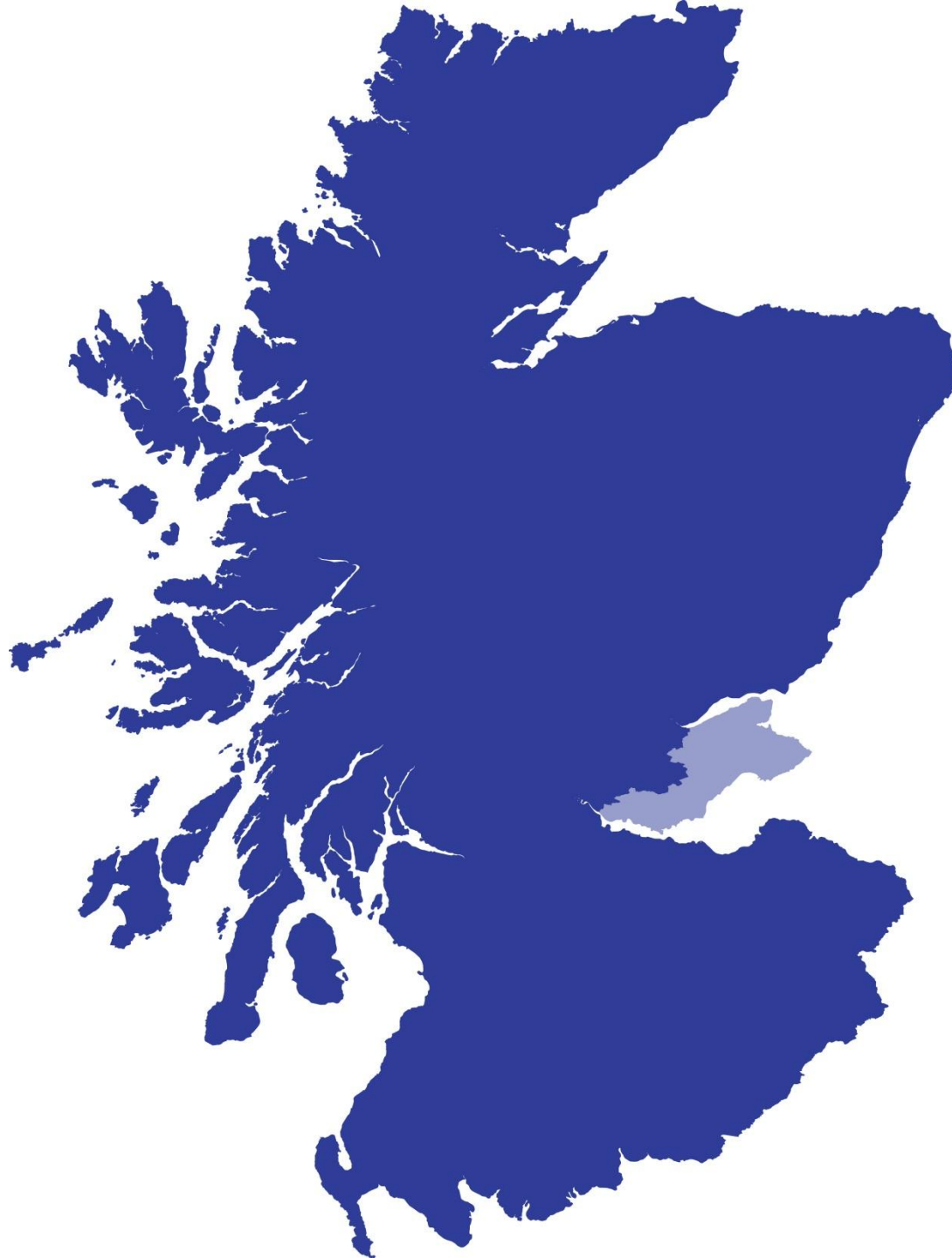


Delivering Carbon, Financial and Energy Reduction Commitments Within Our New Homes

Ken Gourlay
Fife Council

Topics

- Maximising local resources
- Renewable energy technologies
- New training opportunities





Fife Council Background

- Population 365K
- 160K households
- £900m budget
- Capital spend £200m (12/13)
- Labour led administration
- 30K Council houses

Content

- What is Fife doing
 - Delivery plan for 2,700 homes by May 2017
 - Manifesto commitment
 - In House (900 units)
 - Working with partners (RSLs 1000 units)
 - Working with Private Sector (500 units)
 - Other initiatives (300 units)

Key Considerations

- Fife Council standards
- Energy efficiency initiatives
- Balancing act – capital / revenue / units
- Existing housing stock
- How are we getting on ?

