and rescue
- Provision of WAFS and OPMET data to operators

# end of list #
Cost Recovery - Aeronautical Requirements

- Lists of facilities and service will vary from country to country depending on aeronautical requirements that have to be met and
- Additional services specified and agreed by the CAA in consultation with MA and the users.
Cost Recovery - Exclusively for Aviation

The full cost (which may include “overhead” charges at the point of delivery) for each facility and service agreed on Annex I and II should be attributed wholly to the aviation users.
Cost Recovery - Exclusively for Aviation

- Exclusively for aviation and these services would not be provided to non-aeronautical users.
Cost Recovery - Evaluation

In evaluating the total costs (including costs for maintenance and support service), it is first necessary to look closely at each element of the meteorological services concerned to determine how much can be attributed to aeronautical requirements.
Cost Recovery - Evaluation

List (III) of the Core Services which may serve both aeronautical and non-aeronautical users. Having agreed on the list, and on the full costs of each component, it will be necessary to negotiate an appropriate apportionment of the costs amongst all the users.
List III - Core facilities and services which may serve both aeronautical and non-aeronautical users

- General analysis and services
- Meteorological data processing (including climatology)
- Meteorological Communication facilities and services
- Surface observation stations
- Upper-air observation stations
- Weather radar
- Meteorological satellite reception
- Core training
- Core research
- Core technical support (include administration)
Cost Recovery - Evaluate

- Costs should include depreciation and cost of capital for capital item such as equipment and buildings.
- These are necessary when building up reserves to replace the equipment and building concerned, once their economic life is over.
Cost Recovery - Allocation Core Service Costs

In proportion to:
- estimated aeronautical, and non-aeronautical use
- estimated computer time used for aeronautical and non-aeronautical purposes;
- volume of the information transmitted for aeronautical and non-aeronautical purposes
- number of personnel working on aeronautical and non-aeronautical purposes
- on the basis of results from an analytical accounting system
Cost Recovery - Allocation Core Service Costs

♀️ Under ICAO guidelines,

📞 If the service is for an aerodrome (A), the costs are recovered from airport fees.

📞 If the service applies to en-route (E), the costs are recovered from air navigation fees.
Cost Recovery - Allocation Core Service Costs

Where costs are being allocated between airport and en-route phase of flight, the criteria described can be similarly applied for “airport/en-route” (A/E).
Final Step: actually recover the cost

WMO-No.904

“…The Meteorological Service should not try to recover the costs directly from the users” and

“The national Civil Aviation Authority will have a system in place for the recovery of air navigation (traffic) services costs and adding the meteorological costs to these is an efficient and convenient method of recovering these costs”.

Cost Recovery - Allocation Core Service Costs

- Methods are vary from State to State.
- Costs may be collected annually, quarterly or monthly.
Cost Recovery - Allocation Core Service Costs

Key (List I to III)

- E – en-route
- m/E – mainly en-route
- A – airport
- m/A – mainly airport
- A/E – mixed en-route/airport
List I - Facilities and services exclusively needed to serve aeronautical users

<table>
<thead>
<tr>
<th>Facility and services</th>
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List II - Products and functions exclusively needed to meet aeronautical requirements

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# end of list #
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</tbody>
</table>

# end of list #
Cost Recovery in Hong Kong

- The Hong Kong Observatory, the NMS in Hong Kong, China, is also the designated MA and the direct service provider of aeronautical meteorological services in Hong Kong.
Only those parts which are allocated to support the airport are charged.

- prepares the SYNOP, the staff time (which translate into staff cost) involved in encoding SYNOP would not be charged to aviation users
Contract with Airport Authority

- HKO
- Civil Aviation Department
Government’s costing principles

- Staff cost
- Administrative overhead
- Accommodation cost
- Departmental expenses
- Services by other departments
- Depreciation of equipment
- Amortization of one-off planning cost
Apportioning of cost

- meteorological systems
- staff cost
- planning and maintenance staff
- administrative overhead
Recovering cost

- Cost of aviation weather services at the airport is recovered through the Airport Authority.
- Cost for en-route services is recovered through the Civil Aviation Department, who charges each aircraft passing through but not landing in Hong Kong.
Regular consultation

- Meeting with the Airport Authority is held every year to review the contract.
- Holds liaison meetings with the users (airline and pilot representatives) twice a year.
- Publishes newsletters and electronic news bulletin on aviation weather service.
Thank you