



## Kompetenceopbygning til bæredygtighed i FM

Nielsen, Susanne Balslev

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# Kompetence opbygning til bæredygtighed i FM

INNObyg  
Susanne Balslev Nielsen  
12 November 2014



# Helhed og livsfaser...

Ide: Det starter med at nogen får en ide til en nyt byggeri, som er attraktivt, muligt og kan finansieres



Programmering: Derefter går man med en bygherrerådgiver igang med konkretisering af ønsker og krav...



Projektering: Bygværket tegnes og beskrives af arkitekt og rådgivende ingeniør



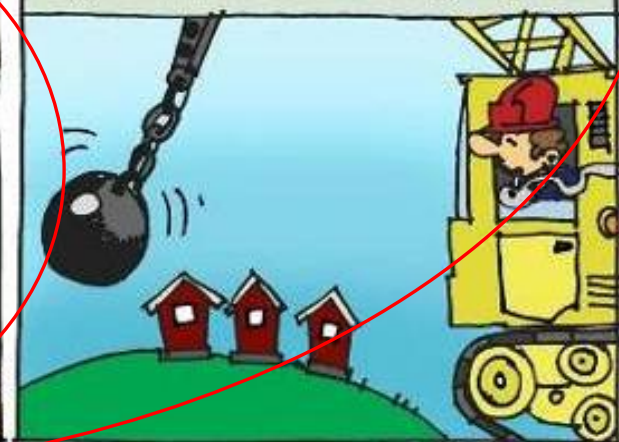
Opførelse: Entreprenøren og hans udførende opfører og afleverer bygværket



Brug og drift: Brugere tager bygværket i brug. Bygværket vedligeholdes og ombygges med tiden lidt eller meget...

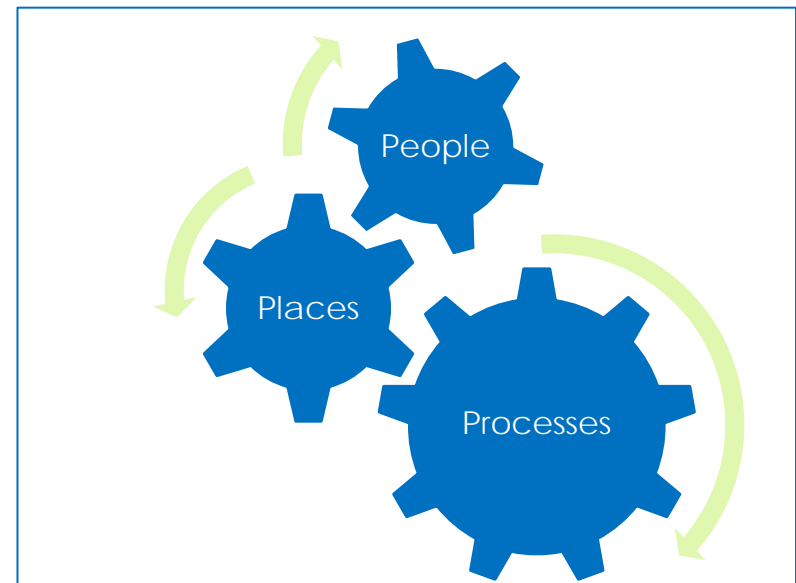


Nedrivning: Når det er udtjent fjernes bygværket.. Processen kan gentages.



# Center for Facilities Management

- Åbning i 2008
- Realdania: 25 mio. DKK til
  - projekter
  - opbygning af nationalt forskningsnetværk
  - Ca 20 projekter og 6 Ph.D.
- Tæt dialog med FM branchen
  - privat + offentlig



*Forskning og udvikling med virkeligheden som laboratorium*

# Hvem er jeg?

## FM:

- Siden 2004
- Vicecenterleder i Center for Facilities Management- Danmarks Tekniske Universitet, 2008-
- Professor II på HiOA, Norge, 2014-
- Speciale: bæredygtighed in FM, 1992-

## Uddannelse:

- Civilingeniør 1993: bæredygtig byudvikling
- Ph.D. 1998: Transformation of technical infrastructure towards sustainable urban development

## International profil:

- European FM-researcher of the year 2010
- EuroFM: Aktiv i RNG (research network group) og EuroFM konferencer siden 2008, Formand 2015-2016



## Aktuelle projekter

- Sustainable Facilities Management
- Organisering af kommunale FM centre
- ESCO og andre energi service koncepter
- Klimatilpasning og bygningsvedligeholdelse
- Shared space in the knowledge city