Fife Council

- Administration commitment to provide 2,700 new affordable homes across Fife
- 120 sites
- Redevelopment of Council land
- Aspirations for quality regardless of who delivers

Carbon Reduction Strategy

- Beyond 2011 Building Regulations
- Maintenance (30,000+ existing stock)
- Whole life cost - favours passive approach
- Silver Standard

Fife Council Approach

- 'Fabric First'
- Optimum U Values
- Air tightness – max 3.0m³/ hour /m²
- Challenge for construction standards
- Reduced costs for tenants

Fife Council Approach

- Air leakage...

Windows and doors / floor joists

Window sills and reveals / Loft hatches

Junctions between internal partitions

and ceiling / Light Fittings / Soil and

vent pipes and flue outlets / Junctions

between the walls and roof / Mechanical

Extract Outlets / Service & waste

connections.....

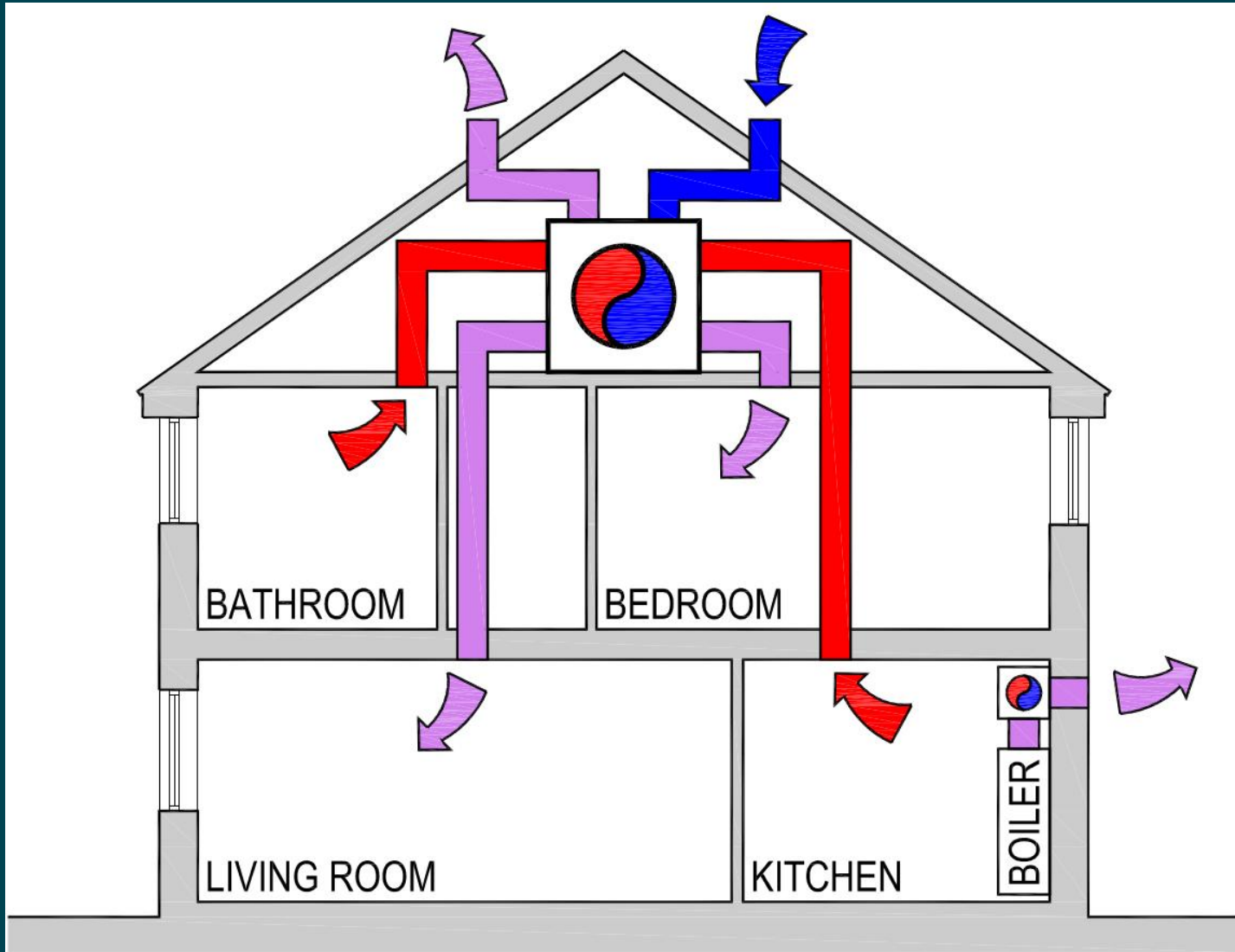
Fife Council Approach

- Air tightness standard →

Whole house ventilation system

= opportunity for heat recovery

Fife Council Approach



Fife Council Approach

- Passive flue gas heat recovery
- Reduces cost of heating water by ~35%



Case Study - West Port Cupar

- Redevelop former High School site
- Challenging design brief
- Facade retention
- Access difficulties
- Affordability
- Energy efficiency measures



New Build Housing Cupar



New Build Housing cupar

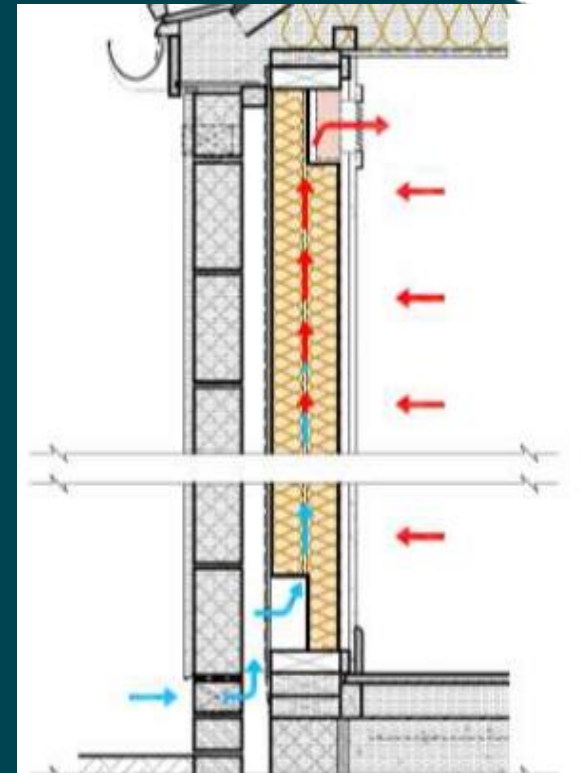


