



What we do matters

Finding flexibility in load profiles via activities

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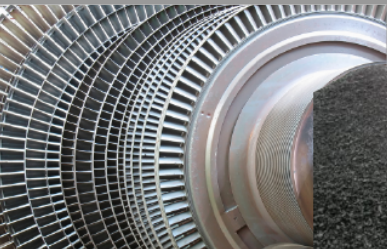
Environmental Change Institute
University of Oxford

31 May 2017

Outline

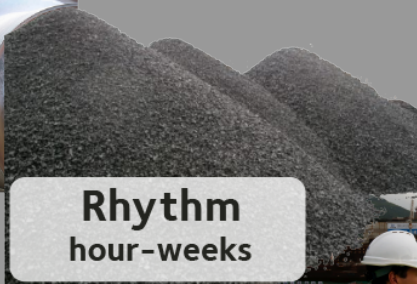
- 1 Introduction
 - Flexibility in supply and demand
- 2 Activity collection
 - HETUS
 - Meter
- 3 Results
 - Activities
 - Activities and Power
- 4 Conclusions








Synchronicity
seconds



Rhythm
hour-weeks



Change
years-decades



Synchronicity
seconds

Rhythm
hour-weeks

Change
years-decades

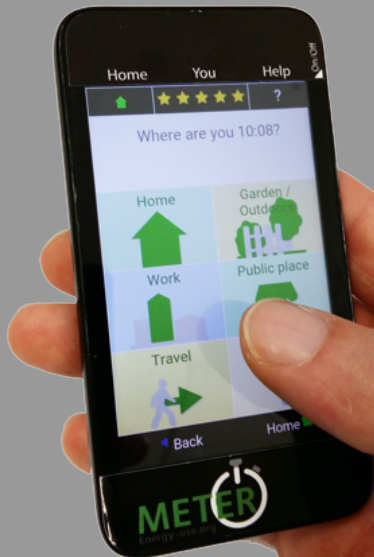
CORONATION
STREET

Time use diary

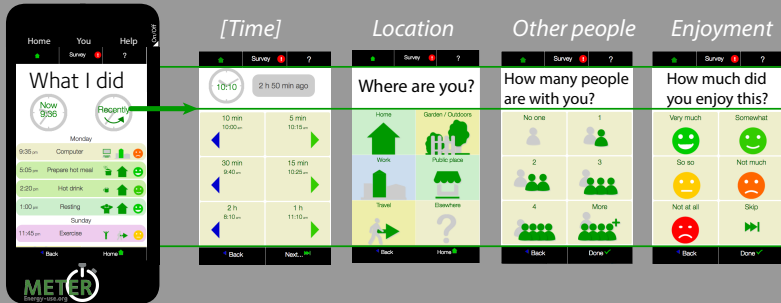
Day 1

Time: 7am – 10am
Morning

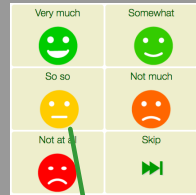
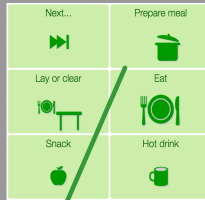
Time: 7am-10am Morning (am)	What were you doing? Please write down one main activity.	If you did something else at the same time, what else did you do?	Did you use a smartphone, tablet, or computer?	Where were you? Location, or mode of transport	Were you alone or with somebody you know? Mark all relevant boxes							How much did you enjoy this time? 1 = not at all 7 = very much
					People who live with you							
					Alone	Spouse / partner	Mother	Father	Child aged 0-7	Other person	Others you know	
7am-7.10	Woke up the children		<input type="checkbox"/>	At home	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	5
7.10-7.20	Had breakfast	checked emails	<input checked="" type="checkbox"/>	↓	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	6
7.20-7.30	" "	Talked with my family	<input type="checkbox"/>		<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	5
7.30-7.40	Cleared the table	Listened to the radio	<input checked="" type="checkbox"/>		<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	4
7.40-7.50	↓	↓	<input checked="" type="checkbox"/>		<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	↓
7.50-8am	Helped the children dressing	Talked with my children	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>		
8am-8.10	" "	↓	<input type="checkbox"/>	↓	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	↓
8.10-8.20	Went to the day care centre	↓	<input type="checkbox"/>	on foot	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	



Entry sequence



Entry sequence



Location	Activity	Other people	Enjoyment
Home	Personal	No one	Very much
Outdoors	Joint	1	Somewhat
Work	Work	2	So so
Public Place	Food	3	Not much
Travel	Appliances	4	Not at all
Elsewhere	Customise	More	Skip