# Program

1. **Introduktion til bæredygtighed i FM**
2. **Eksempler på internationale kompetenceprofiler**  
Individuelt/teams/organisationer
3. **Uddannelse til bæredygtighed i FM i DK:**  
et ubesvaret spørgsmål



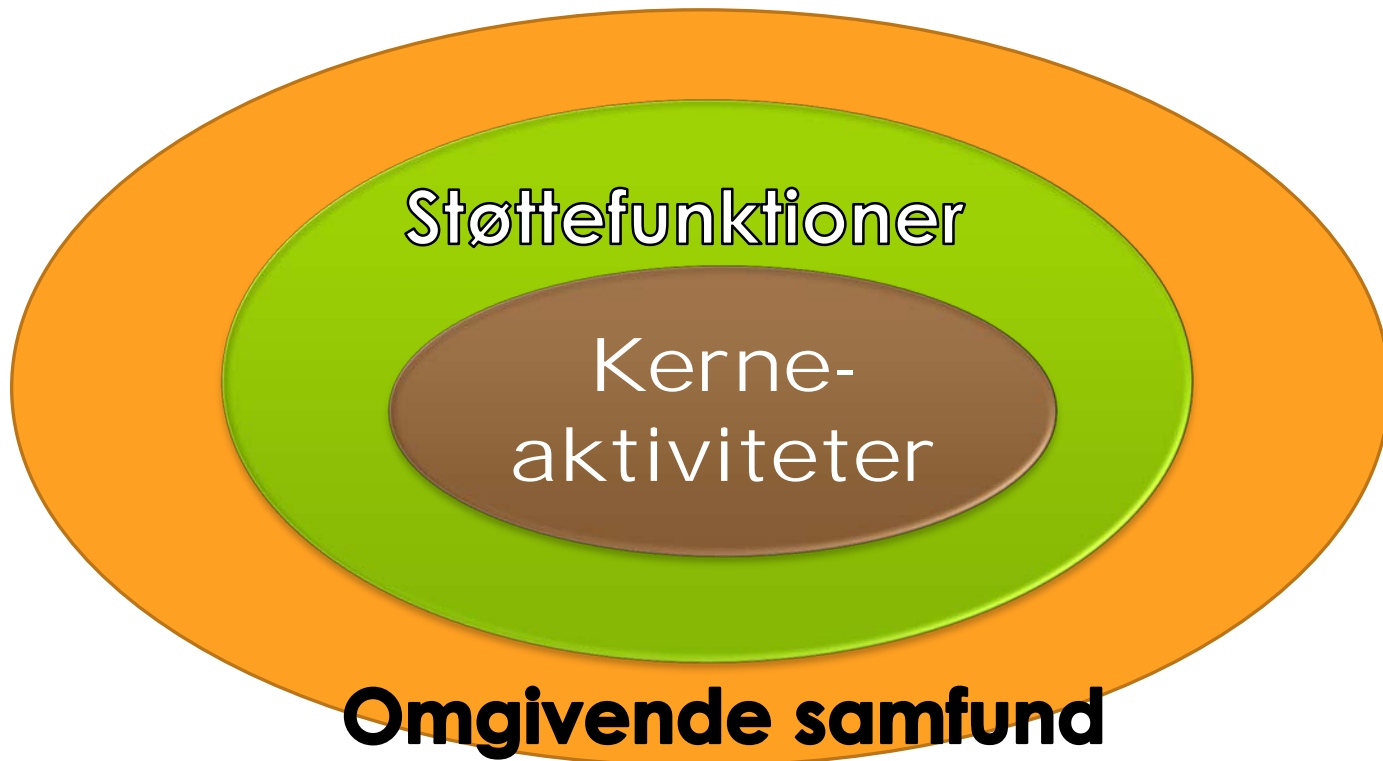
Introduktion til  
bæredygtighed  
i FM

# Eksempler på faciliteter





- Facilities = Støttefunktioner som gør livet/aktiviteter lettere og mere "bekvem"
- Management = koordinering og styring
- Facilities Management = Facility Management=FM