New Build Housing Cupar

21 Fife Council Social Houses for rent

9 Kingdom Housing Mid Market rented properties

5 Commercial units



Ewgeco Energy monitoring System

Breathable Wall System

Façade Retention

Ewgeco monitors energy use in the home for gas and electricity. It can also provide information on renewable energy product power generation.

Breathable wall draws cold air into the cavity through a cavity insulation heating the cold air as it rises. The wall becomes a heat exchanger warming incoming air by up to 8°C. A single fan in the roof draws the air into the house.



Westport Business Centre

Air Source Heat pumped for the Business Centre



New Build Housing Cupar

9 Kingdom Housing Association Properties



Anstruther Shore Road – 8 Units



Anstruther Shore Road

Solar Thermal hot water system

Energy Monitoring Equipment



Kirkinch Special Needs Housing

Ground Source Heat pumps and Solar
Thermal roof panels, under floor
heating

- Photovoltaic panels
- Ground Source
- Air Source
- MCS Accreditation



Building Services Training Facility

District Heating - Dunfermline

- Landfill gas
- AD Plant
- Existing housing stock
- New build private Sector
- Public and private buildings

Conclusions

- Varying approach at present
- Life cycle costs and benefits need further work
- Great opportunity in Fife to stimulate the economy
- Great opportunity to employ and train staff

Questions