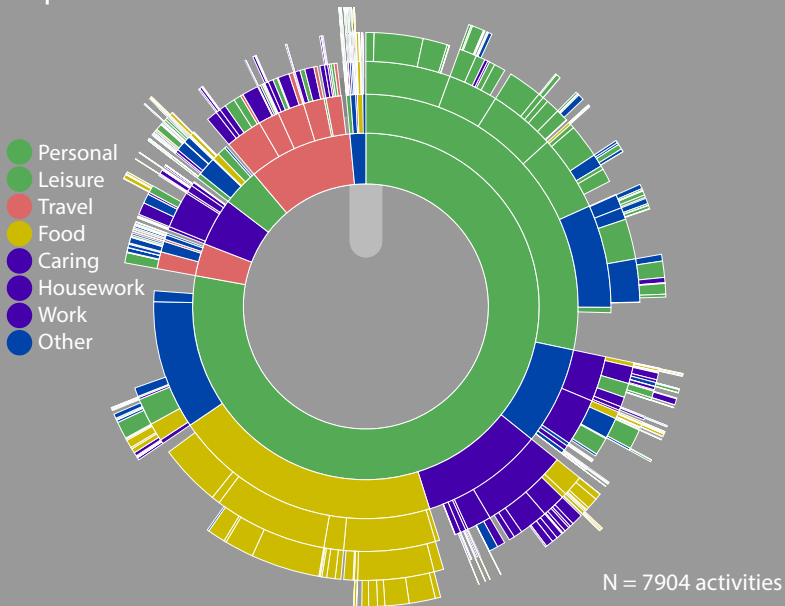
Choices 6

36

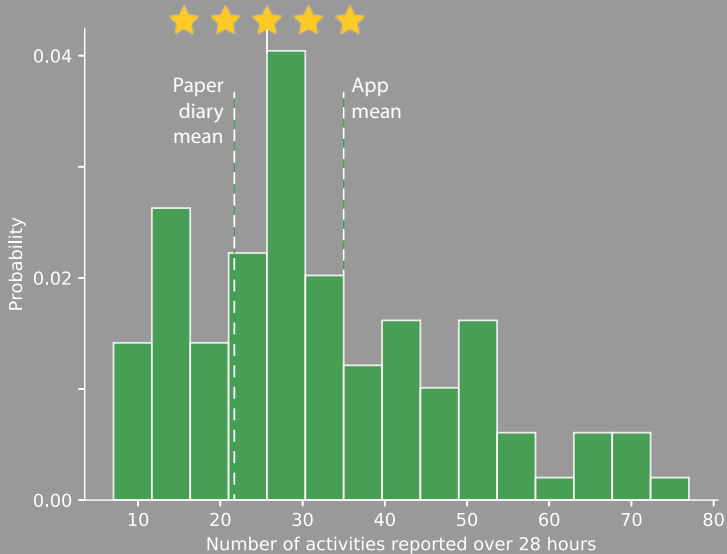
216

1296...