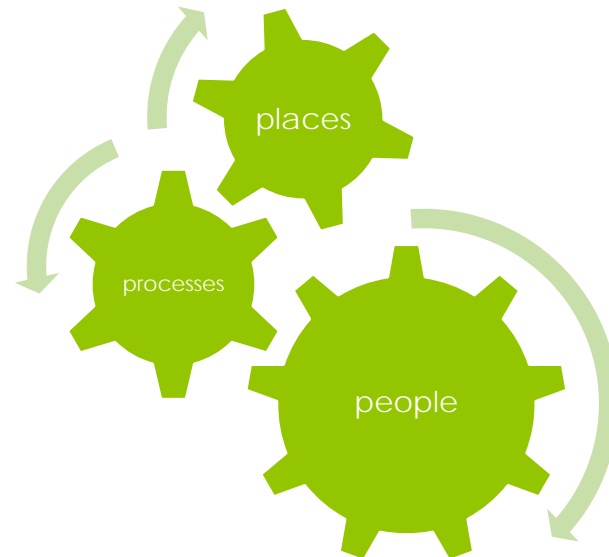


# Bæredygtig facilities management - et fagområde i udvikling

Økologi: Viden om samspillet mellem alt levende og dets omgivelser.


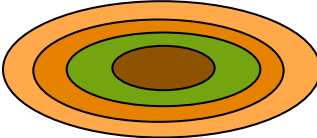
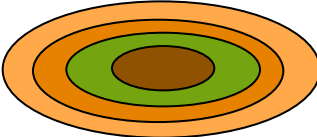
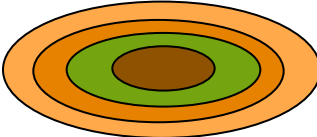
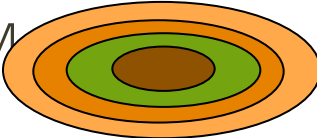
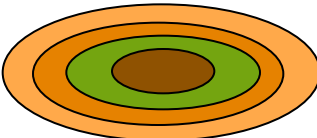


FM: Viden om samspillet mellem "people, places, processes".



*Hvis vi ikke forstår disse sammenhænge, vil vi heller ikke kunne forstå hvorfor det er vigtigt, at FM bidrager til lokal og global bæredygtighed: socialt, miljømæssigt og økonomisk.*

# Facilities Management og bæredygtighed - tendenser og key performance indicators

- **Facilities Management (FM)**  Tilfredshed, økonomi
- **Bæredygtig/sustainable FM:**  + Miljø, socialt, økonomisk
- **Miljøvenlig FM:**  + Energi, vand, affald
- **Energirigtig FM**  + KWh
- **Klimavenlig/klimatilpasset FM**  + CO<sub>2</sub> / + regnvand
- **CSR** corporate social responsibility  + lokalsamfund, fair trade mm.

# FM opgaver

## Investeringsforvaltning

- Målsætning
  - Eje/leje
  - Forrentning
- Strategier
  - Markedsst.
  - Økonomisk st.
  - Juridisk st.
  - Teknisk st.
  - Miljøst.
- Køb og salg
- Nybygning/modernisering/nedrivning

## Finansiell/administrativ forvaltning

- Finansiering
- Budgetter
- Regnskaber
- Skatter
- Erfar tal/Bench
- Forsikring
- Kontrakter
  - Ekstern/Intern
- Ind-/udlejning

## Arealforvaltning

- Space management
- Areal udnyttelse
- Indretninger
  - Lokaler
  - Arbejdsplads
- Flytninger
- Inventar

## Driftsforvaltning

- Vedligehold
  - Terræn
  - Bygning udv.
  - Bygning indv.
  - Bygningsinst.
  - Inventar
- Forsyning
  - Varme
  - El
  - Vand
  - Afløb
  - Renovation
- Renhold
  - Udv. Terræn
  - Udv. Bygning
  - Indvendig
  - Vinduespolering
- Fælles drift
  - Driftspersonale
  - Materialer, værktøj, maskiner
  - Service – ekstern hjælp
  - Eksterne konsulentvirksomhed
- Miljø

## Serviceforvaltning

- Projekter/enterprise
- EDB
  - Datanet
  - Telefon
  - IT-Værktøjer
  - Internet
- Sikkerhed & vagt
- Arbejds miljø
- Kantine
- Reception
- Intern post
- Kontorservice

# En vision for bæredygtighed i FM

## Bæredygtig FM er FM som samtidig

- Gør noget godt og nødvendigt for mennesker og andet liv som er i nærkontakt med faciliteter og services
- Producerer faciliteter og services med mindst mulig belastning for lokal og global natur
- Bidrager til den langsigtede samfundsomstilling

## Mod en nordisk model for bæredygtig FM

- Tilgang: Holistisk bæredygtighedsforståelse og systemisk forandringsledelse
- Ledelsesparadigmer: en tilpasset kombination af værktøjer (hovedgrupper: bureaukrati, new public management og relativt paradigme)
- Fokus på kompetenceopbygning, forandringsledelse og lærende organisationer



## Eksempler på internationale kompetenceprofiler

1. IFMA: 11 kompetencer
2. BIFM: kompetencematrix
3. SFM håndbøger
4. CFM forskningsprojekter

# IFMA: 11 Competences

1. Communication
2. Emergency Preparedness and Business Continuity
3. Sustainability
4. Finance & Business
5. Human Factors
6. Leadership and Strategy
7. Operations and Maintenance
8. Project Management
9. Quality
10. Real Estate and Property Management
11. Technology

See more at: <http://www.ifma.org/know-base/fm-knowledge-base/knowledge-base-details/11-core-competencies-of-facility-managers#sthash.IRv4F89k.dpuf>

# BIFM - kompetencer

The FM Professional Standards framework is the supporting structure that clearly defines:

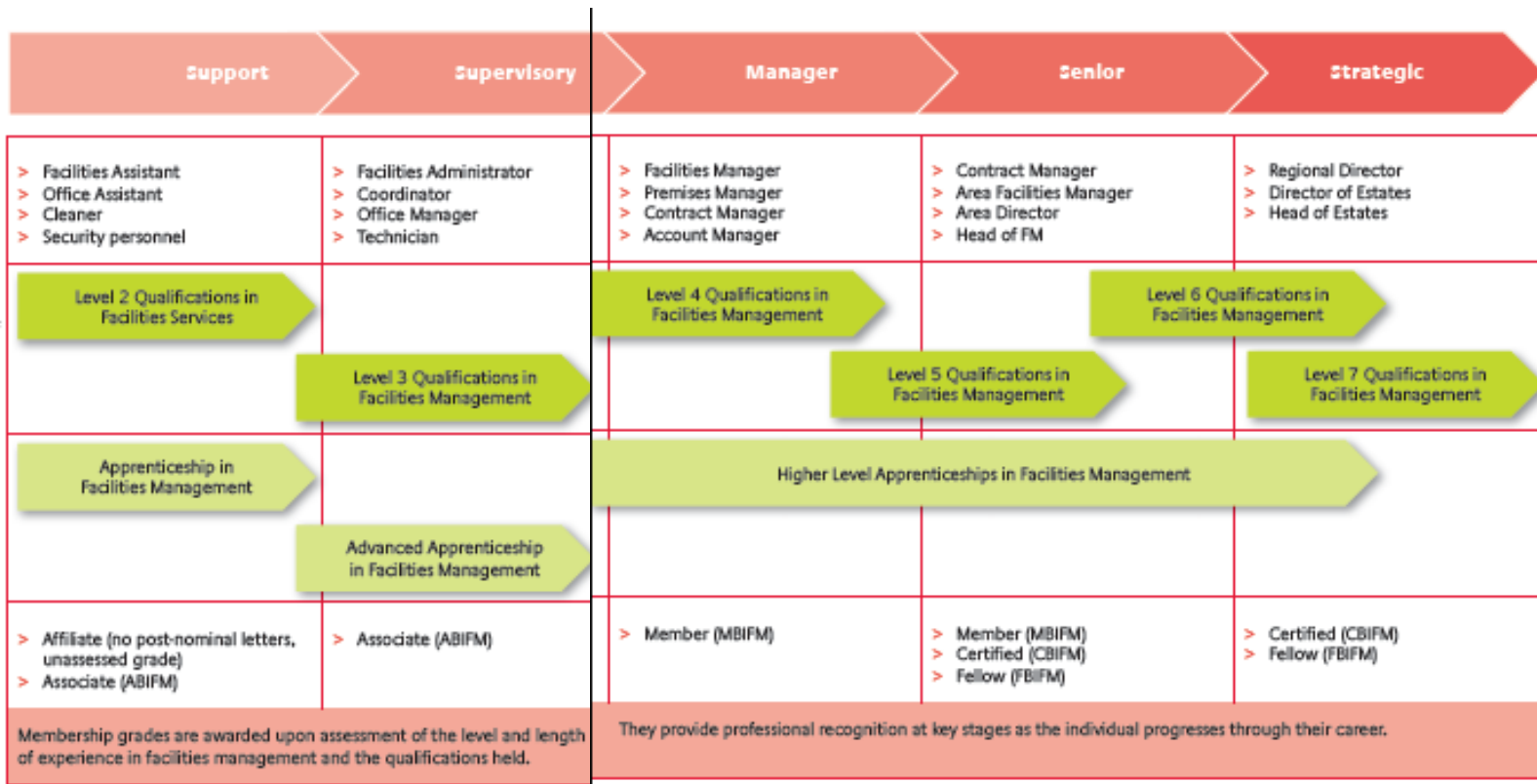
- **the key functions** (the functional areas) performed by FM practitioners,
- the **main components of each functional area** (functional area component),
- and the **competences that are required to be a competent professional when carrying out each function.**

The framework includes high-level competences defined for each facilities management career level, from a support role through to a strategic role.