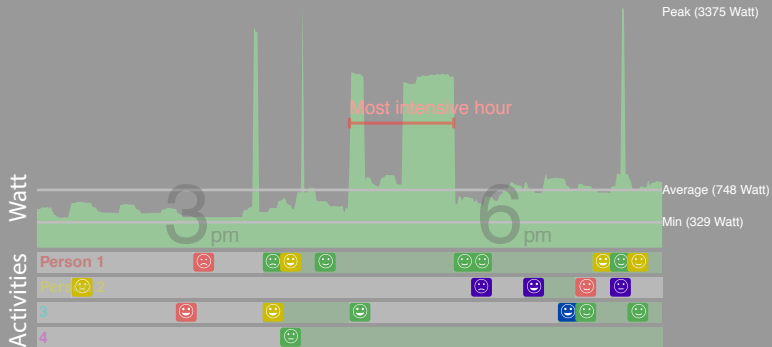
Reported activities



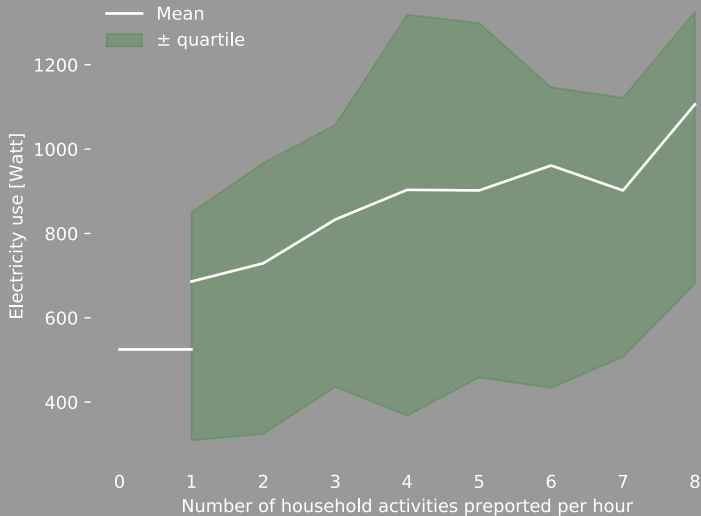
App users report more



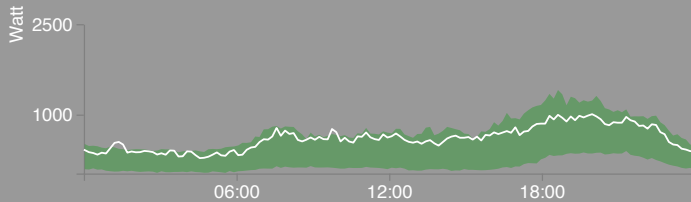
Personal profile



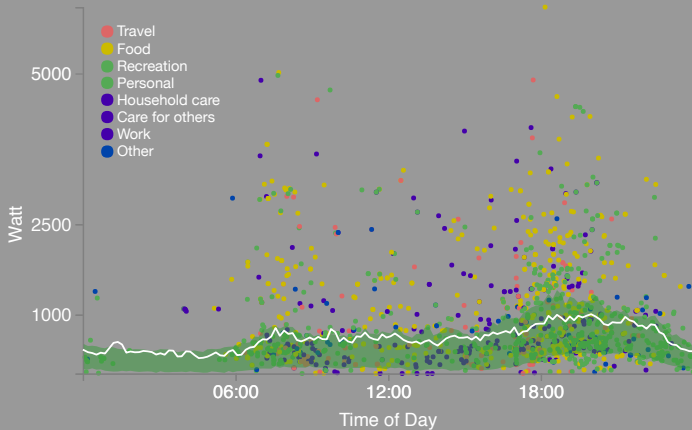
Report more - use more



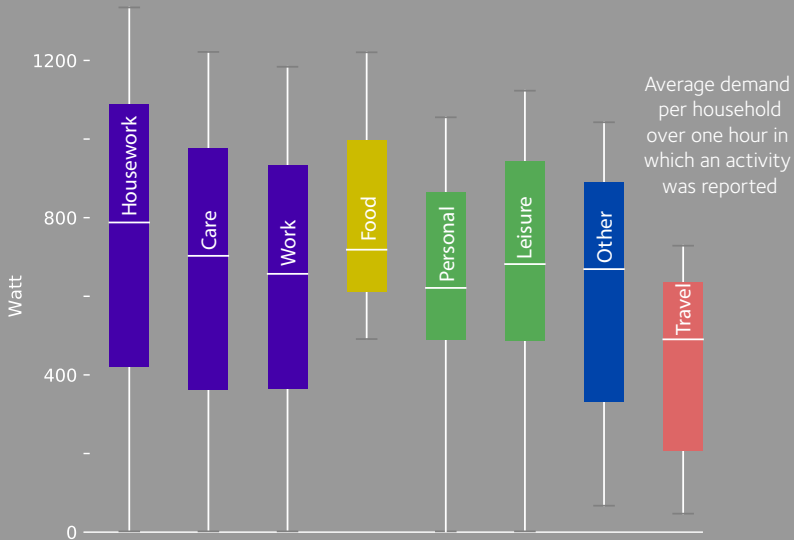
Load profile



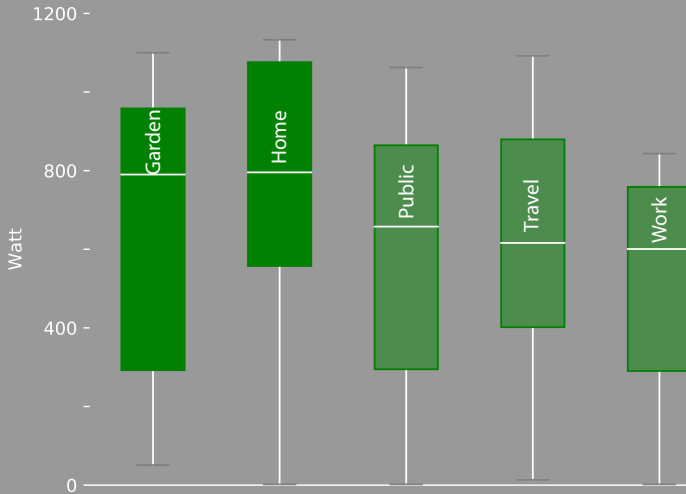
Load profile



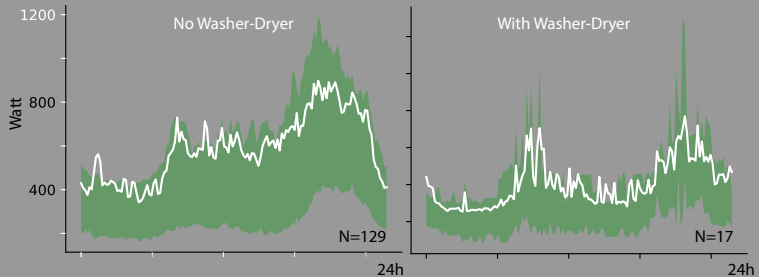
Consumption by activity categories



Consumption by location



Appliances shape activities (and load)





money /
reward

smartness /
technology



Exploring flexibility



circumstances

information /
nudge



Thank you



Marina Diakonova



Davide Zilli



Jessica Bernard



Adriano Matousek



Russ Leyberry



Engineering and Physical Sciences
Research Council