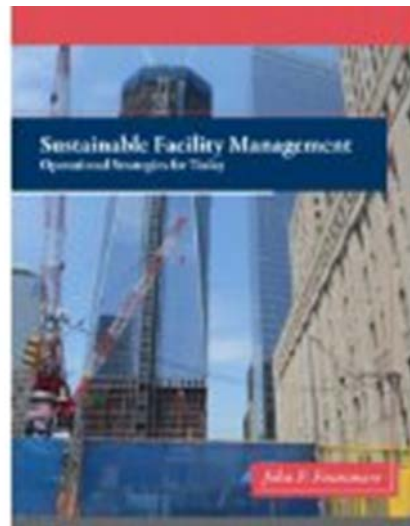
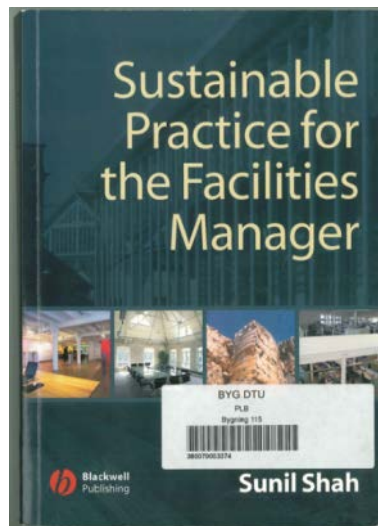


Functional areas		The role of facilities management		Strategy and policy development			Leadership and management			Business continuity and compliance		Business support services management	
Descriptors		Manages facilities management knowledge to add value to an organisation		Develops facilities management strategy and policy			Develops and manages a highly motivated and skilled facilities management workforce in a dynamic environment			Builds business resilience and contains business risk		Delivers and innovates facilities management service solutions aligned with business objectives	
Components		Sector knowledge	Information and knowledge management	Facilities management strategy	Corporate social responsibility	Facilities management policy	Project management	People management	Change management	Risk management	Compliance	Service Innovation	Managing service delivery
Strategic	Strategic	Influences and promotes facilities management within and beyond the sector both nationally and internationally	Develops knowledge management strategies and systems to support an organisation's strategic facilities management vision	Leads the development of a facilities management strategy that enables a business to achieve its overall strategic objectives	Influences the development of a corporate social responsibility and sustainability strategy	Evaluates the coherence and fitness for purpose of facilities management policies to deliver the strategy and meet legislative requirements	Directs and sponsors multiple facilities management projects, managing project relationships, interdependencies and risks	Provides strategic motivational leadership to people development and influence corporate culture, values and behaviour	Promotes the vision and leads strategic change and manages the impact on facilities management	Develops and evaluates the effectiveness of a facilities management risk strategy in context of an organisation's risk profile	Develops and evaluates the effectiveness of facilities management policies to meet corporate governance obligations to comply with all legislative, statutory and regulatory requirements	Forecasts trends and facilities management opportunities, encouraging creativity and embedding innovation within service provision	Develops facilities management service delivery strategy and evaluates the effectiveness of alternative models and their resource implications
		Management	Senior	Understands the changing role, scope and impact of facilities management and influences developments and trends	Manages the use of information and implements information systems to improve business performance	Establishes processes and procedures that enable the implementation of a facilities management strategy	Analyses the scope and impact of corporate social responsibility and sustainability, developing policies that optimise business opportunities	Develops, manages and reviews facilities management policies	Defines and plans facilities management projects, building project teams and controlling project delivery to budget	Plans and motivates the facilities management workforce to meet organisational objectives and encourage innovation	Plans organisational change, ensuring the continuing coherence of facilities management policies and processes	Develops facilities management risk monitoring systems and processes	Develops and reviews facilities management processes and procedures that meet compliance requirements
Management	Manager			Promotes the role, diversity and contribution of facilities management in the wider environment	Analyses and interprets information to make business decisions	Implements and evaluates a facilities management strategy, recommending adaptations to meet changing circumstances	Optimises opportunities to promote and integrate sustainable and socially responsible facilities management activities into business practice	Implements facilities management policies and procedures	Manages the delivery of facilities management projects to plans and targets and reports on progress and performance	Resources, develops and motivates facilities management teams to achieve objectives that contribute to the delivery of an organisation's strategy	Manages the implementation of change plans, supporting and influencing others to accept change positively	Implements processes and monitors risk in compliance with an organisation's risk strategy	Manages the implementation of facilities management policies and procedures that meet compliance requirements
				Understands the role and	Uses information to support facilities	Monitors operational	Complies with corporate social	Contributes to the implementation	Contributes to the delivery	Supervises and develops facilities	Monitors the impact of the	Monitors and reports on	Ensures that all operational tasks

# Karriereniveauer



# How to . . . . (ifølge Shah og Fennimore m.fl.)



Service design; nøgletal og datahåndtering;  
vidensledelse, grønne regnskaber, commissioning etc.



"Sustainability is a quest#  
rather than an absolute.

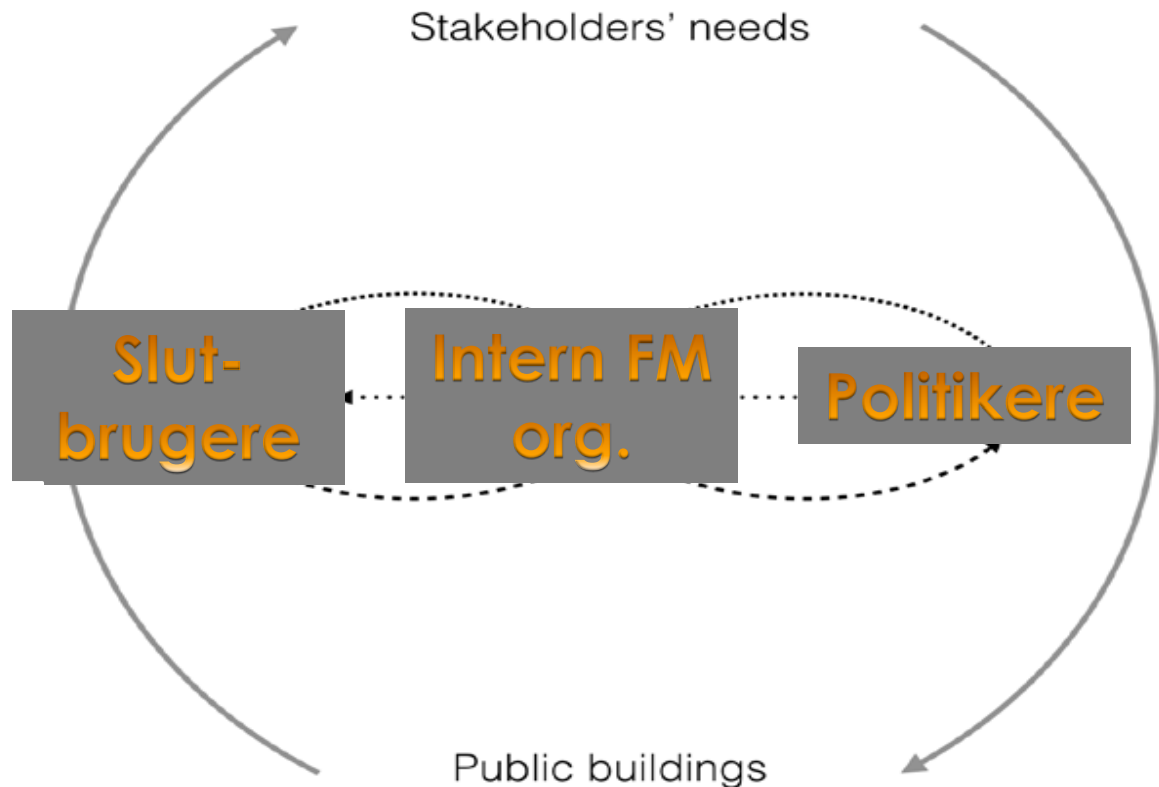
Is a goal that we,  
as facility managers,  
should be striving toward for the good  
of the planet"

*John P. Fennimore 2013*

# a journey towards a goal

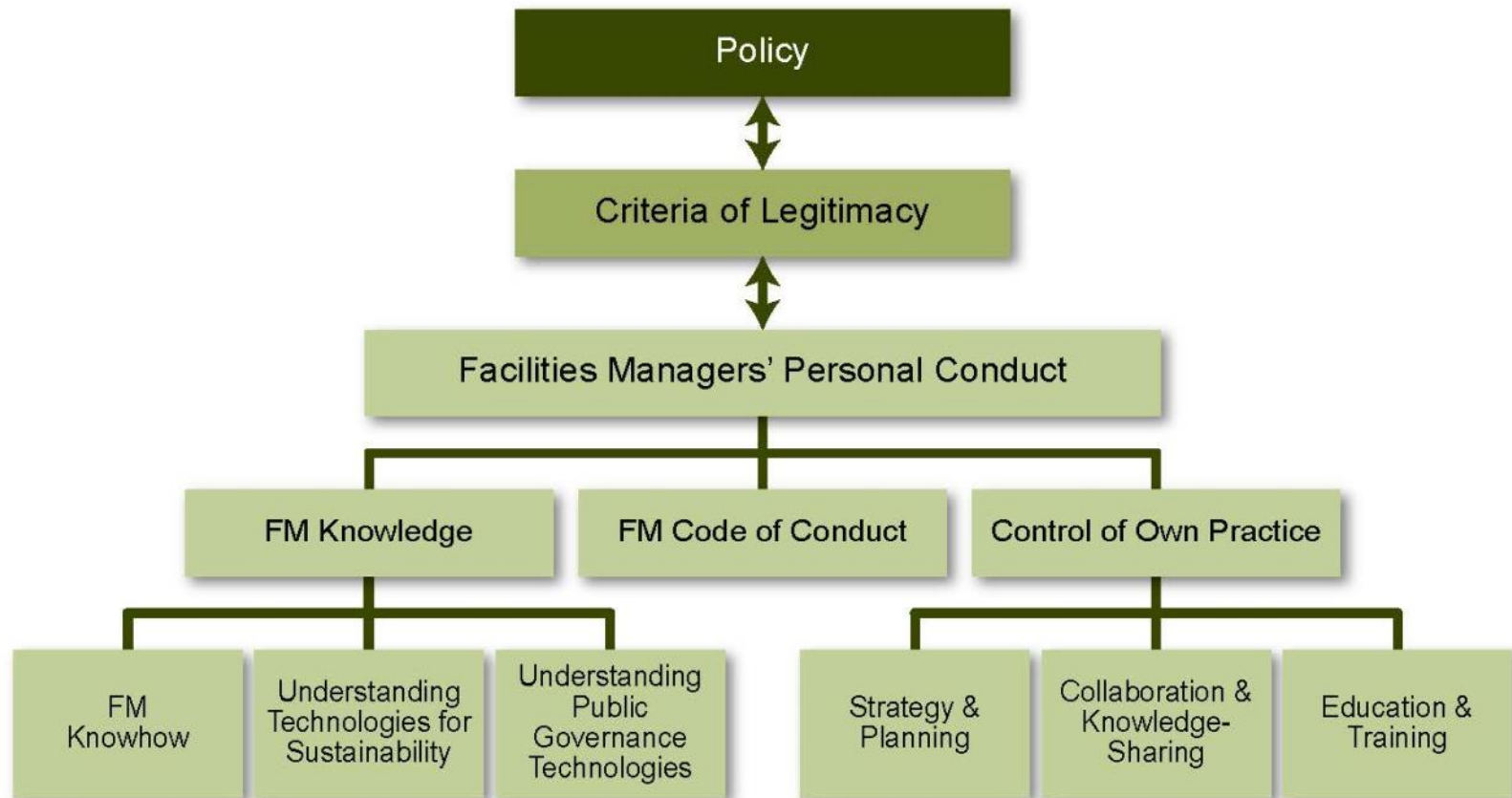
# Kompetencer til energieffektivitet i kommunale bygninger

**3 roller:**  
**Oversætter**  
**Demonstrator**  
**Processor**



**Nardelli; Jensen and Nielsen (submitted): Facilities Management in public-private collaborations: Danish ESCO projects. Journal of Facilities Management.**

# Kompetencer til bæredygtig FM i offentlige organisationer



# Andre eksempler på erfarede snublesten og dilemmaer

- Hvem skal vi mest tage hensyn til, nære eller fjernere medborgere?
- Hvornår er det rigtigst at handle?
- Hvad er mest bæredygtigt? Nu og på længere sigt....
- .....
- .....





## Uddannelse til bæredygtighed i FM i DK

- Ungdomsuddannelser
- Efteruddannelser
- Lærende organisationer

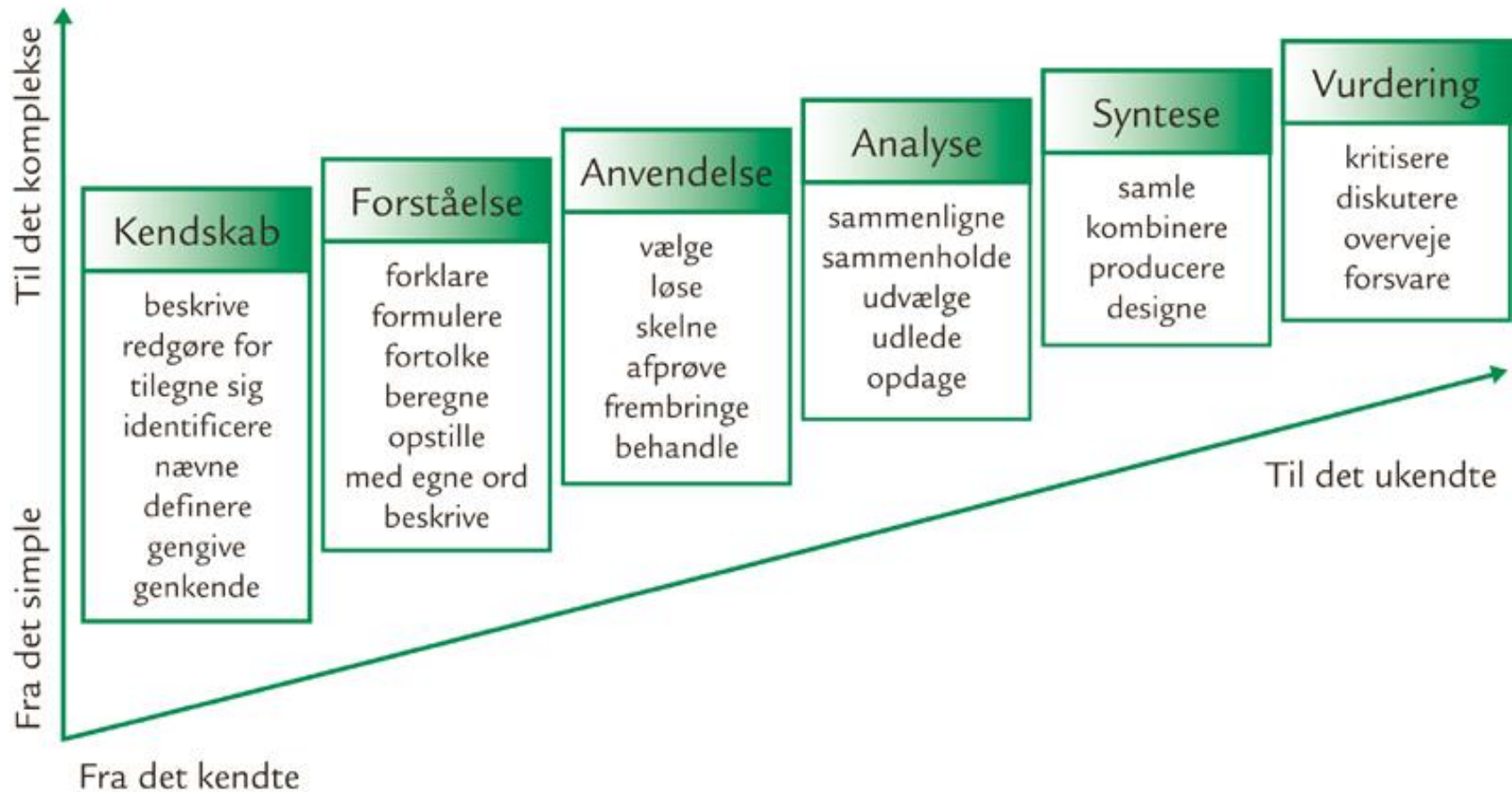


# Til hvilket job?

- Byggeledelse
- Teknisk service leder
- Ejendomsforvaltning
- Serviceleverandør
- Produktudvikler
- M.fl



# SFM Læringsmål – Blooms Taksometri



## Pointer:

1. Bæredygtighed i FM som strategisk ledelsesdisciplin i komplekse og dynamiske systemer
2. Bæredygtig FM er bredt og en paraply for mange specialiserede FM udfordringer på strategisk, taktisk og operationelt niveau.
3. Eksempler på kompetenceprofiler til inspiration og uddannelsesplanlægning

Forskning og udvikling med virkeligheden som laboratorium.....

Mere information: [www.CFM.DTU.DK](http://www.CFM.DTU.DK)

Per Anker Jensen, [pank@dtu.dk](mailto:pank@dtu.dk) (centerleder)

Susanne Balslev Nielsen, [sbni@dtu.dk](mailto:sbni@dtu.dk)  
(Vicecenterleder)

LinkedIn: [Center for Facilities Management -  
Realdania Research](#)

